

1966

BULLETIN No. XXVI

Supersedes and cancels all previous issues

**performance data**

# architectural acoustical materials

**sound absorption coefficients ■**

**sound attenuation factors ■**

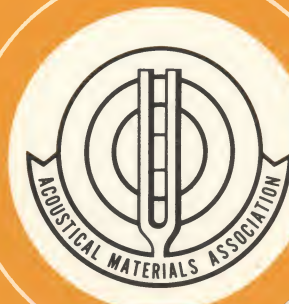
**and ceiling STC's ■**



**flame spread classifications ■**

**fire endurance time ratings ■**

ACOUSTICAL MATERIALS ASSOCIATION



# TABLE OF CONTENTS

	<i>Page</i>
MEMBER COMPANIES AND ADDRESSES . . . . .	1
ALPHABETICAL LIST OF TRADE NAMES AND MARKS . . . . .	2, 3
EXPLANATION OF TABLES AND TERMS . . . . .	4, 5, 6, 7, 8
TYPES OF MOUNTINGS USED FOR TEST SAMPLES . . . . .	9
SUMMARY TABLES	
Table 1—Regularly Perforated Cellulose Fiber Tile . . . . .	10
Table 2—Randomly Perforated Cellulose Fiber Tile . . . . .	11
Table 3—Textured, Finely Perforated, Fissured or Simulated Fissured Cellulose Tile . . . . .	12, 13, 14
Table 4—Cellulose Fiber Lay-In Panels . . . . .	14
Table 5—Perforated Mineral Fiber Tile . . . . .	15, 16
Table 6—Fissured Mineral Fiber Tile . . . . .	17, 18
Table 7—Textured, Finely Perforated or Smooth Mineral Fiber Tile . . . . .	19, 20, 21
Table 8—Membrane-Faced Mineral Fiber Tile . . . . .	21
Table 9—Mineral Fiber Lay-In Panels . . . . .	22, 23, 24, 25
Table 10—Perforated Metal Pans with Mineral Fiber Pads . . . . .	26
Table 11—Perforated Metal Pans with Mineral Fiber Pads Rated as Part of Fire Resistive Assemblies . . . . .	27
Table 12—Mineral Fiber Tile Rated as Part of Fire Resistive Assemblies . . . . .	28, 29, 30
Table 13—Mineral Fiber Lay-In Panels Rated as Part of Fire Resistive Assemblies . . . . .	31, 32, 33
Table 14—Perforated Asbestos Cement Board Panels with Mineral Fiber Pads . . . . .	34
Table 15—Special Acoustical Panels and Materials . . . . .	35
PRODUCERS' TABLES	
Armstrong Cork Company . . . . .	36, 37, 38, 39, 40
Baldwin-Ehret-Hill, Incorporated . . . . .	41
The Celotex Corporation . . . . .	42, 43, 44, 45, 46, 47
Gustin-Bacon Manufacturing Company . . . . .	48
Elof Hansson, Incorporated . . . . .	49, 50, 51, 52, 53, 54
The E. F. Hauserman Company . . . . .	55
Johns-Manville Sales Corporation . . . . .	56, 57, 58, 59
Kaiser Gypsum Company, Incorporated . . . . .	60, 61, 62, 63
National Gypsum Company . . . . .	64, 65, 66, 67, 68, 69
Owens-Corning Fiberglas Corporation . . . . .	70, 71, 72
Simpson Timber Company . . . . .	73, 74, 75, 76, 77, 78
United States Gypsum Company . . . . .	79, 80, 81
Wood Conversion Company . . . . .	82, 83, 84, 85, 86
INSTALLATION RECOMMENDATIONS . . . . .	87
APPENDIX	
CEILING ATTENUATION FACTOR — ITS MEANING AND USE . . . . .	88, 89, 90
COEFFICIENTS OF GENERAL BUILDING MATERIALS AND FURNISHINGS . . . . .	91

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# THE ACOUSTICAL MATERIALS ASSOCIATION

The Acoustical Materials Association is an organization formed by producers of architectural acoustical materials for the purpose of furnishing architects and others with reliable technical data on sound absorbing materials and their uses.

All producers of such materials are invited to apply for membership in the Association.

This bulletin is published annually so that up-to-date information on products of Association members is readily available. Interim reports may be made from time to time as new materials are introduced and tested, and will appear on the Association letterhead.

"The Use of Architectural Acoustical Materials—Theory and Practice", an illustrated pamphlet with charts, tables, bibliography, and practical solutions for many sound control problems, written for use by architects and engineers and the layman, is available from the Association, at the address listed at the bottom of this page, for \$.50 per copy.

## MEMBERS

ARMSTRONG CORK COMPANY  
Lancaster, Pennsylvania 17604

BALDWIN-EHRET-HILL, INCORPORATED  
500 Breunig Avenue  
Trenton, New Jersey 08602

THE CELOTEX CORPORATION  
120 N. Florida Avenue  
Tampa, Florida 33602

GUSTIN-BACON MANUFACTURING COMPANY  
P.O. Box 13126  
Kansas City, Missouri 64199

ELOF HANSSON, INCORPORATED  
711 Third Avenue  
New York, New York 10017

THE E. F. HAUSERMAN COMPANY  
5711 Grant Avenue  
Cleveland, Ohio 44105

JOHNS-MANVILLE SALES CORPORATION  
22 East 40th Street  
New York, New York 10016

KAISER GYPSUM COMPANY, INC.  
300 Lakeside Drive  
Oakland, California 94612

NATIONAL GYPSUM COMPANY  
325 Delaware Avenue  
Buffalo, New York 14202

OWENS-CORNING FIBERGLAS CORP.  
National Bank Building  
Toledo, Ohio 43601

SIMPSON TIMBER COMPANY  
2000 Washington Building  
Seattle, Washington 98101

UNITED STATES GYPSUM COMPANY  
101 S. Wacker Drive  
Chicago, Illinois 60606

WOOD CONVERSION COMPANY  
First National Bank Building  
St. Paul, Minnesota 55101

Information regarding the Association and its activities can be obtained from the members, their local representatives, or by addressing Acoustical Materials Association, 335 East 45th St., New York, N. Y. 10017

# Alphabetical List of Trade Names and Marks

For convenient reference, the trade names and marks of materials appearing in this bulletin are listed below in alphabetical order together with the name of the producer. Some of these trade marks apply to several types of materials which appear in the appropriate Summary Tables and also in the Producer's Table. The page number below indicates the location of the Producer's Table.

TRADE NAME	PRODUCER	Page
ACOUSTEEL*	The Celotex Corporation	42, 43, 44, 45, 46, 47
ACOUSTICAL FIRE GUARD	Armstrong Cork Company	36, 37, 38, 39, 40
ACOUSTI-CELOTEX*	The Celotex Corporation	42, 43, 44, 45, 46, 47
ACOUSTI-CLAD	Johns-Manville Sales Corporation	56, 57, 58, 59
ACOUSTIC DECK	The E. F. Hauserman Company	55
ACoustiFIBRE*	National Gypsum Company	64, 65, 66, 67, 68, 69
ACOUSTIFORM*	The Celotex Corporation	42, 43, 44, 45, 46, 47
ACOUSTIMETAL*	National Gypsum Company	64, 65, 66, 67, 68, 69
ACOUSTIROC*	National Gypsum Company	64, 65, 66, 67, 68, 69
ACOUSTI-SHELL*	Johns-Manville Sales Corporation	56, 57, 58, 59
ACOUSTI-WALL*	The E. F. Hauserman Company	55
ACoustONE*	United States Gypsum Company	79, 80, 81
ARRESTONE*	Armstrong Cork Company	36, 37, 38, 39, 40
ASBESTIBEL*	National Gypsum Company	64, 65, 66, 67, 68, 69
ASBESTOS BOARD PANEL	Armstrong Cork Company	36, 37, 38, 39, 40
AUDITONE*	United States Gypsum Company	79, 80, 81
AURATONE*	United States Gypsum Company	79, 80, 81
CELO-FLOW*	The Celotex Corporation	42, 43, 44, 45, 46, 47
CELOTEX*	The Celotex Corporation	42, 43, 44, 45, 46, 47
CELOTONE*	The Celotex Corporation	42, 43, 44, 45, 46, 47
CLASSÉ*	Simpson Timber Company	73, 74, 75, 76, 77, 78
CONSTELLATION*	Wood Conversion Company	82, 83, 84, 85, 86
CUSHIONTONE*	Armstrong Cork Company	36, 37, 38, 39, 40
ECONACOUSTIC*	National Gypsum Company	64, 65, 66, 67, 68, 69
EMBASSY	The Celotex Corporation	42, 43, 44, 45, 46, 47
FASHIONTONE*	Armstrong Cork Company	36, 37, 38, 39, 40
FIBERGLAS*	Owens-Corning Fiberglas Corp.	70, 71, 72
FIBRETONE*	Johns-Manville Sales Corporation	56, 57, 58, 59
FIRECODE*	United States Gypsum Company	79, 80, 81
FIREDIKE*	Johns-Manville Sales Corporation	56, 57, 58, 59
FIRE-SHIELD*	National Gypsum Company	64, 65, 66, 67, 68, 69
FIR-TEX*	Kaiser Gypsum Company, Inc.	60, 61, 62, 63
FISSURE-FLO	The Celotex Corporation	42, 43, 44, 45, 46, 47
FISSURETONE*	The Celotex Corporation	42, 43, 44, 45, 46, 47
FLEXBOARD*	Johns-Manville Sales Corporation	56, 57, 58, 59
FORESTONE*	Simpson Timber Company	73, 74, 75, 76, 77, 78
FRESCOR*	Owens-Corning Fiberglas Corp.	70, 71, 72
GOLD BOND*	National Gypsum Company	64, 65, 66, 67, 68, 69
HANSOBOARD*	Elof Hansson, Inc.	49, 50, 51, 52, 53, 54
HANSOCOUSTIC*	Elof Hansson, Inc.	49, 50, 51, 52, 53, 54
HANSOGLOW*	Elof Hansson, Inc.	49, 50, 51, 52, 53, 54
HANSOGUARD*	Elof Hansson, Inc.	49, 50, 51, 52, 53, 54
HANSOLUX*	Elof Hansson, Inc.	49, 50, 51, 52, 53, 54
HANSONITE*	Elof Hansson, Inc.	49, 50, 51, 52, 53, 54
HANSOPAN*	Elof Hansson, Inc.	49, 50, 51, 52, 53, 54

\*Trade Mark registered, U. S. Patent Office

\*\*Trade Mark pending



# Alphabetical List of Trade Names and Marks— Continued

TRADE NAME	PRODUCER	Page
HANSOQUILT*	Elof Hansson, Inc.	49, 50, 51, 52, 53, 54
HANSOSTAR*	Elof Hansson, Inc.	49, 50, 51, 52, 53, 54
HUSH-TONE*	The Celotex Corporation	42, 43, 44, 45, 46, 47
J-M*	Johns-Manville Sales Corporation	56, 57, 58, 59
LO-TONE*	Wood Conversion Company	82, 83, 84, 85, 86
MICROLITE*	Johns-Manville Sales Corporation	56, 57, 58, 59
MINABOARD*	Armstrong Cork Company	36, 37, 38, 39, 40
MINATONE*	Armstrong Cork Company	36, 37, 38, 39, 40
MOTIF'D ACOUSTONE*	United States Gypsum Company	79, 80, 81
NEEDLEPOINT*	National Gypsum Company	64, 65, 66, 67, 68, 69
NU-WOOD*	Wood Conversion Company	82, 83, 84, 85, 86
PANATONE*	Baldwin-Ehret-Hill, Inc.	41
PERFATONE*	United States Gypsum Company	79, 80, 81
PERFORATED TRANSITE* PANELS	Johns-Manville Sales Corporation	56, 57, 58, 59
PERMACOUSTIC*	Johns-Manville Sales Corporation	56, 57, 58, 59
PETITE**	Simpson Timber Company	73, 74, 75, 76, 77, 78
PROTECTONE*	The Celotex Corporation	42, 43, 44, 45, 46, 47
PyROTECT*	Simpson Timber Company	73, 74, 75, 76, 77, 78
SAFETONE*	The Celotex Corporation	42, 43, 44, 45, 46, 47
SANACOUSTIC*	Johns-Manville Sales Corporation	56, 57, 58, 59
SERENE II	The Celotex Corporation	42, 43, 44, 45, 46, 47
SHEETROCK*	United States Gypsum Company	79, 80, 81
SIGNATURE* WALL PANEL	The E. F. Hauserman Company	55
SIMPSON*	Simpson Timber Company	73, 74, 75, 76, 77, 78
SOLITUDE*	National Gypsum Company	64, 65, 66, 67, 68, 69
SONOFLEX*	Owens-Corning Fiberglas Corp.	70, 71, 72
SPANGLAS**	Johns-Manville Sales Corporation	56, 57, 58, 59
SPINTONE*	Johns-Manville Sales Corporation	56, 57, 58, 59
STRIA*	Owens-Corning Fiberglas Corp.	70, 71, 72
STYLTONE*	Baldwin-Ehret-Hill, Inc.	41
TECTUM*	National Gypsum Company	64, 65, 66, 67, 68, 69
TEXTURE-TONE*	The Celotex Corporation	42, 43, 44, 45, 46, 47
TRAVACOUSTIC*	National Gypsum Company	64, 65, 66, 67, 68, 69
TRAVERTONE	Armstrong Cork Company	36, 37, 38, 39, 40
ULTRACOUSTIC*	Gustin-Bacon Manufacturing Co.	48
ULTRAQUIET*	Gustin-Bacon Manufacturing Co.	48

\*Trade Mark registered, U. S. Patent Office

\*\*Trade Mark pending

## EXPLANATION OF TABLES

Tables on following pages are of two kinds. Summary Tables on Pages 10 to 35 classify materials according to appearance and composition. Producers' Tables follow the Summary Tables on Pages 36 to 86 and contain all the listed acoustical materials of each member company and detailed data on them.

### SUMMARY TABLES

For the convenience of architects and purchasers, materials in these tables are grouped irrespective of the name of the producer. Knowing the general appearance, composition, method of installation, and acoustical efficiency desired, the various materials meeting these specifications can be easily located.

Because appearance and composition are often the primary consideration, each table (except Table 15) contains materials which are essentially similar in these respects.

<i>Table No.</i>	<i>Description</i>	<i>Page No.</i>
1	Regularly Perforated Cellulose Fiber Tile.....	10
2	Random Perforated Cellulose Fiber Tile.....	11
3	Textured, Finely Perforated, Fissured or Simulated Fissured Cellulose Tile... ..	12, 13, 14
4	Cellulose Fiber Lay-In Panels.....	14
5	Perforated Mineral Fiber Tile.....	15, 16
6	Fissured Mineral Fiber Tile.....	17, 18
7	Textured, Finely Perforated or Smooth Mineral Fiber Tile.....	19, 20, 21
8	Membrane-Faced Mineral Fiber Tile.....	21
9	Mineral Fiber Lay-In Panels.....	22, 23, 24, 25
10	Perforated Metal Pans with Mineral Fiber Pads.....	26
11	Perforated Metal Pans with Mineral Fiber Pads Rated as Part of Fire Resisting Assemblies.....	27
12	Mineral Fiber Tile Rated as Part of Fire Resistive Assemblies.....	28, 29, 30
13	Mineral Fiber Lay-In Panels Rated as Part of Fire Resistive Assemblies.....	31, 32, 33
14	Perforated Asbestos Cement Board Panels with Mineral Fiber Pads.....	34
15	Special Acoustical Panels and Systems.....	35

### PRODUCER TABLES

These tables contain all of the data reported in the official tests of each member company's listed materials. Explanatory notes are added where necessary to identify completely the material tested. Each member company is pledged to maintain the efficiency of his materials as listed.

### EXPLANATION OF TERMS

The meaning of the column headings in the tables and the data appearing thereunder is given on the following four pages.

## THICKNESS

In each table, except Table 15, materials are arranged by thickness. Unless otherwise indicated by footnotes, the thickness given is the nominal thickness of the material as designated

by the producer. Actual thickness may vary slightly from the nominal according to the producer's own manufacturing specifications.

## MOUNTING

The types of mounting used in the *sound absorption* tests are illustrated by drawings on Page 9 and are typical of actual installation methods used in the field.

Sound absorption values of most materials vary with the method of mounting. With suspended ceilings, typified by No. 7 mounting, sound absorption values vary with the depth of airspace behind the acoustical material.

Tests at a 16" mounting depth have been

found to provide sound absorption coefficients which are representative of the performance attained for plenum depths found in most building construction. The Association has adopted this as the standard spacing when conducting tests on suspended ceilings for No. 7 mounting listings. Where data is reported from tests at a different spacing this is indicated by use of the X-00 notation, inserting for the double naught the mounting depth used.

## LIGHT REFLECTANCE (Lt. Ref.)

All light reflectance values listed in this bulletin are from tests conducted at the Association's official laboratory using the method described in ASTM C523-63T. Average samples are selected by laboratory personnel from factory-painted material submitted for sound absorption tests. Each value listed is the average of five tests on three different samples. The light reflectance value given is for a finish designated as "white."

Light reflectance values are not listed in Producer Tables. Summary Tables contain letters indicating light reflectance values of

newly manufactured material in ranges as follows:

- a — .75 or more
- b — .70 to .74 inclusive
- c — .65 to .69 inclusive
- d — .60 to .64 inclusive

Illuminating engineers indicate no need for more definite values than given in the above ranges since the aging of paint surfaces or the accumulation of dust or dirt will reduce light reflection.

## FLAME RESISTANCE, FLAME SPREAD and FIRE ENDURANCE

Many of the materials listed in this bulletin have been tested for *flame resistance* and/or for *flame spread* by the Association's official laboratories using a method like that described in Federal Specification SS-A-118b or ASTM E84-61, respectively. In addition the tile and lay-in units listed in Tables 11, 12 and 13 have been tested in composite structures for *fire resistance* under conditions prescribed by ASTM E119-61.

*Flame resistance*, *flame spread* and *fire endurance*, while of closely associated wording, have separate meanings as established by the above

listed test methods. *Flame resistance* and *flame spread* describe surface phenomena. *Fire endurance* on the other hand denotes the degree of protection provided against the passage of fire or high temperature through a construction.

### a. Flame Resistance

The Federal Specification establishes specific criteria by which materials may be classified from "A" to "D", depending on their performance in the test. No specific terms are given to describe these classes but materials classified

(continued next page)

## FLAME RESISTANCE, FLAME SPREAD and FIRE ENDURANCE— continued

as "A" are usually considered as "incombustible" and those classified as "D" as "combustible". Classes "B" and "C" represent materials of intermediate flame resistance.

Classification of material is shown in both Summary and Producer Tables.

For the *flame resistance* tests for which ratings are shown in this bulletin, materials were mounted by bolting them directly to an asbestos cement board panel.

### b. Flame Spread

Popularly known as the "tunnel test", ASTM E84-61 measures the rate at which flame will travel across an exposed surface. The result is assigned a *flame spread* index which compares the rate of flame travel on a candidate material with the rate of flame travel on a selected species of untreated lumber which is classified as 100, and on noncombustible cement-asbestos board which is classified as 0.

Recognizing the greater significance of ranges of performance to that of individual values, the Association reports the *flame spread* index in classes according to the following schedule:

Class	Flame Spread Index Range
I	0-25
II	26-75
III	76-200
IV	Over 200

This system—which parallels that used in many building codes—is employed in both Summary and Producers' Tables.

For the *flame spread* tests for which ratings are reported, the materials were attached to gypsum board with metal screws.

### c. Fire Endurance

*Fire endurance* is measured in hours or fractions of hours. The time period performance results from the characteristics contributed by all of the components of the assembly. The acoustical ceiling is but one of the components. While the performance may be extended to other constructions incorporating the product tested, the reader should recognize that the rating published by the laboratory conducting the test pertains to the specific assembly described in the report or listing.

The indiscriminate use of terms such as "fire-proof", "fire-resistant", "flame-proof", "fire-retardant", "slow-burning", etc., in specifications has created confusion among architects, consumers and the public. By adopting the class designation for various degrees of

*flame resistance* and *flame spread*, and reporting the *fire endurance* of assemblies incorporating acoustical tile, as determined by recognized standard tests, the Association hopes to aid the architect in specifying the type of material required.

## SURFACE

This column in the Producer Tables gives further details mostly about surface appearance, particularly perforations and paint finishes. The diameter given for perforations is the

diameter of the punch or drill used in forming them. Sound absorption tests for each material were made with the finish indicated in this column.

## COEFFICIENTS

The sound absorption coefficients of materials listed in this bulletin have been determined by ASTM test method C423-60T. Coefficients for individual frequencies at octave intervals from 125 to 4000 cycles per second (cps) are given in the Producer Tables. These coefficients have all been obtained from tests conducted in the

Association's official laboratory under identical conditions. The Association does not wish to discredit other data but, recognizing the confusion which has resulted in the past from attempts to compare data from different laboratories, believes that data obtained in a single laboratory is preferable.

For auditorium treatment and problems involving sounds where distinct frequencies predominate, attention should be directed to the coefficients at 500 cps and other frequencies as explained in the "Theory and Practice" bul-

letin published by the Association. For average noise reduction treatments, the NRC values of materials adequately indicate their effectiveness.

## NRC — NOISE REDUCTION COEFFICIENT

To obtain a single figure for a material which may be used as an index of its noise reducing efficiency, it has been customary to average arithmetically the coefficients from 250 to 2000 cycles, inclusive, and call this the Noise Reduction Coefficient (NRC). The NRC of a single material is expressed to the nearest multiple of .05.

Because of the empirical basis on which the NRC is calculated, it is the opinion of the As-

sociation that minor differences in NRC values should not be overemphasized. Furthermore, a difference of less than 10 points in NRC is seldom detectable in a completed installation. For these reasons, NRC values on individual materials are not given in this bulletin although they may be calculated from data given in the Producer Tables and are sometimes given in producers' literature.

## RECOMMENDED NRC SPECIFICATION RANGE (NRC Spec. Range)

As explained above, the Association recommends that a 10 point range in NRC values be specified and the Summary Tables of this bulletin give such ranges for all groups of materials as well as for individual materials. The NRC

values of all materials in each group, when calculated as explained above and expressed to the nearest multiple of .05, will fall within the range given.

## SIZE

The size given is the size of the units on which sound absorption tests were made. Other sizes are frequently available and, in most cases, sound absorption coefficients can be assumed

to be the same. The actual size of lay-in units and of pads for metal pans is sufficiently smaller than the nominal size listed to fit the suspension system or metal pan.

## WEIGHT — LBS. PER SQ. FT.

Since it may be of interest in structural considerations, one column in the Producer Tables provides the nominal weight of the product as designated by the producer. The weight of individual units may vary slightly from the

nominal depending on the producer's own manufacturing specifications. For metal pan products and asbestos board panels, only the weight of the sound absorbing element, i.e., the pad or blanket, is given.

## ATTENUATION FACTORS

Many products listed in this bulletin are designed for use in suspended ceilings. When room partitions extend only to the suspended ceiling, but do not extend to the structural ceiling, the ceiling-plenum path of sound transmission may warrant investigation when analyzing the building for acoustical privacy. The tables of attenuation factors list the measured reduction

of sound level between two contiguous rooms when the path is through the two ceilings and the plenum common to both. These were obtained in tests defined by AMA-1-II Tentative Method of Test of March 1, 1959, using commonly available suspension systems.

*(continued next page)*



## ATTENUATION FACTORS—continued

To permit use of data for noise reduction calculations, the attenuation factors have been normalized to a sound absorption of 126 sabins in the termination room. This results in normalized values slightly different from those in previous Bulletins.

To assist the reader in understanding the use of this type of data, a special section is included in this bulletin. Titled "Ceiling Attenuation Factor—Its Meaning and Its Use", this explanation will be found on page 88.

Designation of the type of suspension system used in each test is indicated in the STANDARD MOUNTING column according to the following schedule:

First letter—"C" or "I" for continuous or interrupted at the partition.

Second letter—"E" or "C" for exposed or concealed suspension system.

Third letter—For concealed suspension systems "T" designates tee splines, "F" flat splines, and "N" no splines. For exposed systems "H" indicates use of hold-down clips.

"V" designates ventilating tile or lay-in units with the percentage of ventilating units indicated, if less than 100%.

Any variation from specified details is reflected by "X" or "P"; contact the producer for complete information.

Construction procedures followed by the laboratory are contained in "Standardized Mountings for Ceiling Sound Transmission Tests by the Two-Room Method" which is available upon request to the Association.

Italicized numbers in the tables indicate ceiling attenuation greater than that listed; the actual performance could not be determined because the ceiling-plenum-ceiling attenuation approached or exceeded that of the partition separating the rooms. However, the attenuation level at which this limitation is evident is unlikely to inconvenience many readers, since the partition employed in the test exceeds in performance most commonly available partitions.

From time to time means have been found to improve the partition. Considerably higher attenuation can be measured in the more recent tests before compromise by the partition occurs. This is the reason why close examination of the data reveals that there may be more than one value at each frequency above which italicized values occur.

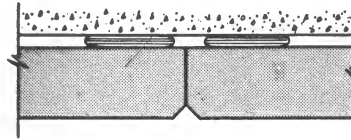
## CEILING SOUND TRANSMISSION CLASS

Use of data at each test frequency is usually necessary to attain the acoustical isolation desired, particularly when speech privacy is the principal criterion as it is in much of commercial construction. On the other hand a simple figure of merit will satisfy many needs. To

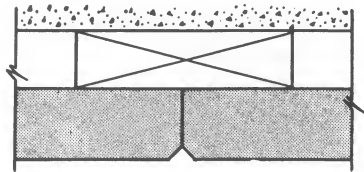
meet the latter situation the Ceiling Sound Transmission Class is given in the Producer Attenuation Tables. It is obtained by the method described in the appendix to ASTM test method E90-61T.

# TYPES OF MOUNTING

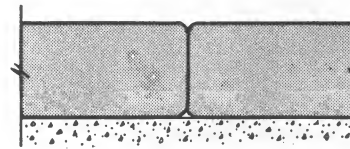
(Used in Conducting Sound Absorption Tests)



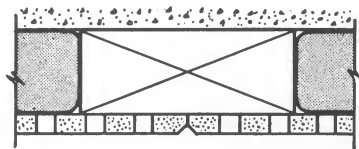
1. Cemented to plaster board with  $\frac{1}{8}$ " air space. Considered equivalent to cementing to plaster or concrete ceiling.



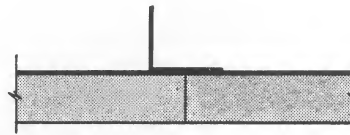
2. Nailed to nominal 1" x 3" ( $\frac{3}{4}$ " x  $2\frac{5}{8}$ " actual) wood furring 12" o.c.



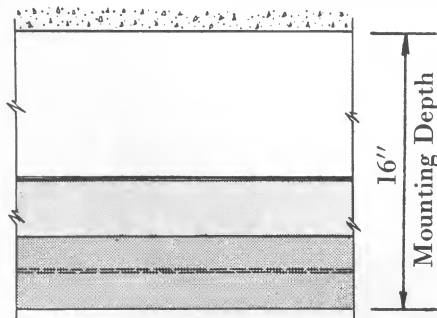
4. Laid directly on laboratory floor.



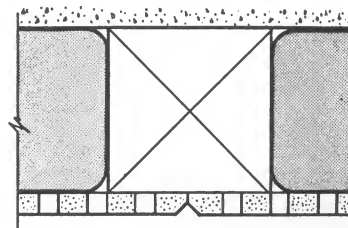
5. Wood furring 1" x 3" ( $\frac{3}{4}$ " x  $2\frac{5}{8}$ " actual) 24" o.c. 1" mineral wool between furring unless otherwise indicated. Perforated facing fastened to furring.



6. Attached to 24 ga. sheet iron, supported by 1" x 1"  $\frac{1}{8}$ " angle iron.



7. Mechanically mounted on special metal supports.



8. Wood furring 2" x 2" ( $1\frac{5}{8}$ " x  $1\frac{5}{8}$ " actual) 24" o.c. 2" mineral wool between furring. Perforated facing fastened to furring.

X-00. A spaced mounting similar to No. 7 except that mounting depth is variable.

## SUMMARY TABLES

**Table No. 1**  
**Regularly Perforated Cellulose Fiber Tile**

All tile 12" x 12".

Thickness	Mounting No.	NRC Specification Range	MATERIAL	PRODUCER	Light Ref.	Flame Res. SS-A-118b Note 1	Flame Spread Index E84-61 See Page 5	Details on page
1/2"	1	.55-.65	Fibretone Uniform Drilled PyRotect Standard	Johns-Manville Sales Corp. Simpson Timber Co.	a	C,D	I	56-59 73-78
	2	.60-.70	Fibretone Uniform Drilled PyRotect Standard	Johns-Manville Sales Corp. Simpson Timber Co.	a			56-59 73-78
	7	.60-.70	PyRotect Standard	Simpson Timber Co.				73-78
3/4"	1	.65-.75	Fibretone Uniform Drilled Kaiser Fir-Tex Class I Regular Drilled PyRotect Standard	Johns-Manville Sales Corp. Kaiser Gypsum Co., Inc. Simpson Timber Co.	a a	C,D	I I	56-59 60-63 73-78
	2	.70-.80	Fibretone Uniform Drilled Kaiser Fir-Tex Class I Regular Drilled PyRotect Standard	Johns-Manville Sales Corp. Kaiser Gypsum Co., Inc. Simpson Timber Co.	a a			56-59 60-63 73-78
	7	.65-.75	PyRotect Standard	Simpson Timber Co.				73-78

Note 1. Materials rated as "C,D" are available with factory-applied paint finish which gives them the Class "C" rating and also a standard paint finish which gives a Class "D" rating. All materials mounted for flame resistance tests as described on page 5.

# SUMMARY TABLES

Table No. 2

## Randomly Perforated Cellulose Fiber Tile

Perforations vary in diameter and spacing. All tile 12" x 12" unless otherwise noted.

Thickness	Mounting No.	NRC Specification Range	MATERIAL	PRODUCER	Light Ref.	Flame Res. SS-A-118b Note 2	Flame Spread Index E84-61 See Page 5	Details on page	
1/2"	1	.50-.60	Acousti-Celotex Cane Random	The Celotex Corp.	a	C,D	II, III I	42-47	
			Acoustifibre Full Random Pattern	National Gypsum Co.	a	C		64-69	
	Auditone Random Perforated		United States Gypsum Co.	a	C,D	79-81			
	Cushiontone Full Random		Armstrong Cork Co.	a	C,D	36-40			
	Hansonite Random Perforated		Elof Hansson, Inc.	a	C,D	49-54			
	Hush-Tone Random Pattern		The Celotex Corp.	a	C,D	42-47			
	Kaiser Fir-Tex Casual Drilled		Kaiser Gypsum Co., Inc.	a	C	60-63			
	Kaiser Fir-Tex Class I Casual Drilled		Kaiser Gypsum Co., Inc.	a	C	60-63			
	Nu-Wood Random	Wood Conversion Co.	a	C,D	82-86				
		.55-.65	Fibretone Random Drilled	Johns-Manville Sales Corp.	a		II I	56-59	
Forestone Random			Simpson Timber Co.	a	C	73-78			
		PyRotect Full Random	Simpson Timber Co.	a			73-78		
		2	.55-.65	Auditone Random Perforated	United States Gypsum Co.	a		79-81	
Cushiontone Full Random	Armstrong Cork Co.			a		36-40			
Forestone Random	Simpson Timber Co.	a			73-78				
Hush-Tone Random Pattern	The Celotex Corp.	a			42-47				
Kaiser Fir-Tex Casual Drilled	Kaiser Gypsum Co., Inc.	a			60-63				
Kaiser Fir-Tex Class I Casual Drilled	Kaiser Gypsum Co., Inc.	a			60-63				
	.60-.70	Fibretone Random Drilled		Johns-Manville Sales Corp.	a		56-59		
		Hansonite Random Perforated		Elof Hansson, Inc.	a		49-54		
		Nu-Wood Random	Wood Conversion Co.	a		82-86			
		7	.50-.60	Forestone Random	Simpson Timber Co.	a		73-78	
Hansonite Random Perforated	Elof Hansson, Inc.			a		49-54			
Kaiser Fir-Tex Casual Drilled	Kaiser Gypsum Co., Inc.	a			60-63				
Nu-Wood Random	Wood Conversion Co.	a			82-86				
PyRotect Full Random	Simpson Timber Co.	a			73-78				
3/4"	1	.60-.70		Acousti-Celotex Cane Random	The Celotex Corp.	a		II II, III I I	42-47
				Acoustifibre Full Random Pattern	National Gypsum Co.	a	C		64-69
				Auditone Random Perforated	United States Gypsum Co.	a	C,D		79-81
			Cushiontone Full Random	Armstrong Cork Co.	a	C,D	36-40		
			Fibretone Random Drilled	Johns-Manville Sales Corp.	a		56-59		
			Forestone Random	Simpson Timber Co.	a	C	73-78		
			Hansonite Random Perforated	Elof Hansson, Inc.	a	C,D	49-54		
			Hush-Tone Random Pattern	The Celotex Corp.	a		42-47		
	Kaiser Fir-Tex Casual Drilled	Kaiser Gypsum Co., Inc.	a	C	60-63				
	Kaiser Fir-Tex Class I Casual Drilled	Kaiser Gypsum Co., Inc.	a	C	60-63				
Nu-Wood Random	Wood Conversion Co.	a	C,D	82-86					
PyRotect Full Random	Simpson Timber Co.	a		73-78					
3/4"	2	.65-.75	Acousti-Celotex Cane Random	The Celotex Corp.	a			42-47	
			Auditone Random Perforated	United States Gypsum Co.	a			79-81	
			Cushiontone Full Random	Armstrong Cork Co.	a			36-40	
			Fibretone Random Drilled	Johns-Manville Sales Corp.	a			56-59	
			Forestone Random	Simpson Timber Co.	a			73-78	
			Hansonite Random Perforated	Elof Hansson, Inc.	a			49-54	
			Hush-Tone Random Pattern	The Celotex Corp.	a			42-47	
			Kaiser Fir-Tex Casual Drilled	Kaiser Gypsum Co., Inc.	a			60-63	
	Kaiser Fir-Tex Class I Casual Drilled	Kaiser Gypsum Co., Inc.	a		60-63				
	Nu-Wood Random	Wood Conversion Co.	a		82-86				
	7	.60-.70	Acoustifibre Full Random Pattern	National Gypsum Co.	a		64-69		
			Auditone Random Perforated (Note 1)	United States Gypsum Co.	a		79-81		
		Hansonite Random Perforated	Elof Hansson, Inc.	a		49-54			
		Kaiser Fir-Tex Class I Casual Drilled	Kaiser Gypsum Co., Inc.	a		60-63			
		Nu-Wood Random Perforated	Wood Conversion Co.	a		82-86			
		PyRotect Full Random	Simpson Timber Co.	a		73-78			

Note 1. Tile size 12" x 24".

Note 2. Materials rated as "C,D" are available with factory-applied paint finish which gives them the Class "C" rating and also a standard paint finish which gives a Class "D" rating. All materials mounted for flame resistance tests as described on page 5.



## SUMMARY TABLES

Table No. 3

### Textured, Finely Perforated, Fissured or Simulated Fissured Cellulose Tile

All tile 12" x 12" unless otherwise noted.

Thickness	Mounting No.	NRC Specification Range	MATERIAL	PRODUCER	Light Ref.	Flame Res. SS-A-118b Note 2	Flame Spread Index E84-61 See Page 5	Details on page
1/2"	1	.35-.45	Cushiontone Pinehurst Forestone Petite	Armstrong Cork Co. Simpson Timber Co.	a a	D C	II	36-40 73-78
			Acousti-Celotex Cane Tile Minuet Acoustifibre Needlepoint Pattern Cushiontone Deerfield Cushiontone Fairfax Cushiontone Georgian Hush-Tone Minuet Kaiser Fir-TEX Class I Fissured Kaiser Fir-TEX Class I Swirl-Punched Kaiser Fir-TEX Swirl-Punched	The Celotex Corp. National Gypsum Co. Armstrong Cork Co. Armstrong Cork Co. Armstrong Cork Co. The Celotex Corp. Kaiser Gypsum Co., Inc. Kaiser Gypsum Co., Inc. Kaiser Gypsum Co., Inc.	a a a a a a a a	D C D D D D I I	II II II II II II I I	42-47 64-69 36-40 36-40 36-40 42-47 60-63 60-63 60-63
		.55-.65	Acousti-Celotex Cane Tile Bolero Auditone Pin Perforated Cushiontone Classic Econacoustic Hansostar Gold Mist Wood Fiber Tile Hansostar Perforated Wood Fiber Tile Hush-Tone Bolero Kaiser Fir-TEX Circle-Punched Kaiser Fir-TEX Fissured Nu-Wood Constellation PyRotect Frosted 060 PyRotect Micro Drilled Petite	The Celotex Corp. United States Gypsum Co. Armstrong Cork Co. National Gypsum Co. Elof Hansson, Inc. Elof Hansson, Inc. The Celotex Corp. Kaiser Gypsum Co., Inc. Kaiser Gypsum Co., Inc. Wood Conversion Co. Simpson Timber Co. Simpson Timber Co.	a a a c a a a a a a a	C,D C,D C,D D C C,D D C C C,D	III II II II II, III II, III I I	42-47 79-81 36-40 64-69 49-54 49-54 42-47 60-63 60-63 82-86 73-78 73-78
		.40-.50	Cushiontone Pinehurst Cushiontone Woodcrest Forestone Petite Kaiser Fir-TEX Class I Swirl-Punched	Armstrong Cork Co. Armstrong Cork Co. Simpson Timber Co. Kaiser Gypsum Co., Inc.	a a a a	D		36-40 36-40 73-78 60-63
		.50-.60	Acousti-Celotex Cane Tile Minuet Auditone Pin Perforated Cushiontone Fairfax Cushiontone Georgian Fibre-tone Comet Hush-Tone Minuet Kaiser Fir-TEX Class I Fissured	The Celotex Corp. United States Gypsum Co. Armstrong Cork Co. Armstrong Cork Co. Johns-Manville Sales Corp. The Celotex Corp. Kaiser Gypsum Co., Inc.	a a a a a a a			42-47 79-81 36-40 36-40 56-59 42-47 60-63
			Acousti-Celotex Cane Tile Bolero Cushiontone Classic Cushiontone Deerfield Hansostar Perforated Wood Fiber Tile Hush-Tone Bolero Kaiser Fir-TEX Fissured Kaiser Fir-TEX Circle-Punched Kaiser Fir-TEX Swirl-Punched Nu-Wood Constellation	The Celotex Corp. Armstrong Cork Co. Armstrong Cork Co. Elof Hansson, Inc. The Celotex Corp. Kaiser Gypsum Co., Inc. Kaiser Gypsum Co., Inc. Kaiser Gypsum Co., Inc. Wood Conversion Co.	a a a a a a a a			42-47 36-40 36-40 49-54 42-47 60-63 60-63 60-63 82-86
		.40-.50	Forestone Petite Kaiser Fir-TEX Class I Swirl-Punched	Simpson Timber Co. Kaiser Gypsum Co., Inc.	a a			73-78 60-63
		.50-.60	Kaiser Fir-TEX Fissured Kaiser Fir-TEX Circle-Punched PyRotect Frosted 060 PyRotect Linear Micro Drilled Petite (Note 3) PyRotect Micro Drilled Petite	Kaiser Gypsum Co., Inc. Kaiser Gypsum Co., Inc. Simpson Timber Co. Simpson Timber Co. Simpson Timber Co.	a a a a		I	60-63 60-63 73-78 73-78 73-78

Table No. 3 continued on next page



# SUMMARY TABLES

Table No. 3 (continued)

## Textured, Finely Perforated, Fissured or Simulated Fissured Cellulose Tile

All tile 12" x 12" unless otherwise noted.

Thickness	Mounting No.	NRC Specification Range	MATERIAL	PRODUCER	Light Ref.	Flame Res. SS-A-118b Note 2	Flame Spread Index E84-61 See Page 5	Details on page					
9/16"	1	.40-.50	Cushiontone Golden	Armstrong Cork Co.	a	D		36-40					
		.50-.60	Acousti-Celotex Cane Tile Fissured Cushiontone Textured Forestone Fissured Hansolux Fissured Wood Fiber Acoustical Tile Hush-Tone Fissured Nu-Wood Fissured Pattern PyRotect Fissured	The Celotex Corp. Armstrong Cork Co. Simpson Timber Co. Elof Hansson, Inc.	a a a a	C C,D C C	II	42-47 36-40 73-78 49-54					
				The Celotex Corp. Wood Conversion Co. Simpson Timber Co.	a a a	C C,D		42-47 82-86 73-78					
				2	.55-.65	Acousti-Celotex Cane Tile Fissured Cushiontone Golden Cushiontone Textured Forestone Fissured Hush-Tone Fissured PyRotect Fissured		The Celotex Corp. Armstrong Cork Co. Armstrong Cork Co. Simpson Timber Co. The Celotex Corp. Simpson Timber Co.	a a a a a a		42-47 36-40 36-40 73-78 42-47 73-78		
	7							.40-.50	Forestone Fissured PyRotect Fissured	Simpson Timber Co. Simpson Timber Co.	a a		73-78 73-78
		.50-.60	Acousti-Celotex Cane Tile Fissured Hansolux Fissured Wood Fiber Acoustical Tile Hush-Tone Fissured Nu-Wood Fissured Pattern	The Celotex Corp. Elof Hansson, Inc.  The Celotex Corp. Wood Conversion Co.	a a  a a		42-47 49-54  42-47 82-86						
	5/8"			1	.60-.70	Econacoustic Class I	National Gypsum Co.	a		I	64-69		
		2	.65-.75	Econacoustic Econacoustic Class I	National Gypsum Co. National Gypsum Co.	c a	D	II	64-69 64-69				
	3/4"	1	.50-.60	Acousti-Celotex Cane Tile Minuet Acoustifibre Fissured Pattern Acoustifibre Needlepoint Pattern Forestone Petite Pattern Kaiser Fir-Tex Class I Fissured Kaiser Fir-Tex Class I Swirl Punched Kaiser Fir-Tex Swirl-Punched PyRotect Fissured	The Celotex Corp. National Gypsum Co. National Gypsum Co. Simpson Timber Co. Kaiser Gypsum Co., Inc. Kaiser Gypsum Co., Inc. Kaiser Gypsum Co., Inc. Simpson Timber Co.	a a a a a a a a	C C C C  C C C	II II II I I I II, III I	42-47 64-69 64-69 73-78 60-63 60-63 60-63 73-78				
					.60-.70	Acousti-Celotex Cane Tile Bolero Acousti-Celotex Cane Tile Fissured Auditone Pin Perforated (Note 1) Cushiontone Classic Forestone Fissured Kaiser Fir-Tex Circle-Punched Kaiser Fir-Tex Fissured PyRotect Micro Drilled Petite	The Celotex Corp. The Celotex Corp. United States Gypsum Co. Armstrong Cork Co. Simpson Timber Co. Kaiser Gypsum Co., Inc. Kaiser Gypsum Co., Inc. Simpson Timber Co.	a a a a a a a a	C,D C,D C C C C C C	III II II, III II, III I I I I	42-47 42-47 79-81 36-40 73-78 60-63 60-63 73-78		
2							.40-.50	Forestone Petite Pattern	Simpson Timber Co.	a			73-78
									.60-.70	Auditone Pin Perforated Cushiontone Classic Forestone Fissured PyRotect Fissured Kaiser Fir-Tex Fissured Kaiser Fir-Tex Circle-Punched	United States Gypsum Co. Armstrong Cork Co. Simpson Timber Co. Simpson Timber Co. Kaiser Gypsum Co., Inc. Kaiser Gypsum Co., Inc.	a a a a a a	
7							.40-.50	Forestone Petite Pattern Kaiser Fir-Tex Class I Fissured Kaiser Fir-Tex Class I Swirl Punched			Simpson Timber Co. Kaiser Gypsum Co., Inc. Kaiser Gypsum Co., Inc.	a a a	

Table No. 3 continued on next page

## SUMMARY TABLES

Table No. 3 (continued)

### Textured, Finely Perforated, Fissured or Simulated Fissured Cellulose Tile

All tile 12" x 12" unless otherwise noted.

Thickness	Mounting No.	NRC Specification Range	MATERIAL	PRODUCER	Light Ref.	Flame Res. SS-A-118b Note 2	Flame Spread Index E84-61 See Page 5	Details on page
3/4"	7	.50-.60	Acousti-Celotex Cane Tile Fissured	The Celotex Corp.	a			42-47
			Acousti-Celotex Cane Tile Minuet	The Celotex Corp.	a			42-47
			Acoustifibre Fissured Pattern	National Gypsum Co.	a			64-69
			Acoustifibre Needlepoint Pattern	National Gypsum Co.	a			64-69
			Auditone Pin Perforated (Note 1)	United States Gypsum Co.	a			79-81
			Kaiser Fir-TEX Swirl-Punched	Kaiser Gypsum Co., Inc.	a			60-63
			PyRotect Fissured	Simpson Timber Co.	a			73-78
		.60-.70	Acousti-Celotex Cane Bolero	The Celotex Corp.	a			42-47
			Kaiser Fir-TEX Fissured	Kaiser Gypsum Co., Inc.	a			60-63
			Kaiser Fir-TEX Circle-Punched	Kaiser Gypsum Co., Inc.	a			60-63
			PyRotect Linear Micro Drilled Petite (Note 3)	Simpson Timber Co.	a		I	73-78
			PyRotect Micro Drilled Petite	Simpson Timber Co.	a			73-78

Note 1. 12" x 24".

Note 2. Materials rated as "C,D" are available with factory-applied paint finish which gives them the Class "C" rating and also a standard paint finish which gives a Class "D" rating. All materials mounted for flame resistance tests as described on page 5.

Note 3. 12" x 48".

Table No. 4

### Cellulose Fiber Lay-In Panels

Panel size nominal 24" x 48".

Thickness	Mounting No.	NRC Specification Range	MATERIAL	PRODUCER	Light Ref.	Flame Res. SS-A-118b	Flame Spread Index E84-61 See Page 5	Details on page
1/2"	7	.45-.55	Cushiontone Classic Lay-In Units	Armstrong Cork Co.	a	D	III	36-40
			Hansonite Perforated Wood Fiber Ceiling Board	Elof Hansson, Inc.	a	C		49-54
			Kaiser Fir-TEX Circle-Punched Lay-In	Kaiser Gypsum Co., Inc.	a	C	II, III	60-63
			Kaiser Fir-TEX Fissured Lay-In	Kaiser Gypsum Co., Inc.	a	C	II, III	60-63
			Kaiser Fir-TEX Swirl-Punched Lay-In	Kaiser Gypsum Co., Inc.	a	C	II, III	60-63
			Nu-Wood Constellation Ceiling Board	Wood Conversion Co.	a	C		82-86
		.55-.65	PyRotect Ceiling Board Frosted 060	Simpson Timber Co.			I	73-78
9/16"	7	.45-.55	PyRotect Ceiling Board Fissured	Simpson Timber Co.	a		I	73-78
5/8"	7	.55-.65	PyRotect Ceiling Board Full Random	Simpson Timber Co.	a		I	73-78
			PyRotect Ceiling Board Micro Drilled Petite	Simpson Timber Co.	a		I	73-78
3/4"	7	.45-.55	PyRotect Ceiling Board Fissured	Simpson Timber Co.	a		I	73-78
		.60-.70	PyRotect Ceiling Board Full Random	Simpson Timber Co.	a		I	73-78
			PyRotect Ceiling Board Micro Drilled Petite	Simpson Timber Co.	a		I	73-78
1"	7	.55-.65	Econacoustic Grid Panels	National Gypsum Co.	a		II	64-69
			Gold Bond Tectum Grid Panels	National Gypsum Co.		A	I	64-69



# SUMMARY TABLES

**Table No. 5**  
**Perforated Mineral Fiber Tile**

All tile 12" x 12" unless otherwise noted.

Thickness	Mounting No.	NRC Specification Range	MATERIAL	PRODUCER	Light Ref.	Flame Res. SS-A-118b See Page 5	Flame Spread Index E84-61 See Page 5	Details on page
1/2"	1	.55-.65	Acoustiroc Full Random Pattern	National Gypsum Co.	a	A	I	64-69
			Classé Tile Random MQ	Simpson Timber Co.	a	A	I	73-78
			Hansonite Random Perforated	Elof Hansson, Inc.	a	A	I	49-54
			Kaiser Mineral Fiber Casual Drilled	Kaiser Gypsum Co., Inc.	a	A	I	60-63
			Lo-Tone Random	Wood Conversion Co.	a	A	I	82-86
			Safetone Perforated Mineral Fiber Tile Random	The Celotex Corp.	a	A	I	42-47
	2	.65-.75	Spintone Random Drilled	Johns-Manville Sales Corp.	a	A	I	56-59
			Spintone Uniform Drilled	Johns-Manville Sales Corp.	a	A	I	56-59
			Classé Tile Random MQ	Simpson Timber Co.	a			73-78
			Hansonite Random Perforated Mineral Lo-Tone Random	Elof Hansson, Inc. Wood Conversion Co.	a a			49-54 82-86
5/8"	1	.60-.70	Classé Tile Random MQ	Simpson Timber Co.	a	A	I	73-78
			Fiberglas Acoustical Tile Random Perforated	Owens-Corning Fiberglas Corp.	a	A	I	70-72
			Hansonite Random Perforated (Note 1)	Elof Hansson, Inc.	a	A	I	49-54
			Hansonite Regular Perforated Mineral Tile	Elof Hansson, Inc.	a	A	I	49-54
			Kaiser Mineral Fiber Casual Drilled	Kaiser Gypsum Co., Inc.	a	A	I	60-63
			Lo-Tone Random (Note 1)	Wood Conversion Co.	a	A	I	82-86
			Minatone	Armstrong Cork Co.	a	A	I	36-40
			Safetone Perforated Mineral Fiber Tile Random	The Celotex Corp.	a	A	I	42-47
			Spintone Random Drilled	Johns-Manville Sales Corp.	a	A	I	56-59
			Spintone Uniform Drilled	Johns-Manville Sales Corp.	a	A	I	56-59
	2	.70-.80	Classé Tile Random MQ	Simpson Timber Co.	a			73-78
			Hansonite Random Perforated (Note 1)	Elof Hansson, Inc.	a			49-54
			Hansonite Regular Perforated Mineral Tile	Elof Hansson, Inc.	a			49-54
			Lo-Tone Random (Note 1)	Wood Conversion Co.	a			82-86
	X- 2 1/2	.65-.75	Safetone Perforated Mineral Fiber Tile Random (Note 2)	The Celotex Corp.	a			42-47
	7	.60-.70	Acousti-Clad "S"	Johns-Manville Sales Corp.	a			56-59
		.70-.80	Classé Tile Random MQ	Simpson Timber Co.	a			73-78
			Hansonite Random Perforated	Elof Hansson, Inc.	a			49-54
			Kaiser Mineral Fiber Casual Drilled	Kaiser Gypsum Co., Inc.	a			60-63
			Lo-Tone Random	Wood Conversion Co.	a			82-86
			Minatone	Armstrong Cork Co.	a			36-40
		.80-.90	Safetone Perforated Mineral Fiber Tile Random	The Celotex Corp.	a			42-47
			Spintone Random Drilled	Johns-Manville Sales Corp.	a			56-59
			Spintone Uniform Drilled	Johns-Manville Sales Corp.	a			56-59
			Fiberglas Acoustical Tile Random Perforated	Owens-Corning Fiberglas Corp.	a			70-72

Table No. 5 continued on next page

## SUMMARY TABLES

Table No. 5 (continued)  
Perforated Mineral Fiber Tile

All tile 12" x 12" unless otherwise noted.

Thickness	Mounting No.	NRC Specification Range	MATERIAL	PRODUCER	Light Ref.	Flame Res. SS-4-118b See Page 5	Flame Spread Index E84-61 See Page 5	Details on page
3/4"	1	.65-.75	Acoustiroc Full Random Pattern	National Gypsum Co.	a	A	I	64-69
			Classé Tile Random MQ	Simpson Timber Co.	a	A	I	73-78
			Fiberglas Acoustical Tile	Owens-Corning Fiberglas Corp.	a	A	I	70-72
			Random Perforated					
			Hansonite Random Perforated	Elof Hansson, Inc.	a	A	I	49-54
	7	.65-.75	Kaiser Mineral Fiber Casual Drilled	Kaiser Gypsum Co., Inc.	a	A	I	60-63
			Lo-Tone Random	Wood Conversion Co.	a	A	I	82-86
			Spintone Uniform Drilled	Johns-Manville Sales Corp.	a	A	I	56-59
			Spintone Random Drilled	Johns-Manville Sales Corp.	a	A	I	56-59
		.75-.85	Acoustiroc Full Random Pattern	National Gypsum Co.	a	A	I	64-69
			Acoustiroc Ventilating Tile	National Gypsum Co.	a	A	I	64-69
			Full Random Pattern					
			Classé Tile Random MQ	Simpson Timber Co.	a	A	I	73-78
			Fiberglas Acoustical Tile	Owens-Corning Fiberglas Corp.	a	A	I	70-72
7/8"	1	.50-.60	Random Perforated-TL					
			Hansonite Random Perforated	Elof Hansson, Inc.	a			49-54
			Kaiser Mineral Fiber Casual Drilled	Kaiser Gypsum Co., Inc.	a			60-63
			Lo-Tone Random	Wood Conversion Co.	a			82-86
			Spintone Uniform Drilled	Johns-Manville Sales Corp.	a			56-59
	1	.50-.60	Acousti-Clad "P" Random Perforated	Johns-Manville Sales Corp.	a		I	56-59

Note 1. Tile size 12" x 24".

Note 2. Tile size 24" x 24".



# SUMMARY TABLES

Table No. 6  
Fissured Mineral Fiber Tile

All tile 12" x 12" unless otherwise noted.

Thickness	Mounting No.	NRC Specification Range	MATERIAL	PRODUCER	Light Ref.	Flame Res. SS-A-118b See Page 5	Flame Spread Index E84-61 See Page 5	Details on page
1/2"	1	.50-.60	Solitude Fissured Pattern	National Gypsum Co.	a	A	I	64-69
		.60-.70	Classé Tile Fissured MQ Fashiontone Textured Hansonite Die Fissured Mineral Tile Kaiser Mineral Fiber Fissured Lo-Tone Fissura	Simpson Timber Co.	a	A	I	73-78
				Armstrong Cork Co.	a	A	I	36-40
				Elof Hansson, Inc.	a	A	I	49-54
				Kaiser Gypsum Co., Inc.	a	A	I	60-63
				Wood Conversion Co.	a	A	I	82-86
	2	.60-.70	Classé Tile Fissured MQ Fashiontone Textured Hansonite Die Fissured Mineral Tile Lo-Tone Fissura	Simpson Timber Co. Armstrong Cork Co. Elof Hansson, Inc. Wood Conversion Co.	a a a a			73-78 36-40 49-54 82-86
5/8"	1	.65-.75	Fiberglas Acoustical Tile Fissured Fiberglas Vinyl Finish Acoustical Tile—Fissured	Owens-Corning Fiberglas Corp. Owens-Corning Fiberglas Corp.	a a	A A	I I	70-72 70-72
	7	.60-.70	Kaiser Mineral Fiber Fissured Tile—Type TL	Kaiser Gypsum Co., Inc.	a	A	I	60-63
		.75-.85	Fiberglas Acoustical Tile Fissured Fiberglas Vinyl Finish Acoustical Tile—Fissured	Owens-Corning Fiberglas Corp. Owens-Corning Fiberglas Corp.	a a			70-72 70-72
3/4"	1	.65-.75	Acoustiroc Fissured Pattern Acoustone "F" Acoustone "Glacier" Texture Classé Tile Fissured MQ Classé Travertine Regular Fiberglas Acoustical Tile Fissured (Note 1) Hansonite Die Fissured Mineral Tile Hansonite Fissured Mineral Tile Kaiser Cast Mineral Fissured Kaiser Mineral Fiber Fissured Lo-Tone Fissura Lo-Tone Fissured (IMF) Permacoustic Safetone Celotone Natural Fissured Safetone Celotone Texture-Tone Styltone K Standard Texture Travacoustic Travacoustic Sculptured Pattern Travertone Travertone, Golden	National Gypsum Co. United States Gypsum Co. United States Gypsum Co. Simpson Timber Co. Simpson Timber Co. Owens-Corning Fiberglas Corp. Elof Hansson, Inc. Elof Hansson, Inc. Kaiser Gypsum Co., Inc. Kaiser Gypsum Co., Inc. Wood Conversion Co. Wood Conversion Co. Johns-Manville Sales Corp. The Celotex Corp. The Celotex Corp. Baldwin-Ehret-Hill, Inc. National Gypsum Co. National Gypsum Co. Armstrong Cork Co. Armstrong Cork Co.	a a b a a a a a a a a a a a b a a a a a a a	A A	I I	64-69 79-81 79-81 73-78 73-78 70-72 49-54 49-54 60-63 60-63 82-86 82-86 56-59 42-47 42-47 41 64-69 64-69 36-40 36-40
	X- 2 3/4	.70-.80	Safetone Celotone Natural Fissured	The Celotex Corp.	a			42-47
	7	.60-.70	Acoustiroc Fissured Pattern Foil Backed Acoustone "Finesse" Texture Classé Tile Travertine Smooth Fiberglas Film Faced Tile Fissured Hansonite Fine Textured Mineral Tile Safetone Celotone Chase Styltone K Fine-Texture Travacoustic Foil Backed Travacoustic Sculptured Pattern Travertone Travertone AGT Travertone Fine Fissured Travertone Golden	National Gypsum Co. United States Gypsum Co. Simpson Timber Co. Owens-Corning Fiberglas Corp. Elof Hansson, Inc. The Celotex Corp. Baldwin-Ehret-Hill, Inc. National Gypsum Co. National Gypsum Co. Armstrong Cork Co. Armstrong Cork Co. Armstrong Cork Co. Armstrong Cork Co.	a a a a a a a a b a a a a a	A A A A A A A A A A A A A A	I I I I I I I I I I I I I I	64-69 79-81 73-78 70-72 49-54 42-47 41 64-69 64-69 36-40 36-40 36-40 36-40

Table No. 6 continued on next page



## SUMMARY TABLES

Table No. 6 (continued)  
Fissured Mineral Fiber Tile

All tile 12" x 12" unless otherwise noted.

Thickness	Mounting No.	NRC Specification Range	MATERIAL	PRODUCER	Light Ref.	Flame Res. SS-A-118b See Page 5	Flame Spread Index E84-61 See Page 5	Details on page
3/4"	7	.70-.80	Acoustiroc Fissured Pattern	National Gypsum Co.	a			64-69
			Acoustone "db"	United States Gypsum Co.	a	A	I	79-81
			Acoustone "F"	United States Gypsum Co.	a			79-81
			Acoustone "Glacier" Texture	United States Gypsum Co.	b			79-81
			Acoustone "Glacier" Texture Foil-Backed	United States Gypsum Co.	b	A		79-81
			Airson Acoustone "A-2"	United States Gypsum Co.	a	A	I	79-81
			Airson Acoustone "A-5"	United States Gypsum Co.	a	A	I	79-81
			Classé Tile AF Fissured MQ	Simpson Timber Co.	a	A	I	73-78
			Classé Tile AF Travertine	Simpson Timber Co.	b	A	I	73-78
			Classé Tile Fissured MQ	Simpson Timber Co.	a			73-78
			Classé Tile Travertine Bold	Simpson Timber Co.	b	A	I	73-78
			Classé Tile Travertine Regular	Simpson Timber Co.	a			73-78
			Hansonite Die Fissured Mineral Tile	Elof Hansson, Inc.	a			49-54
			Hansonite Die Fissured Mineral Tile Sound Barrier Treated	Elof Hansson, Inc.	a	A	I	49-54
			Hansonite Fissured Mineral Tile	Elof Hansson, Inc.	a			49-54
			Hansonite 007 Fissured Mineral Acoustical Tile	Elof Hansson, Inc.	b	A	I	49-54
			Kaiser Cast Mineral Fissured	Kaiser Gypsum Co., Inc.	a			60-63
			Kaiser Mineral Fiber Fissured	Kaiser Gypsum Co., Inc.	a			60-63
			Lo-Tone AF Fissura	Wood Conversion Co.	a	A	I	82-86
			Lo-Tone Fissura	Wood Conversion Co.	a			82-86
			Lo-Tone Fissured (IMF)	Wood Conversion Co.	a			82-86
			Lo-Tone Fissured (Paste Process) Heavily Textured	Wood Conversion Co.	b	A	I	82-86
			Lo-Tone Ventilating Fissura	Wood Conversion Co.	a	A	I	82-86
			Permacoustic	Johns-Manville Sales Corp.	a			56-59
			Safetone Celotone AMF	The Celotex Corp.	a	A	I	42-47
			—Natural Fissured					
			Safetone Celotone Natural Fissured	The Celotex Corp.	a			42-47
			Safetone Celo-flow Ventilating Natural Fissured—50% Ventilating and 50% Nonventilating	The Celotex Corp.	a	A	I	42-47
			Styltone AF	Baldwin-Ehret-Hill, Inc.	a		I	41
			Styltone K Extra Rough	Baldwin-Ehret-Hill, Inc.	b	A	I	41
			Styltone K Standard Texture	Baldwin-Ehret-Hill, Inc.	a			41
			Travacoustic	National Gypsum Co.	a			64-69
			Travacoustic Ventilating Tile Fissured	National Gypsum Co.	a	A	I	64-69
			Travertone Ventilating	Armstrong Cork Co.	a	A	I	36-40
			Travertone—50% Ventilating and 50% Nonventilating	Armstrong Cork Co.	a	A	I	36-40
		.80-.90	Fiberglas Acoustical Tile Fissured	Owens-Corning Fiberglas Corp.	a			70-72
			Fiberglas Vinyl Finish Acoustical Tile—Fissured (Note 1)	Owens-Corning Fiberglas Corp.	a	A	I	70-72

Note 1. Tile size 24" x 24".

# SUMMARY TABLES

Table No. 7

## Textured, Finely Perforated, or Smooth Mineral Fiber Tile

All tile 12" x 12" unless otherwise noted.

Thickness	Mounting No.	NRC Specification Range	MATERIAL	PRODUCER	Light Ref.	Flame Res. SS-A-118b See Page 5	Flame Spread Index E84-61 See Page 5	Details on page
1/2"	1	.55-.65	Acoustiroc Needlepoint Pattern	National Gypsum Co.	a	A	I	64-69
			Acoustiroc Textured Pattern	National Gypsum Co.	a	A	I	64-69
			Classé Tile Petite MQ	Simpson Timber Co.	a	A	I	73-78
			Fashiontone Classic	Armstrong Cork Co.	a	A	I	36-40
			Hansostar Gold Mist Mineral Tile	Elof Hansson, Inc.	a	A	I	49-54
			Hansostar Perforated Mineral Tile	Elof Hansson, Inc.	a	A	I	49-54
			Hansostar Vinyl Coated Perforated Mineral Tile	Elof Hansson, Inc.	a	A	I	49-54
			Kaiser Mineral Fiber Circle-Punched	Kaiser Gypsum Co., Inc.	a	A	I	60-63
			Kaiser Mineral Fiber Swirl Punched Tile	Kaiser Gypsum Co., Inc.	a	A	I	60-63
			Lo-Tone Constellation	Wood Conversion Co.	a	A	I	82-86
			Minatone Classic	Armstrong Cork Co.	a	A	I	36-40
			Minatone .050" Perforations	Armstrong Cork Co.	a	A	I	36-40
5/8"	1	.55-.65	Safetone Perforated Mineral Fiber Tile Embassy	The Celotex Corp.	a	A	I	42-47
			Safetone Perforated Mineral Fiber Tile Serene II	The Celotex Corp.	a	A	I	42-47
			Solitude Needlepoint Pattern	National Gypsum Co.	a	A	I	64-69
			Solitude Textured Micro-Perf Pattern	National Gypsum Co.	a	A	I	64-69
			Spintone Tile Pierced Pattern	Johns-Manville Sales Corp.	a	A	I	56-59
	2	.60-.70	Fashiontone Classic	Armstrong Cork Co.	a			36-40
			Hansostar Vinyl Coated Perforated Mineral Tile	Elof Hansson, Inc.	a			49-54
			Minatone .050" Perforations	Armstrong Cork Co.	a			36-40
	7	.55-.65	Minatone .050" Perforations	Armstrong Cork Co.	a			36-40
			Safetone Perforated Mineral Fiber Tile Serene II	The Celotex Corp.	a			42-47
	X- 2 1/2	.55-.65	Fiberglas Acoustical Tile Pin Perforated	Owens-Corning Fiberglas Corp.	a	A	I	70-72
			Kaiser Mineral Fiber Swirl Punched Tile	Kaiser Gypsum Co., Inc.	a	A	I	60-63
			Kaiser Mineral Fiber Textured Tile	Kaiser Gypsum Co., Inc.	a	A	I	60-63
			Minatone Classic	Armstrong Cork Co.	a	A	I	36-40
		.65-.75	Classé Tile Petite MQ (Note 1)	Simpson Timber Co.	a	A	I	73-78
			Classé Vinyl-Coated Tile Petite MQ (Note 1)	Simpson Timber Co.	a	A	I	73-78
			Fiberglas Acoustical Tile Textured	Owens-Corning Fiberglas Corp.	a	A	I	70-72
			Hansostar Gold Mist Perforated Mineral Tile (Note 1)	Elof Hansson, Inc.	a	A	I	49-54
			Hansostar Perforated Mineral Tile (Note 1)	Elof Hansson, Inc.	a	A	I	49-54
			Hansostar Vinyl Coated Mineral Tile (Note 1)	Elof Hansson, Inc.	a	A	I	49-54
			Kaiser Mineral Fiber Circle-Punched	Kaiser Gypsum Co., Inc.	a	A	I	60-63
			Lo-Tone Constellation (Note 1)	Wood Conversion Co.	a	A	I	82-86
			Lo-Tone Vinyl Coated Constellation (Note 1)	Wood Conversion Co.	a	A	I	82-86
			Minatone Celtic	Armstrong Cork Co.	a	A	I	36-40
			Safetone Perforated Mineral Fiber Tile Embassy	The Celotex Corp.	a	A	I	42-47
			Spintone Tile Pierced Pattern	Johns-Manville Sales Corp.	a	A	I	56-59
		.70-.80	Safetone Perforated Mineral Fiber Tile Embassy	The Celotex Corp.	a			42-47

Table No. 7 continued on next page



## SUMMARY TABLES

**Table No. 7 (continued)**  
**Textured, Finely Perforated, or Smooth Mineral Fiber Tile**

All tile 12" x 12" unless otherwise noted.

Thickness	Mounting No.	NRC Specification Range	MATERIAL	PRODUCER	Light Ref.	Flame Res. SS-A-118b See Page 5	Flame Spread Index E84-61 See Page 5	Details on page
5/8"	7	.50-.60	Kaiser Mineral Fiber Swirl Punched Tile	Kaiser Gypsum Co., Inc.	a			60-63
			Kaiser Mineral Fiber Textured Tile	Kaiser Gypsum Co., Inc.	a			60-63
			Minatone Celtic	Armstrong Cork Co.	a	A	I	36-40
			Safetone Perforated Mineral Fiber Tile Serene II	The Celotex Corp.	a			42-47
			Solitude Textured Micro-Perf Pattern	National Gypsum Co.	a	A	I	64-69
		.60-.70	Fiberglas Acoustical Tile Pin-Perforated	Owens-Corning Fiberglas Corp.	a			70-72
			Solitude Needlepoint Pattern	National Gypsum Co.	a			64-69
		.70-.80	Classé Tile AF Petite MQ	Simpson Timber Co.	a	A	I	73-78
			Classé Tile Petite MQ	Simpson Timber Co.	a			73-78
			Classé Vinyl-Coated Tile Petite MQ	Simpson Timber Co.	a			73-78
			Fiberglas Acoustical Tile Textured	Owens-Corning Fiberglas Corp.	a			70-72
			Hansostar Gold Mist Perforated Mineral Tile	Elof Hansson, Inc.	a			49-54
			Hansostar Mineral Tile Sound Barrier Treated	Elof Hansson, Inc.	a	A	I	49-54
			Hansostar Vinyl Coated Mineral Tile	Elof Hansson, Inc.	a			49-54
			Hansostar Perforated Mineral Tile	Elof Hansson, Inc.	a			49-54
			Kaiser Mineral Fiber Circle-Punched	Kaiser Gypsum Co., Inc.	a			60-63
			Lo-Tone AF Constellation Mineral Tile	Wood Conversion Co.	a	A	I	82-86
			Lo-Tone Constellation	Wood Conversion Co.	a			82-86
			Lo-Tone Ventilating Constellation	Wood Conversion Co.	a	A	I	82-86
			Lo-Tone Vinyl Coated Constellation	Wood Conversion Co.	a			82-86
			Minatone Classic	Armstrong Cork Co.	a			36-40
			Safetone Celo-Flow Ventilating Mineral Fiber Tile Embassy—50% Ventilating and 50% Nonventilating	The Celotex Corp.	a	A	I	42-47
			Safetone Perforated Mineral Fiber Tile Embassy	The Celotex Corp.	a			42-47
			Spintone Tile Pierced Pattern	Johns-Manville Sales Corp.	a			56-59
			Spintone Ventilating Tile Pierced Pattern, 50% Ventilating, 50% Nonventilating	Johns-Manville Sales Corp.	a	A	I	56-59
3/4"	1	.65-.75	Acoustiroc Needlepoint Pattern	National Gypsum Co.	a	A	I	64-69
			Acoustiroc Striated Pattern	National Gypsum Co.	a	A	I	64-69
			Acoustiroc Textured Pattern	National Gypsum Co.	a	A	I	64-69
			Classé Tile Petite MQ	Simpson Timber Co.	a	A	I	73-78
			Fiberglas Acoustical Tile—Frescor	Owens-Corning Fiberglas Corp.	a	A	I	70-72
			Fiberglas Acoustical Tile Pin-Perforated	Owens-Corning Fiberglas Corp.	a	A	I	70-72
			Fiberglas Acoustical Tile Textured	Owens-Corning Fiberglas Corp.	a	A	I	70-72
			Fiberglas Film Faced Tile Stria	Owens-Corning Fiberglas Corp.	b	A	I	70-72
			Fiberglas Film Faced Tile Textured	Owens-Corning Fiberglas Corp.	a	A	I	70-72
			Hansostar Gold Mist Mineral Tile	Elof Hansson, Inc.	a	A	I	49-54
			Hansostar Perforated Mineral Tile	Elof Hansson, Inc.	a	A	I	49-54
			Kaiser Mineral Fiber Circle-Punched	Kaiser Gypsum Co., Inc.	a	A	I	60-63
			Lo-Tone Constellation	Wood Conversion Co.	a	A	I	82-86
			Lo-Tone Striated (IMF)	Wood Conversion Co.	c	A	I	82-86
			Motif'd Acoustone "Striated" Pattern No. 19	United States Gypsum Co.	b	A	I	79-81
			Safetone Celotone Monarch	The Celotex Corp.	b	A	I	42-47
			Safetone Celotone Plaid	The Celotex Corp.	c	A	I	42-47
			Safetone Celotone Striated	The Celotex Corp.	c	A	I	42-47
			Safetone Celotone Texture-Tone	The Celotex Corp.	b	A	I	42-47
			Spintone Tile Pierced Pattern	Johns-Manville Sales Corp.	a	A	I	56-59
			Travertone Embossed	Armstrong Cork Co.	b	A	I	36-40

Table No. 7 continued on next page

## SUMMARY TABLES

**Table No. 7 (continued)**  
**Textured, Finely Perforated, or Smooth Mineral Fiber Tile**

All tile 12" x 12" unless otherwise noted.

Thickness	Mounting No.	NRC Specification Range	MATERIAL	PRODUCER	Light Ref.	Flame Res. SS-A-118b See Page 5	Flame Spread Index E84-61 See Page 5	Details on page
3/4"	7	.65-.75	Acoustiroc Textured Pattern	National Gypsum Co.	a			64-69
			Fiberglas Acoustical Tile Frescor-TL	Owens-Corning Fiberglas Corp.	a			70-72
			Fiberglas Acoustical Tile Textured-TL	Owens-Corning Fiberglas Corp.	a	A	I	70-72
			Fiberglas Acoustical Tile Pin-Perforated-TL	Owens-Corning Fiberglas Corp.	a	A	I	70-72
			Fiberglas Film Faced Tile Fissured	Owens-Corning Fiberglas Corp.	a	A	I	70-72
			Fiberglas Film Faced Tile Stria	Owens-Corning Fiberglas Corp.	b			70-72
			Fiberglas Film Faced Tile Stria-TL	Owens-Corning Fiberglas Corp.	b	A	I	70-72
			Fiberglas Film Faced Tile Textured	Owens-Corning Fiberglas Corp.	a			70-72
			Kaiser Mineral Fiber Circle-Punched	Kaiser Gypsum Co., Inc.	a			60-63
			Motif'd Acoustone "db" "Galaxy" Design No. 33	United States Gypsum Co.	a	A	I	79-81
		.75-.85	Acoustiroc Needlepoint Pattern	National Gypsum Co.	a			64-69
			Acoustiroc Striated Pattern	National Gypsum Co.	a			64-69
			Acoustiroc Ventilating Tile Needlepoint Pattern	National Gypsum Co.	a	A	I	64-69
			Fiberglas Acoustical Tile Pin-Perforated	Owens-Corning Fiberglas Corp.	a			70-72
			Motif'd Acoustone "Striated" Design No. 19	United States Gypsum Co.	c			79-81
			Safetone Celotone Monarch	The Celotex Corp.	b			42-47
			Spintone Tile Pierced Pattern	Johns-Manville Sales Corp.	a			56-59

Note 1. Tile size 12" x 24".

**Table No. 8**  
**Membrane-Faced Mineral Fiber Tile**

All tile 12" x 12".

Thickness	Mounting No.	NRC Specification Range	MATERIAL	PRODUCER	Light Ref.	Flame Res. SS-A-118b See Page 5	Flame Spread Index E84-61 See Page 5	Details on page
5/8"	7	.65-.75	Minatone Mylar Faced	Armstrong Cork Co.	a	A	I	36-40
3/4"	1	.65-.75	Fiberglas Acoustical Tile Sonofaced	Owens-Corning Fiberglas Corp.		A	I	70-72
	7	.55-.65	Fiberglas Acoustical Tile Sonofaced-TL	Owens-Corning Fiberglas Corp.		A	I	70-72



# SUMMARY TABLES

Table No. 9  
Mineral Fiber Lay-In Panels

All panels nominal 24" x 48" unless otherwise noted.

Thickness	Mounting No.	NRC Specification Range	MATERIAL	PRODUCER	Light Ref.	Flame Res. SS-A-118b See Page 5	Flame Spread Index E84-61 See Page 5	Details on page
1/8"	7	.70-.80	Acousti-Shell TF (Note 2)	Johns-Manville Sales Corp.	a	A	I	56-59
3/16"	7	.65-.75	Asbestibel Grid Panels (Note 1)	National Gypsum Co.	b	A	I	64-69
1/2"	7	.50-.60	Classé Ceiling Board Seafoam Hansoboard Fashion Design Mineral Ceiling Board Kaiser Mineral Fiber Swirl Punched Lay-In Kaiser Mineral Fiber Textured Lay-In Lo-Tone Heritage Ceiling Board Safetone High Density—Fissuretone Solitude Grid Panels Fissured Solitude Grid Panels Textured Micro-Perf.	Simpson Timber Co. Elof Hansson, Inc.  Kaiser Gypsum Co., Inc.  Kaiser Gypsum Co., Inc. Wood Conversion Co. The Celotex Corp. National Gypsum Co. National Gypsum Co.	a a  a  a a a a a	A A  A  A A A A A	I I  I  I I I I I	73-78 49-54  60-63  60-63 82-86 42-47 64-69 64-69
		.60-.70	Auratone Ceiling Panel "Star" Pattern Classé Ceiling Board Fissured MQ Classé Ceiling Board Petite MQ Fashiontone Lay-In Classic Hansoboard Fissured Mineral Ceiling Board Hansoboard Hansostar Perforated Mineral Ceiling Board Kaiser Mineral Fiber Circle-Punched Lay-In Kaiser Mineral Fiber Fissured Lay-In Lo-Tone Constellation Ceiling Board Lo-Tone Fissura Ceiling Board Minaboard Classic Minaboard Fissured Safetone High Density Mineral Fiber Lay-In Panels Embassy Safetone High Density Mineral Fiber Lay-In Panels Serene II Solitude Grid Panels Needlepoint Spintone Panels Pierced Pattern	United States Gypsum Co. Simpson Timber Co. Simpson Timber Co. Armstrong Cork Co. Elof Hansson, Inc.  Elof Hansson, Inc.  Kaiser Gypsum Co., Inc.  Kaiser Gypsum Co., Inc. Wood Conversion Co. Wood Conversion Co. Armstrong Cork Co. Armstrong Cork Co. The Celotex Corp.  The Celotex Corp.  National Gypsum Co. Johns-Manville Sales Corp.	a  a a a  a  a  a a a a a a a a a a	A  A A A  A  A  A A A A A A A A A A	I  I I I  I  I  I I I I I I I I I I	79-81 73-78 73-78 36-40 49-54  49-54  60-63  60-63 82-86 82-86 36-40 36-40 42-47  42-47  64-69 56-59
5/8"	7	.45-.55	Fiberglas Vinyl Finish Ceiling Board— Textured-TLH	Owens-Corning Fiberglas Corp.				70-72
		.55-.65	Auratone Ceiling Panel "Fissured" Pattern Auratone Ceiling Panel "Pin Perf" Ceramaguard Classé Ceiling Board Arctic Classé Ceiling Board Sanstone Classé Ceiling Board Seafoam Classé Vinyl Coated Ceiling Board Fissured MQ Hansoboard Fashion Design Mineral Ceiling Board Hansoboard Fissured Vinyl Coated Mineral Ceiling Board Hansoboard Sand Finish Mineral Ceiling Board Kaiser Mineral Fiber Swirl-Punched Lay-In Lo-Tone Heritage Ceiling Board Lo-Tone Sandex Ceiling Board Lo-Tone Vinyl Coated Fissura Ceiling Board Minaboard Celtic Minaboard Cheviot	United States Gypsum Co.  United States Gypsum Co. Armstrong Cork Co. Simpson Timber Co. Simpson Timber Co. Simpson Timber Co. Simpson Timber Co.  Elof Hansson, Inc.  Elof Hansson, Inc.  Elof Hansson, Inc.  Kaiser Gypsum Co., Inc.  Wood Conversion Co. Wood Conversion Co. Wood Conversion Co.  Armstrong Cork Co. Armstrong Cork Co.	a  a a a a a a  a  a  a a a a a a a a a a	A  A A A A A A  A  A  A A A A A A A A A A	I  I I I I I I  I  I  I I I I I I I I I I	79-81  79-81 36-40 73-78 73-78 73-78  49-54  49-54  49-54  60-63  82-86 82-86 82-86  36-40 36-40

Table No. 9 continued on next page



# SUMMARY TABLES

Table No. 9 (continued)  
Mineral Fiber Lay-In Panels

All panels nominal 24" x 48" unless otherwise noted.

Thickness	Mounting No.	NRC Specification Range	MATERIAL	PRODUCER	Light Ref.	Flame Res. SS-A-118b See Page 5	Flame Spread Index E84-61 See Page 5	Details on page
5/8"	7	.55-.65	Safetone Celo-Flow Ventilating Mineral Fiber Lay-In Panels Fissure-Flo 50% Ventilating and 50% Nonventilating Solitude Grid Panels Textured Micro-Perf.	The Celotex Corp.	a			42-47
			Solitude Grid Panels Textured Micro-Perf.	National Gypsum Co.	a	A	I	64-69
			Solitude Grid Panels Ventilating Needlepoint Pattern	National Gypsum Co.	a	A	I	64-69
			Spintone Panels Fissured	Johns-Manville Sales Corp.	a	A	I	56-59
			Ultracoustic Ceiling Board Vinyl Faced Class A	Gustin Bacon Mfg. Co.	a		I	48
		.65-.75	Auratone Ceiling Panel "Random" Pattern	United States Gypsum Co.	a	A	I	79-81
			Auratone Ceiling Panel "Star" Pattern	United States Gypsum Co.	a	A	I	79-81
			Auratone Ceiling Panel "Striated" Pattern	United States Gypsum Co.	b	A	I	79-81
			Auratone Ceiling Panel "Trace" Pattern	United States Gypsum Co.	a	A	I	79-81
			Classé Ceiling Board Cashmere Petite MQ	Simpson Timber Co.	a	A	I	73-78
			Classé Ceiling Board Fissured MQ	Simpson Timber Co.	a	A	I	73-78
			Classé Ceiling Board Petite MQ	Simpson Timber Co.	a	A	I	73-78
			Classé Vinyl Coated Ceiling Board Petite MQ	Simpson Timber Co.	a	A	I	73-78
			Hansoboard Fissured Mineral Ceiling Board	Elof Hansson, Inc.	a	A	I	49-54
			Hansoboard Hansostar Gold Mist Ceiling Board	Elof Hansson, Inc.	a	A	I	49-54
			Hansoboard Hansostar Perforated Mineral Ceiling Board	Elof Hansson, Inc.	a	A	I	49-54
			Hansoboard Hansostar Perforated Vinyl Coated Mineral Ceiling Board	Elof Hansson, Inc.	a	A	I	49-54
			Kaiser Mineral Fiber Fissured Lay-In	Kaiser Gypsum Co., Inc.	a	A	I	60-63
			Kaiser Mineral Fiber Circle-Punched Lay-In	Kaiser Gypsum Co., Inc.	a	A	I	60-63
			Lo-Tone Constellation Ceiling Board	Wood Conversion Co.	a	A	I	82-86
			Lo-Tone Fissura Ceiling Board	Wood Conversion Co.	a	A	I	82-86
			Lo-Tone Gossamer Ceiling Board	Wood Conversion Co.	a	A	I	82-86
			Lo-Tone Ventilating Constellation Ceiling Board	Wood Conversion Co.	a	A	I	82-86
			Lo-Tone Ventilating Fissura Ceiling Board	Wood Conversion Co.	a	A	I	82-86
			Lo-Tone Vinyl Coated Constellation Mineral Ceiling Board	Wood Conversion Co.	a	A	I	82-86
			Minaboard Classic	Armstrong Cork Co.	a	A	I	36-40
			Minaboard Classic Ventilating	Armstrong Cork Co.	a	A	I	36-40
			Minaboard Classic—50% Ventilating and 50% Nonventilating	Armstrong Cork Co.	a	A	I	36-40
			Minaboard Fissured	Armstrong Cork Co.	a	A	I	36-40
			Minaboard Mylar Faced	Armstrong Cork Co.	a	A	I	36-40
			Safetone Celo-Flow Ventilating Mineral Fiber Lay-In Panels Embassy—50% Ventilating and 50% Nonventilating	The Celotex Corp.	a	A	I	42-47
			Safetone High Density Mineral Fiber Lay-In Panels Embassy	The Celotex Corp.	a	A	I	42-47
			Safetone High Density Mineral Fiber Lay-In Panels Fissuretone	The Celotex Corp.	a	A	I	42-47
			Safetone High Density Mineral Fiber Lay-In Panels Serene II	The Celotex Corp.	a	A	I	42-47
			Safetone Medium Density Acoustiform—Boucle	The Celotex Corp.	a	A	I	42-47
			Solitude Grid Panels Fissured	National Gypsum Co.	a	A	I	64-69
			Solitude Grid Panels Needlepoint	National Gypsum Co.	a	A	I	64-69

Table No. 9 continued on next page

## SUMMARY TABLES

Table No. 9 (continued)  
Mineral Fiber Lay-In Panels

All panels nominal 24" x 48" unless otherwise noted.

Thickness	Mounting No.	NRC Specification Range	MATERIAL	PRODUCER	Light Ref.	Flame Res. SS-A-118b Note 2	Flame Spread Index E84-61 See Page 5	Details on page
5/8"	7	.65-.75	Solitude Grid Panels Ventilating Fissured Pattern	National Gypsum Co.	a	A	I	64-69
			Spintone Panels Pierced Pattern	Johns-Manville Sales Corp.	a	A	I	56-59
		.75-.85	Fiberglas Painted Ceiling Board Fissured	Owens-Corning Fiberglas Corp.	a	A	I	70-72
			Fiberglas Painted Ceiling Board Textured	Owens-Corning Fiberglas Corp.	a	A	I	70-72
			Fiberglas Vinyl Finish Ceiling Board— Fissured	Owens-Corning Fiberglas Corp.	a	A	I	70-72
			Safetone Medium Density Acoustiform— Mat	The Celotex Corp.	a	A	I	42-47
Safetone Medium Density Acoustiform— Stippled	The Celotex Corp.	a	A	I	42-47			
Ultracoustic Ceiling Board Travertine	Gustin-Bacon Mfg. Co.	a	A		48			
3/4"	7	.60-.70	Travacoustic Grid Panels Fissured (Note 2)	National Gypsum Co.	a	A	I	64-69
		.70-.80	Fiberglas Glass Cloth Faced Ceiling Board Linear-TL	Owens-Corning Fiberglas Corp.	a	A	I	70-72
			Fiberglas Glass Cloth Faced Ceiling Board—Nubby-TL	Owens-Corning Fiberglas Corp.	a	A	I	70-72
			Fiberglas Painted Ceiling Board Textured Pin-Perforated-TL	Owens-Corning Fiberglas Corp.	a	A	I	70-72
			Fiberglas Painted Ceiling Board Textured-TL	Owens-Corning Fiberglas Corp.	a	A	I	70-72
			Fiberglas Sonofaced Ceiling Board-TL	Owens-Corning Fiberglas Corp.	d	A	I	70-72
			Fiberglas Glass Cloth Faced Ceiling Board Textured-TL	Owens-Corning Fiberglas Corp.	a	A	I	70-72
		.80-.90	Fiberglas Glass Cloth Faced Ceiling Board Linear	Owens-Corning Fiberglas Corp.	a	A	I	70-72
			Fiberglas Glass Cloth Faced Ceiling Board—Nubby	Owens-Corning Fiberglas Corp.	a	A	I	70-72
			Fiberglas Painted Ceiling Board Textured Pin-Perforated	Owens-Corning Fiberglas Corp.	a	A	I	70-72
			Fiberglas Sonoboard Pebbled	Owens-Corning Fiberglas Corp.	a	A	I	70-72
			Fiberglas Sonoboard Pebbled-TL (Note 4)	Owens-Corning Fiberglas Corp.	a	A	I	70-72
			Fiberglas Textured Glass Cloth Faced Ceiling Board	Owens-Corning Fiberglas Corp.	a	A	I	70-72
			Safetone Medium Density Acoustiform— Boucle	The Celotex Corp.	a	A	I	42-47
Safetone Medium Density Acoustiform— Mat	The Celotex Corp.		a	A	I	42-47		
Safetone Medium Density Acoustiform— Stippled	The Celotex Corp.		a	A	I	42-47		
Ultracoustic Ceiling Board Travertine	Gustin-Bacon Mfg. Co.	a	A		48			
7/8"	7	.75-.85	Ultracoustic Ceiling Board Vinyl Faced Class A	Gustin-Bacon Mfg. Co.	a		I	48
1"	7	.70-.80	Fiberglas Sonocor Ceiling Board	Owens-Corning Fiberglas Corp.	a	C	I	70-72
			Fiberglas Sonoflex Ceiling Board	Owens-Corning Fiberglas Corp.	a	C		70-72
			G-B Vinyl Faced Ceiling Board Class C	Gustin-Bacon Mfg. Co.	a	C		48
			Hansocoustic Glass Fiber Ceiling Board	Elof Hansson, Inc.	a	C		49-54
			Kaiser Glass Fiber Ceiling Board— Vinyl Face-C	Kaiser Gypsum Co., Inc.	a	C		60-63
		.85-.95	Ultracoustic Ceiling Board Travertine	Gustin-Bacon Mfg. Co.	a	A		48

Table No. 9 continued on next page



# SUMMARY TABLES

**Table No. 9 (continued)**  
**Mineral Fiber Lay-In Panels**

All panels nominal 24" x 48" unless otherwise noted.

Thickness	Mounting No.	NRC Specification Range	MATERIAL	PRODUCER	Light Ref.	Flame Res. SS-A-118b See Page 5	Flame Spread Index E84-61 See Page 5	Details on page
1½"	7	.70-.80	G-B Vinyl Faced Ceiling Board Class C	Gustin-Bacon Mfg. Co.	a			48
		.80-.90	Hansocoustic Glass Fiber Ceiling Board (Note 3) Kaiser Glass Fiber Ceiling Board Vinyl Face—C (Note 3)	Elof Hansson, Inc. Kaiser Gypsum Co., Inc.	a a	C C		49-54 60-63
2"	7	.70-.80	Acousti-Shell GFV (Note 2) Acousti-Shell TV (Note 2)	Johns-Manville Sales Corp. Johns-Manville Sales Corp.	c a	A	I I	56-59 56-59
		.80-.90	Fiberglas Sonocor Ceiling Board (Note 3) Fiberglas Sonoflex Ceiling Board G-B Vinyl Faced Ceiling Board Class C Hansocoustic Glass Fiber Ceiling Board (Note 3) Kaiser Glass Fiber Ceiling Board—Vinyl Face-C (Note 3)	Owens-Corning Fiberglas Corp. Owens-Corning Fiberglas Corp. Gustin-Bacon Mfg. Co. Elof Hansson, Inc. Kaiser Gypsum Co., Inc.	a a a a a			70-72 70-72 48 49-54 60-63
2½"	7	.80-.90	G-B Vinyl Faced Ceiling Board Class C Hansocoustic Glass Fiber Ceiling Board (Note 3) Kaiser Glass Fiber Ceiling Board Vinyl Face—C (Note 3)	Gustin-Bacon Mfg. Co. Elof Hansson, Inc. Kaiser Gypsum Co., Inc.	a a a			48 49-54 60-63
		.80-.90	Fiberglas Sonocor Ceiling Board (Note 3) Fiberglas Sonoflex Ceiling Board G-B Vinyl-Faced Ceiling Board Class C Hansocoustic Glass Fiber Ceiling Board (Note 3) Kaiser Glass Fiber Ceiling Board—Vinyl Face-C (Note 3)	Owens-Corning Fiberglas Corp. Owens-Corning Fiberglas Corp. Gustin-Bacon Mfg. Co. Elof Hansson, Inc. Kaiser Gypsum Co., Inc.	a a a a a			70-72 70-72 48 49-54 60-63

Note 1. Asbestos board backed with flame resistant paper sound absorbing element.

Note 2. Panel size nominal 24" x 24".

Note 3. Panel size nominal 48" x 48".

Note 4. With 6" batts overlaid.

## SUMMARY TABLES

Table No. 10

### Perforated Metal Pans with Mineral Fiber Pads or Blankets

Sound absorption values of the materials listed below are dependent on the specific combination of metal pan and pad or blanket tested. Other pads or blankets than those specified by the producer for use with his pans may give radically different results.

All units include 12" x 24" pan with wire spacer (except as noted) and pad or blanket.

Thickness Note 1	Mounting No.	NRC Specification Range	MATERIAL	PRODUCER	Light Ref.	Flame Res. SS-A-118b See Page 5	Flame Spread Index E84-51 See Page 5	Details on page
1"	7	.60-.70	Hansopan Regular Perforated, J-M Microlite Pad	Elof Hansson, Inc.	c	A	I	49-54
		.70-.80	Sanacoustic "W", J-M Microlite Blanket (Note 2)	Johns-Manville Sales Corp.	a	A	I	56-59
1 1/4"	7	.70-.80	Acousteel Metal Pans—Diagonal 1105 hole (Note 3) Acoustimetal Diagonal Pattern #1105 with 1/2" Gypsum Board Arrestone Diagonal #1105 (Note 3) Hansopan Diagonal Perforated Metal Pan (Note 3) Simpson Metal Pan Diagonal Pattern with PyRotect pad	The Celotex Corp. National Gypsum Co. Armstrong Cork Co. Elof Hansson, Inc. Simpson Timber Co.	b b b b	A A A A	I I I I	42-47 64-69 36-40 49-54 73-78
		.80-.90	Acousteel Metal Pans Diagonal—1105 hole Acousteel Metal Pans Diagonal—1740 hole Acousteel Metal Pans—Random Acousteel Metal Pans Standard Acoustimetal Diagonal Pattern #1105 Acoustimetal Diagonal Pattern #1740 Acoustimetal Needlepoint Pattern Acoustimetal Square Pattern Arrestone Random Arrestone Diagonal #1105 Arrestone Diagonal #1740 Arrestone Straight Row Hansopan Diagonal Perforated (1105 Hole) Hansopan Diagonal Perforated (1105 Hole Pans) 1 1/4" paper wrapped pad Hansopan Diagonal Perforated Metal Pan (1740 Hole) Hansopan Needlepoint Perforated Hansopan Regular Metal Pan Hansopan Regular Perforated, J-M Microlite Pad plus 2" Special Blanket Lo-Tone Metal Pan Constellation Lo-Tone Metal Pan Diagonal #1105 Lo-Tone Metal Pan Diagonal #1740 Lo-Tone Metal Pan Regular Panatone Perfatone Sanacoustic "W", J-M Mineral Wool Pad Sanacoustic "W", J-M Mineral Wool Pad with J-M Flexboard Attenuation Baffles	The Celotex Corp. The Celotex Corp. The Celotex Corp. The Celotex Corp. National Gypsum Co. National Gypsum Co. National Gypsum Co. National Gypsum Co. National Gypsum Co. Armstrong Cork Co. Armstrong Cork Co. Armstrong Cork Co. Armstrong Cork Co. Armstrong Cork Co. Elof Hansson, Inc. Elof Hansson, Inc. Elof Hansson, Inc. Elof Hansson, Inc. Wood Conversion Co. Wood Conversion Co. Wood Conversion Co. Wood Conversion Co. Baldwin-Ehret-Hill, Inc. United States Gypsum Co. Johns-Manville Sales Corp. Johns-Manville Sales Corp.	b c b b c b b b b b c b b b b c b b b b b c a a	A A	I I	42-47 42-47 42-47 42-47 64-69 64-69 64-69 64-69 36-40 36-40 36-40 36-40 36-40 36-40 49-54 49-54 49-54 49-54 82-86 82-86 82-86 82-86 41 79-81 56-59 56-59
1 1/2"	X-12 1/2	.75-.85	Sanacoustic "W", J-M Microlite Blanket (Note 2)	Johns-Manville Sales Corp.	a	A	I	56-59
	7	.70-.80	Sanacoustic "W", J-M Microlite Blanket (Note 2)	Johns-Manville Sales Corp.	a	A	I	56-59

Note 1. Thickness is that of sound absorbing pad or blanket.

Note 2. Blanket supported by tee bars about 1 1/2" above face of metal pan.

Note 3. 1/2" gypsum wallboard over pans, pads and tee bars.

## SUMMARY TABLES

**Table No. 11**  
**Perforated Metal Pans with Mineral Fiber Pads Rated as Part of**  
**Fire Resistive Assemblies**

The acoustical tile listed below have been tested as a component of a floor (or roof) and ceiling assembly, the performance of which has received a fire endurance rating. See Producer's literature or Underwriters' Laboratories, Inc. *Building Materials List* for construction details applying to the design numbers listed.

For all of these products, the Flame Resistance is Class A, the Flame Spread is Class I, and the Light Reflectance is Class b. All units include 12" x 24" pan with wire spacer and pad.

Thickness	Mounting No.	NRC Specification Range	MATERIAL	PRODUCER	Fire Endurance E119-61 Hours	Construction Design No.	Details on page
19/16" (Note 1)	7	.80-.90	Fire-Shield Acoustimetal Diagonal Pattern No. 1105	National Gypsum Co.	2	87,216, 234	64-69
			Fire-Shield Acoustimetal Needlepoint Pattern	National Gypsum Co.	2	87,216, 234	64-69
			Fire-Shield Acoustimetal Square Pattern	National Gypsum Co.	2	87,216, 234	64-69
213/16" (Note 2)	7	.80-.90	Fire-Rated Perfatone Diagonal Perforated (Note 1)	United States Gypsum Co.	3	49	79-81

Note 1. Thickness includes pan and tee bar. Mineral fiber pad is 1 1/4" thick.

Note 2. Thickness includes pan, tee bar and 1 1/4" blanket over tee bar. Mineral fiber pad is 1 1/4" thick.



## SUMMARY TABLES

### Table No. 12

## Mineral Fiber Tile Rated as Part of Fire Resistive Assemblies

The acoustical tile listed below have been tested as a component of a floor (or roof) and ceiling assembly, the performance of which has received a fire endurance rating. See Producer's literature or Underwriters' Laboratories, Inc. *Building Materials List* for construction details applying to the design numbers listed.

**For all of these products the Flame Resistance is Class A, the Flame Spread Index is Class I, the Light Reflectance is Class a, and the size of the tile tested was 12" x 12" unless otherwise noted.**

Thickness	Mounting No.	NRC Specification Range	MATERIAL	PRODUCER	Fire Endurance ET19-61 Hours	Construction Design No.	Details on page		
1/2"	7	.55-.65	Fire-Shield Solitude Fissured Pattern Fire-Shield Solitude Needlepoint Pattern Fire-Shield Solitude Textured Micro-Perf Pattern	National Gypsum Co. National Gypsum Co. National Gypsum Co.	1 1 1	26 26 26	64-69 64-69 64-69		
5/8"	X- 2 1/2	.65-.75	Protectone Mineral Fiber Tile Embassy	The Celotex Corp.	1 2	12 22,23 34	42-47		
			Protectone Mineral Fiber Tile Random	The Celotex Corp.	4 1 2	36 12 22,23 34 36	42-47		
			7	.40-.50	Kaiser Fire Rated Textured Tile	Kaiser Gypsum Co., Inc.	2	96	60-63
			.50-.60	Fire-Shield Solitude Fissured Pattern Fire-Shield Solitude Textured Micro-Perf. Pattern Kaiser Fire Rated Circle Punched Tile Kaiser Fire Rated Fissured Tile Kaiser Fire Rated Swirl Punched Tile Protectone Mineral Fiber Tile Serene II	National Gypsum Co. National Gypsum Co. Kaiser Gypsum Co., Inc. Kaiser Gypsum Co., Inc. Kaiser Gypsum Co., Inc. The Celotex Corp.	2 2 2 2 2 1 2 4	16 16,81 79 96 96 96 12 22,23 34,95 36	64-69 64-69 60-63 60-63 60-63 42-47	
	7	.60-.70	Acoustical Fire Guard Classic	Armstrong Cork Co.	1 2 3	9 8 42	36-40		
			Acoustical Fire Guard Fissured	Armstrong Cork Co.	1 2 3	9 8 42	36-40		
			Acoustical Fire Guard Mylar Faced	Armstrong Cork Co.	1 2 3	9 8 42	36-40		
			Firedike Tile Fissured Pattern	Johns-Manville Sales Corp.	2	60,70	56-59		
			Firedike Tile Pierced Pattern	Johns-Manville Sales Corp.	2	60,70	56-59		
			Firedike Tile Random Drilled	Johns-Manville Sales Corp.	2	60,70	56-59		
			Firedike Tile Uniform Drilled	Johns-Manville Sales Corp.	2	60,70	56-59		
			Firerate Tile Fissured MQ	Simpson Timber Co.	2	18,24	73-78		
			Firerate Tile Petite MQ	Simpson Timber Co.	2	18,24	73-78		
			Fire-Shield Solitude Full Random Pattern	National Gypsum Co.	2	16	64-69		
			Fire-Shield Solitude Needlepoint Pattern	National Gypsum Co.	2	16	64-69		
			Hansoguard Fissured Fire Protective Acoustical Tile	Elof Hansson, Inc.	2	18,24	49-54		
			Hansoguard Hansostar Perforated Fire Protective Tile	Elof Hansson, Inc.	2	18,24	49-54		
			Lo-Tone FR Constellation	Wood Conversion Co.	2	18,24	82-86		
			Lo-Tone FR Fissura	Wood Conversion Co.	2	18,24	82-86		
			Lo-Tone FR Ventilating Constellation	Wood Conversion Co.	2	18	82-86		
Lo-Tone FR Ventilating Fissura	Wood Conversion Co.	2	18	82-86					

**Table No. 12 continued on next page**



## SUMMARY TABLES

Table No. 12 (continued)

### Mineral Fiber Tile Rated as Part of Fire Resistive Assemblies

The acoustical tile listed below have been tested as a component of a floor (or roof) and ceiling assembly, the performance of which has received a fire endurance rating. See Producer's literature or Underwriters' Laboratories, Inc. *Building Materials List* for construction details applying to the design numbers listed.

For all of these products the Flame Resistance is Class A, the Flame Spread Index is Class I, the Light Reflectance is Class a, and the size of the tile tested was 12" x 12" unless otherwise noted.

Thickness	Mounting No.	NRC Specification Range	MATERIAL	PRODUCER	Fire Endurance E119-61 Hours	Construction Design No.	Details on page
5/8"	7	.60-.70	Protectone Mineral Fiber Tile Embassy	The Celotex Corp.	1 2	12 22,23 34	42-47
			Protectone Mineral Fiber Tile Random	The Celotex Corp.	4 1 2 4	36 12 22,23 34	42-47
			Acoustical Fire Guard Full Random	Armstrong Cork Co.	1 2 3	9 8 42	36-40
			Firedike Tile Uniform Drilled	Johns-Manville Sales Corp.	2	60,70	56-59
		.70-.80	Firerate Tile Random MQ	Simpson Timber Co.	2	18,24	73-78
			Hansoguard Random Perforated	Elof Hansson, Inc.	2	18,24	49-54
			Fire Protective Tile				
			Lo-Tone FR Random Pattern	Wood Conversion Co.	2	18,24	82-86
			Firedike Tile Uniform Drilled	Johns-Manville Sales Corp.	1 2	20 29,60, 70	56-59
			Protectone Mineral Fiber Tile Natural Fissured	The Celotex Corp.	3 1 2 4	34,54 12 22,23 24 36	42-47
3/4"	X-10 3/4	.70-.80	Firedike Tile Uniform Drilled	Johns-Manville Sales Corp.	1 2	20 29,60, 70	56-59
			Protectone Mineral Fiber Tile Natural Fissured	The Celotex Corp.	3 1 2 4	34,54 12 22,23 24 36	42-47
	7	.60-.70	FireRate Tile SFR-3 Travertine	Simpson Timber Co.	3	40	73-78
			Fire-Shield Solitude Fissured Pattern	National Gypsum Co.	2	16	64-69
			Fire-Shield Solitude Needlepoint Pattern	National Gypsum Co.	3 2	25 16	64-69
			Fire-Shield Travacoustic Ventilating Fissured	National Gypsum Co.	3 2	25 212, 218	64-69
			Permacoustic Firedike	Johns-Manville Sales Corp.	2	16	56-59
			Styltone Fire Rate 2	Baldwin-Ehret-Hill, Inc.	2	91	41
			Styltone Fire Rate 3	Baldwin-Ehret-Hill, Inc.	2 3	86 40	41
		.70-.80	Acoustone "120"	United States Gypsum Co.	2	41	79-81
			Firedike Tile Fissured Pattern	Johns-Manville Sales Corp.	1 2	20 29,60, 70	56-59
			Firedike Tile Pierced Pattern	Johns-Manville Sales Corp.	3 1 2	34,54 20 29,60, 70	56-59
			Firedike Tile Random Drilled	Johns-Manville Sales Corp.	3 1 2 3	34,54 20 29,60, 70 34,54	56-59

Table No. 12 continued on next page

## SUMMARY TABLES

Table No. 12 (continued)

### Mineral Fiber Tile Rated as Part of Fire Resistive Assemblies

The acoustical tile listed below have been tested as a component of a floor (or roof) and ceiling assembly, the performance of which has received a fire endurance rating. See Producer's literature or Underwriters' Laboratories, Inc. *Building Materials List* for construction details applying to the design numbers listed.

For all of these products the Flame Resistance is Class A, the Flame Spread Index is Class I, the Light Reflectance is Class a, and the size of the tile tested was 12" x 12" unless otherwise noted.

Thickness	Mounting No.	NRC Specification Range	MATERIAL	PRODUCER	Fire Endurance E119-61 Hours	Construction Design No.	Details on page
3/4"	7	.70-.80	Firedike Tile Uniform Drilled	Johns-Manville Sales Corp.	1 2	20 29,60,70	56-59
			FireRate Tile SFR-1 Travertine	Simpson Timber Co.	3	34,54	
			Fire-Shield Acoustiroc Fissured Pattern	National Gypsum Co.	1 1	18 16	73-78 64-69
					2 3	27 38	
			Fire-Shield Acoustiroc Striated Pattern	National Gypsum Co.	1 2	16 27	64-69
					3	38	
			Fire-Shield Acoustiroc Textured Pattern	National Gypsum Co.	1 2	16 27	64-69
					3	38	
			Fire-Shield Acoustiroc Ventilating Full Random Pattern	National Gypsum Co.	1 2	16 79	64-69
			Fire-Shield Acoustiroc Ventilating Needlepoint Pattern	National Gypsum Co.	2	79	64-69
			Fire-Shield Solitude Full Random Pattern	National Gypsum Co.	2 3	16 25	64-69
			Fire-Shield Travacoustic	National Gypsum Co.	2	98,212,218	64-69
			Lo-Tone FR Fissured Tile (IMF)	Wood Conversion Co.	1 2	12 22,23	82-86
						34,80	
					3	95,200	
					4	69,77	
			Protectone Mineral Fiber Tile Natural Fissured	The Celotex Corp.	1 2	36 22,23	42-47
						34	
			Styltone Fire Rate 1 Travertone Fire Guard	Baldwin-Ehret-Hill, Inc. Armstrong Cork Co.	1 1 1/2 2 3	18 7,21 92 39,57	41 36-40
		.80-.90	Acoustone "90"	United States Gypsum Co.	1 1 1/2	15 6	79-81
			Fire-Shield Acoustiroc Full Random Pattern	National Gypsum Co.	1 2 3	16 27 38	64-69
			Fire-Shield Acoustiroc Needlepoint Pattern	National Gypsum Co.	1 2 3	16 27 38	64-69
			Hansoguard Fissured 1 1/2 Hour Rated Acoustical Tile	Elof Hansson, Inc.	1 1 1/2	15 6	49-54



# SUMMARY TABLES

Table No. 13

## Mineral Fiber Lay-In Panels Rated as Part of Fire Resistive Assemblies

The mineral fiber lay-in panels listed have been tested as a component of a floor (or roof) and ceiling assembly, the performance of which has received a fire endurance rating. See Producer's literature or Underwriters' Laboratories, Inc. *Building Materials List* for construction details applying to the design numbers listed.

For all of these products the Flame Resistance is Class A, the Flame Spread Index is Class I, the Light Reflectance is Class a, and the size of the panels tested was nominal 24" x 48" unless otherwise noted.

Thickness	Mounting No.	NRC Specification Range	MATERIAL	PRODUCER	Fire Endurance E119-61 Hours	Construction Design No.	Details on page
1/2"	7	.35-.45	Kaiser Fire Rated Textured Lay-In	Kaiser Gypsum Co., Inc.	1	23	60-63
		.45-.55	Fire-Shield Solitude Grid Panels Textured Micro-Perf	National Gypsum Co.	1 1 1/2 2	39 12 64	64-69
		.55-.65	Acoustical Fire Guard Lay-In Units Fissured	Armstrong Cork Co.	1 1 1/2	30 9	36-40
			FireRate Ceiling Board Seafoam	Simpson Timber Co.	1	24,45	73-78
			Fire-Shield Solitude Grid Panels Fissured	National Gypsum Co.	1 1 1/2 2	39 12 64	64-69
			Fire-Shield Solitude Grid Panels Needlepoint Pattern	National Gypsum Co.	1 1/2	12	64-69
			Hansoguard Fashion Design	Elof Hansson, Inc.	1	24,45	49-54
			Fire Protective Ceiling Board				
			Kaiser Fire Rated Circle Punched Lay-In	Kaiser Gypsum Co., Inc.	1	23	60-63
			Kaiser Fire Rated Fissured Lay-In	Kaiser Gypsum Co., Inc.	1	23	60-63
			Kaiser Fire Rated Swirl-Punched Lay-In	Kaiser Gypsum Co., Inc.	1	23	60-63
			Lo-Tone FR Heritage Ceiling Board	Wood Conversion Co.	1	24,45	82-86
		.65-.75	Acoustical Fire Guard Lay-In Units Classic	Armstrong Cork Co.	1 1 1/2	30 9	36-40
			Firedike Panels Pierced Pattern	Johns-Manville Sales Corp.	1 1/2	14	56-59
			FireRate Ceiling Board Fissured MQ	Simpson Timber Co.	1	24,45	73-78
			FireRate Ceiling Board Petite MQ	Simpson Timber Co.	1	24,45	73-78
			Hansoguard Hansostar Perforated Fire Protective Ceiling Board	Elof Hansson, Inc.	1	24	49-54
			Hansoguard Fissured Fire Protective Ceiling Board	Elof Hansson, Inc.	1	24	49-54
			Lo-Tone FR Constellation Ceiling Board	Wood Conversion Co.	1	24	82-86
			Lo-Tone FR Fissura Ceiling Board	Wood Conversion Co.	1	24	82-86
5/8"	7	.40-.50	Kaiser Fire Rated Textured Lay-In	Kaiser Gypsum Co., Inc.	1 2	23 88	60-63
		.55-.65	Auratone Firecode Ceiling Panel "Striated"	United States Gypsum Co.	1 2	31 RC6,	79-81
			FireRate Ceiling Board Seafoam	Simpson Timber Co.	3 1 1/2 2	72 65 11	73-78
			Fire-Shield Solitude Grid Panels Textured Micro-Perf	National Gypsum Co.	1 2	32,43 206 211 233	64-69
			Fire-Shield Solitude Grid Panels Ventilating Fissured Pattern	National Gypsum Co.	2	17 31,39 47,58 73,78	64-69
			Fire-Shield Solitude Grid Panels Ventilating Needlepoint Pattern	National Gypsum Co.	2	73,78	64-69
			Hansoguard Fashion Design Fire Protective Ceiling Board	Elof Hansson, Inc.	1 1/2 2	11 32,43 206, 211, 233	49-54

Table No. 13 continued on next page

## SUMMARY TABLES

Table No. 13 (continued)

### Mineral Fiber Lay-In Panels Rated as Part of Fire Resistive Assemblies

The mineral fiber lay-in panels listed have been tested as a component of a floor (or roof) and ceiling assembly, the performance of which has received a fire endurance rating. See Producer's literature or Underwriters' Laboratories, Inc. *Building Materials List* for construction details applying to the design number listed.

For all of these products the Flame Resistance is Class A, the Flame Spread Index is Class I, the Light Reflectance is Class a, and the size of the panels tested is nominal 24" x 48" unless otherwise noted.

Thickness	Mounting No.	NRC Specification Range	MATERIAL	PRODUCER	Fire Endurance E119-61 Hours	Construction Design No.	Details on page
5/8"	7	.55-.65	Kaiser Fire Rated Circle-Punched Lay-In	Kaiser Gypsum Co., Inc.	1	23	60-63
			Kaiser Fire Rated Fissured Lay-In	Kaiser Gypsum Co., Inc.	2	88	
			Kaiser Fire Rated Swirl-Punched Lay-In	Kaiser Gypsum Co., Inc.	1	23	60-63
			Lo-Tone FR Heritage Ceiling Board	Wood Conversion Co.	2	88	60-63
		.65-.75			1	23	60-63
					2	88	
					1 1/2	11	82-86
					2	43, 206, 211, 233	
			Acoustical Fire Guard Lay-In Units Classic	Armstrong Cork Co.	1 1/2	8	36-40
					2	13,21, 30,46	
			Acoustical Fire Guard Lay-In Units Classic Ventilating	Armstrong Cork Co.	2	13,46	36-40
			Acoustical Fire Guard Lay-In Units Classic—50% Ventilating and 50% Nonventilating	Armstrong Cork Co.	2	13,46	36-40
			Acoustical Fire Guard Lay-In Units Fissured	Armstrong Cork Co.	1 1/2	8	36-40
					2	13,21, 30,46	
			Acoustical Fire Guard Lay-In Units Mylar Faced	Armstrong Cork Co.	1 1/2	8	36-40
					2	13,21, 30,46	
			Auratone Firecode Ceiling Panel "Random"	United States Gypsum Co.	1	31	79-81
					2	RC6, 72	
			Fiberglas Painted Ceiling Board Fissured-R-TWO	Owens-Corning Fiberglas Corp.	3	65	
			Fiberglas Painted Ceiling Board Textured-R-TWO	Owens-Corning Fiberglas Corp.	2	205	70-72
			Firedike Panels Fissured	Johns-Manville Sales Corp.	1	21	56-59
					2	45,71, 76	
			Firedike Panels Pierced Pattern	Johns-Manville Sales Corp.	1	21	56-59
					2	45,71	
			FireRate Ceiling Board Arctic	Simpson Timber Co.	1 1/2	11	73-78
					2	32,43 206 211 233	
			FireRate Ceiling Board Fissured MQ	Simpson Timber Co.	1 1/2	11	73-78
					2	32,43 206 211 233	
			FireRate Ceiling Board Petite MQ	Simpson Timber Co.	1 1/2	11	73-78
					2	32,43 206, 211, 233	

Table No. 13 continued on next page



## SUMMARY TABLES

Table No. 13 (continued)

### Mineral Fiber Lay-In Panels Rated as Part of Fire Resistive Assemblies

The mineral fiber lay-in panels listed have been tested as a component of a floor (or roof) and ceiling assembly, the performance of which has received a fire endurance rating. See Producer's literature or Underwriters' Laboratories, Inc. *Building Materials List* for construction details applying to the design number listed.

For all of these products the Flame Resistance is Class A, the Flame Spread Index is Class I, the Light Reflectance is Class a, and the size of the panels tested was nominal 24" x 48" unless otherwise noted.

Thickness	Mounting No.	NRC Specification Range	MATERIAL	PRODUCER	Fire Endurance E119-61 Hours	Construction Design No.	Details on page
5/8"	7	.65-.75	Fire-Shield Solitude Grid Panels Fissured	National Gypsum Co.	1 2	17 31,39, 47,58 73,78	64-69
			Fire-Shield Solitude Grid Panels Needlepoint	National Gypsum Co.	1 2	17 31,39, 47,58 73,78	64-69
			Hansoguard Fissured Fire Protective Ceiling Board	Elof Hansson, Inc.	1 1/2 2	11 32,43	49-54
			Hansoguard Hansostar Perforated Fire Protective Ceiling Board	Elof Hansson, Inc.	1 1/2 2	11 32,43	49-54
			Hansoguard Sand Finish Fire Protective Ceiling Board	Elof Hansson, Inc.	1 1/2 2	11 32,43	49-54
			Lo-Tone FR Constellation Ceiling Board	Wood Conversion Co.	1 1/2 2	11 32,43	82-86
			Lo-Tone FR Fissura Ceiling Board	Wood Conversion Co.	1 1/2 2	11 32,43	82-86
			Lo-Tone FR Sandex Ceiling Board (Note 1)	Wood Conversion Co.	1 1/2 2	11 32,43	82-86
			Lo-Tone FR Ventilating Constellation Ceiling Board	Wood Conversion Co.	2	32	82-86
			Lo-Tone FR Ventilating Fissura Ceiling Board	Wood Conversion Co.	2	32	82-86
			Protectone Celo-Flow Ventilating Mineral Fiber Lay-In Panels Embassy —50% Ventilating and 50% Nonventilating	The Celotex Corp.	2 3	62 47	42-47
			Protectone Celo-Flow Ventilating Mineral Fiber Lay-In Panels Fissure-Flo 50% Ventilating and 50% Nonventilating	The Celotex Corp.	2 3	62 47	42-47
			Protectone Mineral Fiber Lay-In Panels Embassy (Note 2)	The Celotex Corp.	1 2	22 35,36 62	42-47
			Protectone Mineral Fiber Lay-In Panels Fissuretone	The Celotex Corp.	3 1 2	47 22 35,36,62	42-47
			Protectone Mineral Fiber Lay-In Panels Serene II	The Celotex Corp.	3 1 2	47 22 35,36 62	42-47
					3	47	
3/4"	7	.60-.70	Fire-Shield Solitude Grid Panels Fissured	National Gypsum Co.	3	74	64-69
			Fire-Shield Solitude Grid Panels Needlepoint	National Gypsum Co.	3	74	64-69
1"	7	.85-.95	Protectone Mineral Fiber Lay-In Panels Acoustiform—Mat	The Celotex Corp.	2	36	42-47

Note 1. Light reflection in b range.

Note 2. Panel size nominal 24" x 24".



## SUMMARY TABLES

Table No. 14

### Perforated Asbestos Cement Board Panels with Mineral Fiber Pads

Thickness includes  $\frac{3}{16}$ " perforated facing and pad. Unit size 24" x 24".

Thickness	Mounting No.	NRC Specification Range	MATERIAL	PRODUCER	Light Ref.	Flame Res. SS-A-118b See Page 5	Flame Spread Index E84-61 See Page 5	Details on page
15/16"	7	.65-.75	Asbestos Board Panels Hansonite Perforated Asbestos Board	Armstrong Cork Co. Elof Hansson, Inc.	b b	A A	I I	36-40 49-54
13/16"	5	.60-.70	Asbestos Board Panel	Armstrong Cork Co.	b	A	I	36-40
			Gold Bond Perforated Asbestos Board	National Gypsum Co.	b	A	I	64-69
			Hansonite Perforated Asbestos Board	Elof Hansson, Inc.	b	A	I	49-54
			Lo-Tone Asbestos Board	Wood Conversion Co.	b	A	I	82-86
	7	.65-.75	Perforated Asbestos Board with 1" Glass Fiber Pad	The Celotex Corp.	b	A	I	42-47
			Perforated Transite Panels	Johns-Manville Sales Corp.	b	A	I	56-59
23/16"	8	.70-.80	Asbestos Board Panel	Armstrong Cork Co.	b	A	I	36-40
			Gold Bond Perforated Asbestos Board	National Gypsum Co.	b	A	I	64-69
			Hansonite Perforated Asbestos Board	Elof Hansson, Inc.	b	A	I	49-54
			Lo-Tone Asbestos Board	Wood Conversion Co.	b	A	I	82-86
	7	.75-.85	Perforated Asbestos Board with 2" Glass Fiber Pad	The Celotex Corp.	b	A	I	42-47
			Perforated Transite Panels	Johns-Manville Sales Corp.	b	A	I	56-59

Note 1. See Producer's Table for description of special mounting.

# SUMMARY TABLES

Table No. 15

## Special Acoustical Panels and Materials

Some details are given in Producers' Tables in this bulletin. Producers' literature should be consulted for further information.

PRODUCER	MATERIAL	DESCRIPTION	NRC Specification Range	Flame Res. SS-A-118b See Page 5	Flame Spread Index E84-61 See Page 5	Details on page
Gustin-Bacon Manufacturing Co.	Ultraquiet Metal Pan Filler Pads and Rolls	Sound absorbing pads and blankets for perforated metal pans.				
		Fiber glass blanket				
		2" thick rolls	Note 1 .80-.90			48
		2 1/2" thick rolls				48
		3" thick rolls				48
		Charcoal gray pads	Note 1			
Elof Hansson, Inc.	E-H Incombustible Noise Reduction Panels Hansoglow Acoustical Luminous Ceiling Panel Hansoquilt Studio Blanket	1" thick pads	.70-.80			48
		Fiber glass pads	Note 1			48
		1" thick pads	.70-.80			48
		1 1/4" thick pads				
		1 1/2" thick pads				
The E. F. Hauserman Co.	Acoustic Deck	2 3/8" thick. Perforated face, sound absorbent septum, solid back.	.75-.85			49-54
		Translucent plastic lay-in panels	.60-.70		I	49-54
		1" and 2" thick panels				49-54
		Fabric faced, quilted mineral wool blanket.				
		1" thick rolls	.50-.60			49-54
		2" thick rolls	.60-.70			49-54
Kaiser Gypsum Co., Inc.	Kaiser Fir-Tex Acoustical Roofdek	3" thick panels, perforated steel face, unperforated steel back, filled with mineral fiber and plaster wallboard.	.70-.80			55
		2 3/4" thick. Similar to above.	.70-.80			55
		2 1/4" thick. Perforated steel face, sound absorbent blanket, solid steel face.	.70-.80			55
Kaiser Gypsum Co., Inc.	Kaiser Fir-Tex Acoustical Roofdek	2' x 8' structural slab, perforated and painted				60-63
		2" thick	.55-.65	C		60-63
		3" thick	.55-.65	C		60-63

Note 1. Tested with perforated metal pans on No. 7 mounting.

Note 2. 1" thickness.



# ARMSTRONG CORK COMPANY

MATERIAL	Thickness	Flame Resistance SS-A-118b See Page 5	Flame Spread Index E84-61 See Page 5	SURFACE Superscript numbers refer to footnotes	Mounting See Page 5	COEFFICIENTS						Unit Size Tested	Weight Lbs. per Sq. Ft.	Test No.
						125 cps	250 cps	500 cps	1000 cps	2000 cps	4000 cps			
CERAMAGUARD	5/8"	A	I	Perforated, painted	7	.16	.22	.66	.88	.79	.69	24"x48"	1.2	A0403
ACOUSTICAL FIRE GUARD (Note 12) FULL RANDOM	5/8"	A	I	Perforated <sup>1</sup> , painted	7	.40	.56	.62	.99	.91	.60	12"x12"	1.1	A9489
ACOUSTICAL FIRE GUARD (Note 12) CLASSIC	5/8"	A	I	Perforated <sup>2</sup> , painted	7	.42	.47	.62	.83	.80	.67	12"x12"	1.2	A9502
ACOUSTICAL FIRE GUARD (Note 12) FISSURED	5/8"	A	I	Fissured, painted	7	.29	.47	.52	.79	.87	.71	12"x12"	1.2	A9503
TRAVERTONE FIRE GUARD (Note 13)	3/4"	A	I	Fissured, painted	7	.75	.68	.69	.85	.93	.90	12"x12"	1.4	A6160
ACOUSTICAL FIRE GUARD (Note 12) MYLAR FACED	5/8"	A	I	Membrane facing <sup>4</sup>	7	.33	.35	.56	.83	.76	.75	12"x12"	1.2	A8256
ACOUSTICAL FIRE GUARD (Note 14) LAY-IN UNITS CLASSIC	1/2"	A	I	Perforated <sup>2</sup> , painted	7	.39	.53	.61	.89	.84	.60	24"x48"	.85	A8259
	5/8"	A	I	Same as above	7	.41	.50	.74	.97	.77	.61	24"x48"	1.0	A6031
ACOUSTICAL FIRE GUARD (Note 14) LAY-IN UNITS FISSURED	1/2"	A	I	Fissured, painted	7	.33	.39	.53	.77	.86	.80	24"x48"	.80	A8260
	5/8"	A	I	Same as above	7	.36	.45	.61	.85	.87	.79	24"x48"	1.0	A6365
ACOUSTICAL FIRE GUARD (Note 14) LAY-IN UNITS MYLAR FACED	5/8"	A	I	Membrane facing <sup>4</sup>	7	.37	.40	.63	.91	.80	.82	24"x48"	1.1	A6426
TRAVERTONE	3/4"	A	I	Fissured, painted	1	.08	.32	.79	.93	.87	.80	12"x12"	1.3	A5303
					7	.53	.49	.57	.82	.90	.83	12"x12"	1.3	A9289
TRAVERTONE AGT	3/4"	A	I	Fissured, painted	7	.36	.46	.62	.76	.88	.85	12"x12"	1.4	A9488
TRAVERTONE FINE FISSURED	3/4"	A	I	Finely fissured, painted	7	.44	.44	.59	.78	.84	.79	12"x12"	1.2	A9487
TRAVERTONE EMBOSSSED	3/4"	A	I	Embossed, painted	1	.08	.23	.79	.93	.88	.86	12"x12"	1.4	A4260
TRAVERTONE GOLDEN	3/4"	A	I	Fissured, painted Inlaid gold colored metallic flecks	1	.13	.41	.86	.84	.74	.62	12"x12"	1.2	A4002
					7	.41	.49	.59	.76	.84	.79	12"x12"	1.2	A9486
MINATONE	5/8"	A	I	Perforated <sup>1</sup> , painted	1	.16	.27	.71	.85	.78	.56	12"x12"	1.1	A4251
					7	.50	.54	.67	.97	.88	.63	12"x12"	1.1	A9385
MINATONE CELTIC	5/8"	A	I	Non-directional deep embossed random texturing, perfo- rated <sup>2</sup> , painted	1	.07	.22	.81	.76	.58	.43	12"x12"	1.1	A0226
					7	.47	.40	.63	.69	.59	.47	12"x12"	1.1	A0225
MINATONE .050" Perforations	1/2"	A	I	Perforated <sup>2</sup> , painted	1	.04	.19	.77	.87	.60	.48	12"x12"	.80	A9188
					2	.08	.40	.81	.77	.64	.63	12"x12"	.80	A9187
					7	.53	.55	.57	.75	.67	.63	12"x12"	.80	A9186
MINATONE CLASSIC	1/2"	A	I	Perforated <sup>2</sup> , painted	1	.11	.14	.68	.87	.68	.45	12"x12"	.95	A4119
	5/8"	A	I	Same as above	1	.12	.25	.83	.87	.64	.52	12"x12"	1.1	A4118
					7	.44	.57	.74	.93	.75	.76	12"x12"	1.1	A9321

See pages following for continuation of table and footnotes

MATERIAL	Thickness	Flame Resistance SS-A-118b See Page 5	Flame Spread Index E84-61 See Page 5	SURFACE Superscript numbers refer to footnotes	Mounting See Page 5	COEFFICIENTS						Unit Size Tested	Weight Lbs. per Sq. Ft.	Test No.
						125 cps	250 cps	500 cps	1000 cps	2000 cps	4000 cps			
MINATONE MYLAR FACED	5/8"	A	I	Membrane facing <sup>4</sup>	7	.63	.41	.58	.83	.79	.80	12"x12"	1.0	A8024
MINABOARD CELTIC	5/8"	A	I	Non-directional deep embossed random texturing, perfor- ated <sup>2</sup> , painted	7	.37	.32	.67	.74	.61	.51	24"x48"	1.1	A0229
MINABOARD CHEVIOT	5/8"	A	I	Embossed, perfor- ated <sup>2</sup> , painted	7	.38	.37	.60	.72	.63	.54	24"x48"	1.1	A0313
MINABOARD FISSURED	1/2"	A	I	Fissured, painted	7	.40	.42	.55	.79	.85	.79	24"x48"	.80	A8274
	5/8"	A	I	Same as above	7	.46	.44	.58	.78	.80	.74	24"x48"	1.0	A6364
MINABOARD CLASSIC	1/2"	A	I	Perforated <sup>2</sup> , painted	7	.40	.50	.61	.92	.82	.57	24"x48"	.80	A7387
	5/8"	A	I	Same as above	7	.48	.45	.64	.92	.76	.65	24"x48"	1.1	A9322
MINABOARD MYLAR FACED	5/8"	A	I	Membrane facing <sup>4</sup>	7	.43	.41	.65	.91	.77	.79	24"x48"	1.1	A6425
FASHIONTONE TEXTURED	1/2"	A	I	Fissured, perforated, painted	1	.11	.23	.65	.82	.80	.74	12"x12"	1.1	A7415
					2	.18	.62	.58	.74	.81	.70	12"x12"	1.1	A7414
FASHIONTONE CLASSIC	1/2"	A	I	Perforated <sup>2</sup> , painted	1	.08	.25	.68	.91	.73	.57	12"x12"	1.1	A7229
					2	.19	.61	.60	.88	.66	.45	12"x12"	1.1	A7228
FASHIONTONE LAY-IN UNITS CLASSIC	1/2"	A	I	Perforated <sup>2</sup> , painted	7	.40	.50	.61	.92	.82	.57	24"x48"	.80	A7387
CUSHIONTONE FULL RANDOM	1/2"	C, D		Perforated <sup>1</sup> , painted	1	.20	.18	.64	.61	.59	.56	12"x12"	.75	A2126
					2	.13	.59	.55	.55	.57	.55	12"x12"	.75	A2124
	3/4"	C, D		Same as above	1	.13	.36	.73	.72	.65	.58	12"x12"	.95	A2109
					2	.22	.68	.60	.65	.66	.57	12"x12"	.95	A2108
CUSHIONTONE TEXTURED	9/16"	C, D		Fissured, perforated, painted	1	.14	.23	.60	.73	.83	.64	12"x12"	.75	A3155
					2	.17	.60	.52	.71	.81	.71	12"x12"	.75	A3154
CUSHIONTONE CLASSIC	1/2"	C, D	III Note 7	Perforated <sup>2</sup> , painted	1	.10	.19	.64	.78	.72	.52	12"x12"	.75	A4004
					2	.11	.57	.54	.66	.71	.54	12"x12"	.75	A4003
	3/4"	C, D	III Note 7	Same as above	1	.20	.32	.84	.81	.74	.55	12"x12"	1.1	A4007
					2	.22	.69	.72	.76	.71	.54	12"x12"	1.1	A4006
CUSHIONTONE GOLDEN (Textured Pattern)	9/16"	D		Fissured, perforated, painted. Inlaid gold colored metallic flecks	1	.14	.33	.55	.52	.56	.53	12"x12"	.85	A6025
					2	.21	.64	.39	.51	.56	.52	12"x12"	.85	A6024
CUSHIONTONE GEORGIAN	1/2"	D		Perforated <sup>3</sup> , rough textured, painted	1	.18	.27	.66	.56	.59	.59	12"x12"	.80	A8103
					2	.15	.62	.52	.53	.52	.54	12"x12"	.80	A8102
PINEHURST	1/2"	D		Perforated, embossed, painted	1	.18	.22	.58	.51	.42	.30	12"x12"	.75	A0250
					2	.21	.62	.43	.43	.38	.31	12"x12"	.75	A0249
WOODCREST	1/2"	D		Embossed, perforated, painted	2	.19	.60	.44	.44	.36	.22	12"x12"	.75	A0289
FAIRFAX	1/2"	D		Perforated, white, raised plastic sur- face to create a delicate starburst effect	1	.19	.22	.67	.55	.42	.27	12"x12"	.85	A9243
					2	.18	.65	.52	.51	.42	.31	12"x12"	.85	A9242
DEERFIELD	1/2"	D		Perforated, raised plastic swirl ac- cented with gold and silver metallic flecks	1	.11	.21	.69	.59	.46	.38	12"x12"	.90	A9320
					2	.20	.67	.56	.56	.46	.41	12"x12"	.90	A9319

See pages following for continuation of table and footnotes



# ARMSTRONG CORK COMPANY (CONTINUED)

MATERIAL	Thickness	Flame Resistance SS-A-118b See Page 5	Flame Spread Index E84-61 See Page 5	SURFACE Superscript numbers refer to footnotes	Mounting See Page 5	COEFFICIENTS						Unit Size Tested	Weight Lbs. per Sq. Ft.	Test No.
						125 cps	250 cps	500 cps	1000 cps	2000 cps	4000 cps			
CUSHIONTONE LAY-IN UNITS CLASSIC	1/2"	D	III	Perforated <sup>2</sup> , painted	7	.14	.30	.51	.67	.68	.56	24"x48"	.80	A8268
ARRESTONE STRAIGHT ROW	1 9/16"	A	I	Perforated, enameled metal <sup>5</sup>	7	.81	.89	.93	.99	.77	.80	12"x24"	Pad .40	A6686
RANDOM	1 9/16"	A	I	Perforated, enameled metal <sup>5</sup>	7	.91	.79	.88	.99	.79	.60	12"x24"	Pad .40	A9908
DIAGONAL #1740	1 9/16"	A	I	Perforated, enameled metal <sup>5</sup>	7	.76	.76	.90	.99	.85	.70	12"x24"	Pad .40	A9909
DIAGONAL #1105	1 9/16"	A	I	Perforated, enameled metal <sup>5</sup>	7	.85	.76	.82	.96	.79	.69	12"x24"	Pad .40	A0949
DIAGONAL #1105 with 1/2" gypsum board	2 1/16"	A	I	Perforated, enameled metal <sup>5,6</sup>	7	.23	.34	.93	.99	.79	.71	12"x24"	Pad .40	A0950
ASBESTOS BOARD PANEL	1 5/16"	A	I	Perforated <sup>8,9</sup> , painted	7	.77	.64	.60	.78	.68	.42	24"x24"	Pad .05	A695
	1 3/16"	A	I	Perforated <sup>8,9</sup> , painted	5	.08	.20	.57	.96	.69	.24	24"x24"	Pad .05	A695
	1 3/16"	A	I	Perforated <sup>8,10</sup> , painted	5 7	.09 .75	.31 .66	.56 .62	.93 .75	.68 .65	.23 .44	24"x24" 24"x24"	Pad .05	A695 A695
	2 3/16"	A	I	Perforated <sup>8,11</sup> , painted	7 8	.93 .18	.81 .55	.86 .98	.96 .98	.65 .58	.45 .44	24"x24" 24"x24"	Pad .10	A695 A695
ACOUSTICAL FIRE GUARD (Note 14) LAY-IN UNITS CLASSIC VENTILATING	5/8"	A	I	Perforated <sup>2</sup> , painted	7	.45	.45	.59	.82	.83	.65	24"x48"	1.1	A82
ACOUSTICAL FIRE GUARD (Note 14) LAY-IN UNITS CLASSIC 50% VENTILATING & 50% NONVENTILATING	5/8"	A	I	Perforated <sup>2</sup> , painted	7	.52	.47	.62	.88	.78	.62	24"x48"	1.1	A82
MINABOARD CLASSIC VENTILATING	5/8"	A	I	Perforated <sup>2</sup> , painted	7	.42	.47	.57	.83	.80	.54	24"x48"	1.1	A82
MINABOARD CLASSIC 50% VENTILATING & 50% NONVENTILATING	5/8"	A	I	Perforated <sup>2</sup> , painted	7	.49	.44	.56	.87	.79	.53	24"x48"	1.1	A82
TRAVERTONE VENTILATING	3/4"	A	I	Fissured, painted	7	.87	.58	.59	.88	.92	.92	12"x12"	1.2	A9
TRAVERTONE 50% VENTILATING & 50% NONVENTILATING	3/4"	A	I	Fissured, painted	7	.81	.53	.59	.85	.89	.89	12"x12"	1.2	A9

See pages following for continuation of table and footnotes

MATERIAL	Thickness	Surface	Standard Mounting See Page 8	ATTENUATION FACTORS—Decibels*										Ceiling Sound Transmission Class	Unit Size Tested	Weight Lbs. per Sq. Ft.	Test No.	
				125 cps	175 cps	250 cps	350 cps	500 cps	700 cps	1000 cps	1400 cps	2000 cps	2800 cps					4000 cps
ACOUSTICAL FIRE GUARD FULL RANDOM	5⁄8"	See preceding table	ICF	33	32	28	33	37	39	43	50	56	59	57	39	12"x12"	1.1	T07AR
TRAVERTONE FIRE GUARD	3⁄4"		CCF	28	28	32	33	36	37	42	50	52	54	50	39	12"x12"	1.4	T54AR
ACOUSTICAL FIRE GUARD LAY-IN UNITS CLASSIC	1⁄2"		CE	29	30	28	27	30	30	32	38	41	50	52	33	24"x48"	.85	T46AR
	5⁄8"		IE	31	31	32	32	37	40	43	54	56	63	59	38	24"x48"	1.0	T12AR
TRAVERTONE	3⁄4"		CCT	39	37	27	33	32	34	38	45	52	59	53	37	12"x12"	1.3	T70AR
TRAVERTONE AGT	3⁄4"		CCT	38	39	33	39	40	41	45	51	57	59	52	44	12"x12"	1.4	T71AR
MINATONE CLASSIC	5⁄8"		CCT	31	33	32	32	36	38	42	52	48	58	55	38	12"x12"	1.1	T14AR
MINABOARD CLASSIC	1⁄2"		CE	25	33	28	27	30	30	32	38	41	50	51	33	24"x48"	.80	T44AR
	5⁄8"		IE	26	31	29	31	35	37	42	49	53	56	54	37	24"x48"	1.1	T04AR
ARRESTONE DIAGONAL #1105 WITH 1⁄2" GYPSUM BOARD	29⁄16"		ICNX	30	38	35	39	44	43	43	49	51	57	54	44	12"x24"	1.6 Note 6	T153NA
ACOUSTICAL FIRE GUARD LAY-IN UNITS CLASSIC VENTILATING	5⁄8"		CEV	21	22	20	20	23	23	26	32	39	49	52	26	24"x48"	1.1	T38AR
ACOUSTICAL FIRE GUARD LAY-IN UNITS 50% VENTILATING & 50% NONVENTILATING	5⁄8"		CEV-50	19	24	23	23	26	27	29	36	43	52	53	29	24"x48"	1.1	T39AR
MINABOARD CLASSIC VENTILATING	5⁄8"		CEV	21	23	20	19	23	23	25	32	38	51	53	25	24"x48"	1.1	T32AR
MINABOARD CLASSIC 50% VENTILATING & 50% NONVENTILATING	5⁄8"		CEV-50	21	26	23	23	27	27	29	37	41	54	54	29	24"x48"	1.1	T33AR
TRAVERTONE VENTILATING	3⁄4"		CCTV	18	24	19	19	24	23	28	35	41	54	55	25	12"x12"	1.2	T58AR
TRAVERTONE 50% VENTILATING & 50% NONVENTILATING	3⁄4"		CCTV-50	21	25	26	25	29	28	31	38	44	54	51	31	12"x12"	1.2	T53AR

\*Normalized to 126 sabins—see page 7

See page following for footnotes



- NOTE 1. Full random perforated 353 holes per sq. ft.; 250 of  $\frac{3}{16}$ " and 103 of  $\frac{1}{4}$ " diameters.
- NOTE 2. Hundreds of small perforations scattered in lace-like fashion.
- NOTE 3. Hundreds of small perforations scattered in lace-like fashion on a plain white rough textured paint.
- NOTE 4. Random design of different size gray flecks on a white background.  
Plastic membrane facing cemented only to tile edges.
- NOTE 5. *Arrestone—Straight Row*, perforated enameled metal pan backed with sound-absorbing mineral wool pad. Pan perforated 1024 holes per sq. ft.; 0.109" diameter, .360" on center, open area 6.7%. Thickness includes tee bar.  
*Random*, perforated enameled metal pan backed as above. Pan perforated 313 holes per sq. ft., .063" diameter and 571 holes per sq. ft., .125" diameter. Total open area 5.5%.  
*Diagonal #1740*, perforated enameled metal pan backed as above. Pan perforated 1740 holes per sq. ft., .109" diameter. Total open area 11.3%.  
*Diagonal #1105*, perforated enameled metal pan backed as above. Pan perforated 1105 holes per sq. ft., .109" diameter. Total open area 7.16%.
- NOTE 6.  $\frac{1}{2}$ " gypsum wallboard over pans, pads and tee bars. Pan, pad and gypsum board weight is 3.5 lb./sq. ft.
- NOTE 7. Class III flame spread obtained with materials qualified as Class "D" by flame resistance test.
- NOTE 8.  $\frac{3}{16}$ " autoclaved asbestos cement board perforated 550 holes per sq. ft.,  $\frac{3}{16}$ " diameter.
- NOTE 9. Perforated asbestos cement board panel backed with  $\frac{3}{4}$ " mineral wool.
- NOTE 10. Perforated asbestos cement board panel backed with 1" mineral wool.
- NOTE 11. Perforated asbestos cement board panel backed with 2" mineral wool.
- NOTE 12. Acoustical Ceiling Constructions Classified by Underwriters' Laboratories, Incorporated  
No. 4177-3— $\frac{5}{8}$ " Acoustical Fire Guard—Design 8—2 Hours  
No. 4177-4— $\frac{5}{8}$ " Acoustical Fire Guard—Design 9—1 Hour  
No. 4177-14— $\frac{5}{8}$ " Acoustical Fire Guard—Design 42—3 Hours
- NOTE 13. Acoustical Ceiling Constructions Classified by Underwriters' Laboratories, Incorporated  
No. 4177-9— $\frac{3}{4}$ " Travertone Fire Guard—Design 7—1  $\frac{1}{2}$  Hours  
No. 4177-13— $\frac{3}{4}$ " Travertone Fire Guard—Design 39—3 Hours  
No. 4177-23— $\frac{3}{4}$ " Travertone Fire Guard—Design 57—3 Hours  
No. 4177-25— $\frac{3}{4}$ " Travertone Fire Guard—Design 21—1  $\frac{1}{2}$  Hours  
No. 4177-25— $\frac{3}{4}$ " Travertone Fire Guard—Design 92—2 Hours
- NOTE 14. Acoustical Ceiling Constructions Classified by Underwriters' Laboratories, Incorporated  
No. 4177-7— $\frac{5}{8}$ " Acoustical Fire Guard Lay-In Units—Design 13—2 Hours  
No. 4177-8— $\frac{5}{8}$ " Acoustical Fire Guard Lay-In Units—Design 21—2 Hours  
No. 4177-10— $\frac{5}{8}$ " Acoustical Fire Guard Lay-In Units—Design 30—2 Hours  
No. 4177-11— $\frac{5}{8}$ " Acoustical Fire Guard Lay-In Units—Design 8—1  $\frac{1}{2}$  Hours  
No. 4177-12— $\frac{5}{8}$ " Acoustical Fire Guard Lay-In Units—Design 46—2 Hours  
No. 4177-16— $\frac{1}{2}$ " Acoustical Fire Guard Lay-In Units—Design 9—1  $\frac{1}{2}$  Hours  
No. 4177-18A— $\frac{1}{2}$ " Acoustical Fire Guard Lay-In Units—Design 30—1 Hour  
No. 4177-29— $\frac{5}{8}$ " Acoustical Fire Guard Lay-In Units—Design 220—2 Hours



MATERIAL	Thickness	Flame Resistance SS-A-118b See Page 5	Flame Spread Index E84-61 See Page 5	SURFACE Superscript numbers refer to footnotes	Mounting See Page 5	COEFFICIENTS						Unit Size Tested	Weight Lbs. per Sq. Ft.	Test No.
						125 cps	250 cps	500 cps	1000 cps	2000 cps	4000 cps			
STYLTON K FISSURED MINERAL TILE Fine-Texture	3/4"	A	I	Fissured, painted	7	.47	.50	.51	.77	.89	.90	12"x12"	1.2	A9391
Standard Texture (Note 1)	3/4"	A	I	Same as above	1	.07	.23	.74	.90	.92	.86	12"x12"	1.2	A4308
	3/4"	A	I	Same as above	7	.53	.62	.60	.83	.95	.98	12"x12"	1.2	A9392
Extra Rough	3/4"	A	I	Same as above	7	.55	.61	.57	.81	.98	.95	12"x12"	1.2	A9393
STYLTON FIRE RATE 1 (Note 2)	3/4"	A	I	Fissured, painted	7	.53	.56	.59	.83	.98	.86	12"x12"	1.4	A8345
STYLTON FIRE RATE 2 (Note 3)	3/4"	A	I	Fissured, painted	7	.44	.44	.56	.78	.89	.85	12"x12"	1.4	A8346
STYLTON FIRE RATE 3 (Note 4)	3/4"	A	I	Fissured, painted	7	.47	.49	.55	.80	.90	.81	12"x12"	1.4	A8347
STYLTON AF	3/4"		I	Fissured, painted	7	.51	.58	.61	.84	.92	.90	12"x12"	1.4	A0281
PANATONE with B-E-H Mineral Fiber Pads	1 9/16"		I	Perforated <sup>5</sup> , enameled metal	7	.61	.90	.88	.99	.80	.71	12"x24"	Pad .50	A9408

MATERIAL	Thickness	Surface	Standard Mounting See Page 8	ATTENUATION FACTORS—Decibels*											Ceiling Sound Transmission Class	Unit Size Tested	Weight Lbs. per Sq. Ft.	Test No.
				125 cps	175 cps	250 cps	350 cps	500 cps	700 cps	1000 cps	1400 cps	2000 cps	2800 cps	4000 cps				
STYLTON K FISSURED MINERAL TILE Standard Texture	3/4"	See preceding table	ICF	29	30	33	32	33	36	37	46	50	58	55	37	12"x24"	1.2	T01BA
STYLTON AF	3/4"		ICF	34	39	35	42	45	48	56	61	67	68	63	48	12"x12"	1.4	T80SI

\*Normalized to 126 sabins—see page 7

NOTE 1. Formerly "Styltone".

NOTE 2. Acoustical Ceiling Constructions Classified by Underwriters' Laboratories, Incorporated  
No. 4647-1—3/4" Styltone Fire Rate 1—Design 18—1 Hour

NOTE 3. Acoustical Ceiling Constructions Classified by Underwriters' Laboratories, Incorporated  
No. 4647—3/4" Styltone Fire Rate 2—Design 86—2 Hours

NOTE 4. Acoustical Ceiling Constructions Classified by Underwriters' Laboratories, Incorporated  
No. 4647-2—3/4" Styltone Fire Rate 3—Design 40—3 Hours

NOTE 5. Perforated, enameled metal pan backed with sound absorbing mineral fiber pad. Metal pan perforated with 1024 holes per square foot, 0.109" diameter. Thickness includes tee bar.

# THE CELOTEX CORPORATION

MATERIAL	Thickness	Flame Resistance SS-A-118h See Page 5	Flame Spread Index E84-61 See Page 5	SURFACE Superscript numbers refer to footnotes	Mounting See Page 5	COEFFICIENTS						Unit Size Tested	Weight Lbs. per Sq. Ft.	Test No.
						125 cps	250 cps	500 cps	1000 cps	2000 cps	4000 cps			
<b>PROTECTONE</b> (Note 18) <b>MINERAL FIBER TILE</b>														
Embassy	5/8"	A	I	Perforated <sup>1</sup> , painted	X-2 1/2 7	.26 .69	.63 .50	.89 .67	.83 .87	.87 .88	.72 .74	12"x12" 12"x12"	1.3 1.3	A8002 A8001
Serene II	5/8"	A	I	Perforated <sup>2</sup> , painted	7	.57	.41	.59	.72	.64	.50	12"x12"	1.3	A0383
Random	5/8"	A	I	Perforated <sup>3</sup> , painted	X-2 1/2 7	.36 .45	.56 .35	.70 .58	.77 .86	.87 .94	.64 .73	12"x12" 12"x12"	1.2 1.2	A7360 A7359
Natural Fissured	3/4"	A	I	Fissured, painted	X-2 3/4 7	.35 .78	.71 .61	.85 .63	.76 .83	.82 .86	.87 .91	12"x12" 12"x12"	1.3 1.3	A6164 A6163
<b>PROTECTONE</b> (Note 19) <b>MINERAL FIBER LAY-IN PANELS</b>														
Embassy	5/8"	A	I	Perforated <sup>1</sup> , painted	7	.65	.56	.66	.91	.82	.63	24"x24"	1.3	A7254
Fissuretone	5/8"	A	I	Fissured, perforated <sup>4</sup> , painted	7	.50	.52	.65	.88	.75	.65	24"x48"	1.4	A9407
Serene II	5/8"	A	I	Perforated <sup>2</sup> , painted	7	.52	.54	.66	.84	.59	.44	24"x48"	1.4	A8362
Acoustiform—Mat	1"	A	I	Textured, painted	7	.76	.76	.83	.99	.98	.92	24"x48"	.95	A7386
<b>SAFETONE CELOTONE</b>														
Natural Fissured	3/4"	A	I	Fissured, painted	1 X-2 3/4 7	.07 .28 .74	.32 .58 .60	.87 .96 .64	.98 .84 .87	.84 .89 .87	.76 .78 .83	12"x12" 12"x12" 12"x12"	1.1 1.1 1.1	A8169 A4323 A8168
AMF Natural Fissured	3/4"	A	I	Fissured, painted	7	.73	.64	.67	.82	.92	.92	12"x12"	1.3	A8105
Chase	3/4"	A	I	Textured, painted	7	.43	.43	.56	.74	.89	.79	12"x12"	1.2	A5214
Texture-Tone	3/4"	A	I	Heavily fissured, painted	1	.09	.30	.82	.95	.76	.61	12"x12"	1.1	A4033
<b>SAFETONE CELOTONE DESIGN TILE</b>														
Plaid	3/4"	A	I	Embossed, striated, painted	1	.09	.28	.81	.91	.85	.79	12"x12"	1.1	A4331
Monarch	3/4"	A	I	Cut pattern of squares and rectangles, painted	1 7	.09 .75	.27 .70	.73 .68	.99 .88	.96 .83	.80 .83	12"x12" 12"x12"	1.1 1.1	A5208 A5207
Striated	3/4"	A	I	Fissured, striated, painted	1	.08	.31	.82	.83	.75	.76	12"x12"	1.1	A3200
<b>SAFETONE PERFORATED MINERAL FIBER TILE</b>														
Random	1/2"	A	I	Perforated <sup>3</sup> , painted	1	.05	.22	.59	.90	.85	.64	12"x12"	1.0	A5221
	5/8"	A	I	Same as above	1 X-2 1/2 7	.14 .36 .56	.15 .59 .50	.68 .61 .60	.99 .83 .97	.82 .86 .88	.58 .61 .65	12"x12" 24"x24" 12"x12"	1.3 1.3 1.3	A8202 A4198 A8201
Embassy	1/2"	A	I	Perforated <sup>1</sup> , painted	1	.15	.11	.66	.93	.83	.61	12"x12"	1.0	A7395
	5/8"	A	I	Same as above	1 X-2 1/2 7	.07 .50 .60	.21 .61 .53	.73 .78 .64	.99 .86 .89	.79 .83 .84	.74 .68 .72	12"x12" 12"x12" 12"x12"	1.3 1.3 1.3	A7153 A7094 A7152

See pages following for continuation of table and footnotes



MATERIAL	Thickness	Flame Resistance SS-A-118b See Page 5	Flame Spread Index E84-61 See Page 5	SURFACE Superscript numbers refer to footnotes	Mounting See Page 5	COEFFICIENTS						Unit Size Tested	Weight Lbs. per Sq. Ft.	Test No.	
						125 cps	250 cps	500 cps	1000 cps	2000 cps	4000 cps				
SAFETONE PERFORATED MINERAL FIBER TILE Serene II	1/2"	A	I	Perforated <sup>2</sup> , painted	1	.03	.25	.67	.78	.63	.45	12"x12"	1.1	A9396	
					7	.47	.53	.52	.73	.63	.47	12"x12"	1.1	A9395	
	5/8"	A	I	Same as above	7	.46	.43	.52	.72	.61	.46	12"x12"	1.4	A9394	
SAFETONE MEDIUM DENSITY MINERAL FIBER LAY-IN PANELS Acoustiform—Mat	5/8"	A	I	Textured, painted	7	.63	.65	.68	.85	.92	.88	24"x48"	.55	A0176	
	3/4"	A	I	Same as above	7	.79	.76	.74	.98	.98	.99	24"x48"	.75	A0015	
	Acoustiform—Stippled	5/8"	A	I	Textured, painted	7	.73	.68	.71	.88	.93	.91	24"x48"	.70	A0177
		3/4"	A	I	Same as above	7	.78	.77	.79	.96	.96	.99	24"x48"	.75	A0017
	Acoustiform—Boucle	5/8"	A	I	Embossed, membrane face <sup>17</sup>	7	.63	.66	.65	.77	.79	.54	24"x48"	.55	A0178
		3/4"	A	I	Same as above	7	.71	.73	.74	.93	.87	.46	24"x48"	.75	A0033
SAFETONE HIGH DENSITY MINERAL FIBER LAY-IN PANELS Embassy	1/2"	A	I	Perforated <sup>1</sup> , painted	7	.45	.38	.60	.88	.77	.49	24"x48"	.95	A8146	
	5/8"	A	I	Same as above	7	.52	.53	.62	.87	.78	.55	24"x48"	1.2	A9068	
	Fissuretone	1/2"	A	I	Fissured, perforated <sup>4</sup> , painted	7	.49	.39	.58	.73	.68	.61	24"x48"	1.2	A0180
		5/8"	A	I	Same as above	7	.49	.51	.66	.91	.76	.57	24"x48"	1.4	A9245
	Serene II	1/2"	A	I	Perforated <sup>2</sup> , painted	7	.35	.45	.61	.79	.65	.44	24"x48"	.95	A8242
		5/8"	A	I	Same as above	7	.38	.51	.69	.86	.64	.42	24"x48"	1.4	A8241
PROTECTONE CELO-FLOW VENTILATING MINERAL FIBER LAY-IN PANELS (Note 20)															
	Embassy 50% Ventilating and 50% Nonventilating	5/8"	A	I	Perforated <sup>1,5</sup> , painted	7	.51	.42	.64	.89	.83	.59	24"x48"	1.3	A8338
Fissure-Flo 50% Ventilating and 50% Nonventilating	5/8"	A	I	Fissured, perforated <sup>6</sup> , painted	7	.50	.46	.67	.92	.79	.61	24"x48"	1.3	A0420	
SAFETONE CELO-FLOW VENTILATING MINERAL FIBER LAY-IN PANELS															
	Embassy 50% Ventilating and 50% Nonventilating	5/8"	A	I	Perforated <sup>1,5</sup> , painted	7	.54	.46	.67	.92	.79	.61	24"x48"	1.2	A8336
Fissure-Flo 50% Ventilating and 50% Nonventilating	5/8"	A	I	Fissured, perforated <sup>6</sup> , painted	7	.46	.38	.55	.80	.82	.78	24"x48"	1.4	A0194	
SAFETONE CELO-FLOW VENTILATING MINERAL FIBER TILE															
	Embassy 50% Ventilating and 50% Nonventilating	5/8"	A	I	Perforated <sup>1,5</sup> , painted	7	.57	.46	.61	.86	.88	.73	12"x12"	1.3	A8200
Natural Fissured 50% Ventilating and 50% Nonventilating	3/4"	A	I	Fissured, perforated <sup>5</sup> , painted	7	.71	.59	.62	.81	.86	.86	12"x12"	1.3	A8254	

See pages following for continuation of table and footnotes



# THE CELOTEX CORPORATION (CONTINUED)

MATERIAL	Thickness	Flame Resistance SS-A-118b See Page 5	Flame Spread Index E84-61 See Page 5	SURFACE Superscript numbers refer to footnotes	Mounting See Page 5	COEFFICIENTS						Unit Size Tested	Weight Lbs. per Sq. Ft.	Test No.	
						125 cps	250 cps	500 cps	1000 cps	2000 cps	4000 cps				
ACOUSTI-CELOTEX CANE TILE Random	1/2"	C, D		Perforated <sup>7</sup> , painted <sup>11</sup>	1	.14	.22	.63	.64	.63	.67	12"x12"	.70	A4316	
	3/4"			Same as above	1	.18	.41	.79	.80	.69	.51	12"x12"	1.0	A4319	
					2	.26	.61	.64	.76	.69	.57	12"x12"	1.0	A4318	
	1/2"	C, D		Perforated <sup>8</sup> , painted <sup>11</sup>	1	.07	.26	.67	.75	.68	.44	12"x12"	.70	A7317	
	3/4"			Same as above	2	.19	.67	.50	.70	.64	.48	12"x12"	.70	A7316	
					1	.23	.41	.95	.83	.58	.39	12"x12"	1.0	A8171	
					7	.37	.47	.74	.73	.66	.36	12"x12"	1.0	A8170	
	9/16"	C		Fissured, perforated <sup>4</sup> , painted	1	.03	.24	.80	.73	.48	.37	12"x12"	.75	A9404	
	3/4"			Same as above	2	.08	.44	.69	.67	.50	.34	12"x12"	.75	A9403	
					7	.45	.42	.55	.64	.50	.45	12"x12"	.75	A9402	
	3/4"				Same as above	1	.03	.43	.90	.65	.51	.48	12"x12"	1.0	A9406
						7	.47	.47	.66	.62	.56	.50	12"x12"	1.0	A9405
Minuet	1/2"			Perforated <sup>10</sup> , painted	1	.12	.20	.74	.65	.42	.29	12"x12"	.70	A9399	
					2	.10	.50	.62	.59	.41	.30	12"x12"	.70	A9398	
	3/4"			Same as above	1	.03	.39	.85	.60	.45	.41	12"x12"	1.0	A9401	
					7	.39	.45	.61	.51	.44	.50	12"x12"	1.0	A9400	
HUSH-TONE TILE Random	1/2"	C, D		Perforated <sup>7</sup> , painted <sup>11</sup>	1	.14	.22	.63	.64	.63	.67	12"x12"	.70	A4316	
	3/4"			Same as above	2	.08	.60	.56	.62	.67	.64	12"x12"	.70	A6380	
					1	.18	.41	.79	.80	.69	.51	12"x12"	1.0	A4319	
					2	.26	.61	.64	.76	.69	.57	12"x12"	1.0	A4318	
	1/2"	D		Perforated <sup>8</sup> , painted	1	.07	.26	.67	.75	.68	.44	12"x12"	.70	A7317	
	3/4"			Same as above	2	.19	.67	.50	.70	.64	.48	12"x12"	.70	A7316	
	9/16"	C		Fissured, perforated <sup>4</sup> , painted	1	.03	.24	.80	.73	.48	.37	12"x12"	.75	A9404	
	3/4"			Same as above	2	.08	.44	.69	.67	.50	.34	12"x12"	.75	A9403	
					7	.45	.42	.55	.64	.50	.45	12"x12"	.75	A9402	
	1/2"	D		Perforated <sup>10</sup> , painted	1	.12	.20	.74	.65	.42	.29	12"x12"	.75	A9399	
							2	.10	.50	.62	.59	.41	.30	12"x12"	.75
	ACOUSTEEL METAL PANS Standard	2 1/4"	A	I	Perforated <sup>12</sup> , enameled metal	7	.81	.89	.93	.99	.77	.80	12"x24"	Pad .50	A6986
Diagonal—1105 hole		1 9/16"	A	I	Perforated <sup>13</sup> , enameled metal	7	.85	.76	.82	.96	.79	.69	12"x24"	Pad .45	A01249
Diagonal—1740 hole		1 9/16"	A	I	Perforated <sup>14</sup> , enameled metal	7	.76	.76	.90	.99	.85	.70	12"x24"	Pad .45	A91209
Random		1 9/16"	A	I	Perforated <sup>15</sup> , enameled metal	7	.91	.79	.88	.99	.79	.60	12"x24"	Pad .45	A91208
Diagonal—1105 hole 1/2" Gypsum Board backing		2 9/16"	A	I	Perforated <sup>13</sup> , enameled metal	7	.23	.34	.93	.99	.79	.71	12"x24"	Pad .45	A01250
PERFORATED ASBESTOS BOARD		1 3/16"	A	I	Perforated <sup>16</sup> , painted	5	.09	.31	.56	.93	.68	.23	24"x24"	Pad .05	A61258
		7			.75	.66	.62	.75	.65	.44	24"x24"	Pad .05	A61255		
	2"	A	I	Perforated <sup>16</sup> , painted	8	.18	.55	.98	.98	.58	.44	24"x24"	Pad .10	A61259	
				7	.93	.81	.86	.96	.65	.45	24"x24"	Pad .10	A61256		

See pages following for continuation of table and footnotes

MATERIAL	Thickness	Surface	Standard Mounting See Page 8	ATTENUATION FACTORS—Decibels*										Ceiling Sound Transmission Class	Unit Size Tested	Weight Lbs. per Sq. Ft.	Test No.	
				125 cps	175 cps	250 cps	350 cps	500 cps	700 cps	1000 cps	1400 cps	2000 cps	2800 cps					4000 cps
PROTECTONE MINERAL FIBER TILE Embassy	5⁄8"	See preceding table	ICT	34	38	40	44	45	50	56	59	59	62	59	49	12"x12"	1.3	T134CE
			CCT	34	38	39	43	44	49	53	56	59	57	55	48	12"x12"	1.3	T135CE
Random	5⁄8"		ICT	29	37	32	33	36	39	40	48	52	59	55	39	12"x12"	1.2	T51CE
Serene II	5⁄8"		ICT	39	41	33	42	44	49	54	61	68	71	64	46	12"x12"	1.4	T113CE
			CCT	42	38	32	43	42	48	51	54	55	55	52	45	12"x12"	1.4	T124CE
Natural Fissured	3⁄4"		ICF	27	31	29	28	30	32	34	42	47	57	56	34	12"x12"	1.3	T38CE
PROTECTONE MINERAL FIBER LAY-IN PANELS Embassy	5⁄8"		IE	26	33	33	35	42	46	48	52	53	57	55	41	24"x48"	1.3	T48CE
Fissuretone	5⁄8"		IE	36	41	34	37	40	44	51	55	60	61	59	43	24"x48"	1.4	T132CE
			CE	34	39	35	36	39	44	49	54	58	60	55	42	24"x48"	1.4	T131CE
Serene II	5⁄8"		IE	35	41	37	39	42	48	51	55	58	59	58	45	24"x48"	1.4	T133CE
			CE	34	42	34	36	39	44	49	53	55	57	55	42	24"x48"	1.4	T130CE
Acoustiform—Mat	1"		IE	26	33	28	27	32	33	34	32	41	50	48	32	24"x48"	.95	T49CE
			CE	24	29	28	26	31	31	33	33	41	48	47	32	24"x48"	.95	T52CE
SAFETONE CELOTONE MINERAL FIBER TILE Natural Fissured	3⁄4"		ICT	23	27	23	24	27	27	30	34	40	47	54	30	12"x12"	1.1	T26CE
AMF— Natural Fissured	3⁄4"		ICT	38	38	29	37	37	42	48	58	67	69	61	41	12"x12"	1.3	T110CE
			CCT	39	38	30	37	39	42	47	53	56	55	50	43	12"x12"	1.3	T121CE
Chase	3⁄4"		ICT	30	34	34	34	37	41	44	53	57	64	61	40	12"x12"	1.2	T39CE
SAFETONE PERFORATED MINERAL FIBER TILE Random	5⁄8"		ICT	42	41	28	36	35	37	39	43	52	64	63	39	12"x12"	1.3	T125CE
Embassy	5⁄8"		ICT	40	40	34	45	46	49	55	62	69	71	64	47	12"x12"	1.3	T111CE
			CCT	44	38	32	43	43	48	52	58	60	61	55	45	12"x12"	1.3	T122CE
Serene II	5⁄8"		ICT	41	41	33	43	45	49	54	61	69	71	64	46	12"x12"	1.4	T112CE
			CCT	43	40	32	42	43	48	52	57	58	59	54	45	12"x12"	1.4	T123CE
SAFETONE MEDIUM DENSITY MINERAL FIBER LAY-IN PANELS Acoustiform—Mat	3⁄4"		CE	30	33	24	32	30	33	34	40	44	47	48	34	24"x48"	.75	T144CE
Acoustiform—Boucle	3⁄4"		CE	33	34	30	34	35	37	37	40	46	55	54	39	24"x48"	.75	T151CE

\*Normalized to 126 sabins—see page 7

See pages following for continuation of table and footnotes



# THE CELOTEX CORPORATION (CONTINUED)

MATERIAL	Thickness	Surface	Standard Mounting See Page 8	ATTENUATION FACTORS—Decibels*											Ceiling Sound Transmission Class	Unit Size Tested	Weight Lbs. per Sq. Ft.	Test No.
				125 cps	175 cps	250 cps	350 cps	500 cps	700 cps	1000 cps	1400 cps	2000 cps	2800 cps	4000 cps				
SAFETONE HIGH DENSITY MINERAL FIBER LAY-IN PANELS Embassy	1/2"	See preceding table	IE	29	32	30	32	33	36	38	47	54	60	60	37	24"x48"	.95	T81CE
	5/8"		IE	25	32	31	32	37	41	44	52	53	56	54	38	24"x48"	1.2	T56CE
			CE	25	32	31	31	35	38	44	48	48	50	41	38	24"x48"	1.2	T54CE
Fissuretone	1/2"		CE	31	33	27	33	32	35	40	45	53	56	54	36	24"x48"	1.2	T145CE
	5/8"		IE	39	39	30	39	40	45	49	54	61	63	63	43	24"x48"	1.5	T127CE
			CE	40	39	30	39	39	45	49	54	59	61	57	43	24"x48"	1.5	T128CE
Serene II	1/2"		IE	27	28	30	31	32	34	37	45	49	58	59	36	24"x48"	.95	T83CE
	5/8"		IE	39	40	31	41	43	48	51	54	59	63	63	45	24"x48"	1.4	T126CE
			CE	40	39	31	40	41	46	50	55	57	59	57	44	24"x48"	1.4	T129CE
PROTECTONE CELO-FLOW VENTILATING MINERAL FIBER LAY-IN PANELS Embassy 50% Ventilating 50% Nonventilating	5/8"		IE-V-50	23	29	25	26	30	32	36	43	46	53	56	32	24"x48"	1.3	T97CE
SAFETONE CELO-FLOW VENTILATING MINERAL FIBER LAY-IN PANELS Fissure-Flo 50% Ventilating 50% Nonventilating	5/8"		CE-V-50	27	32	24	28	30	35	39	43	49	53	55	34	24"x48"	1.4	T146CE
SAFETONE CELO-FLOW VENTILATING MINERAL FIBER TILE Embassy 50% Ventilating 50% Nonventilating	5/8"		ICT-V-50	26	32	26	28	29	29	31	38	45	55	58	32	12"x12"	1.3	T104CE
Natural Fissured	3/4"		ICT-V-50	24	31	25	26	28	29	32	38	45	57	61	32	12"x12"	1.2	T103CE
ACOUSTI-CELOTEX CANE TILE Bolero	3/4"		ICT	32	34	32	34	38	40	46	52	52	47	42	40	12"x12"	1.1	T95CE
Fissured	9/16"		CCT	33	36	31	34	37	41	46	48	54	56	51	41	12"x12"	.90	T138CE
	3/4"		CCT	31	37	36	37	41	43	47	51	56	56	52	43	12"x12"	1.1	T139CE
Minuet	1/2"		CCT	33	37	31	35	39	42	46	49	53	51	48	41	12"x12"	.90	T136CE
	3/4"		CCT	35	38	33	39	41	44	47	50	52	50	34	37	12"x12"	1.2	T137CE
ACOUSTEEL METAL PANS Diagonal-1105 Hole 1/2" Gypsum Board Backing	2 1/8"		CCN	31	34	28	35	39	41	42	44	48	51	49	41	12"x24"		T154NA
Diagonal-1105 Hole 1/2" Gypsum Board Backing	2 1/8"		ICN	30	38	35	39	44	43	43	49	51	57	54	44	12"x24"		T153NA

\*Normalized to 126 sabins—see page 7

See page following for footnotes



- NOTE 1. Perforated in a geometric pattern with two sizes of small diameter holes.
- NOTE 2. Random perforated with two sizes of small diameter holes.
- NOTE 3. Perforated 521 holes per sq. ft.,  $\frac{1}{8}$ ",  $\frac{5}{32}$ ", and  $\frac{3}{16}$ " diameters, randomly spaced.
- NOTE 4. Fissured, random perforated with small diameter holes.
- NOTE 5. Ventilating tile through perforated 229 holes per sq. ft.,  $\frac{1}{8}$ " diameter.
- NOTE 6. Fissured, perforated in a geometric pattern, with 229 holes,  $\frac{1}{8}$ " diameter through perforated and surface perforated with 2 sizes small diameter holes.
- NOTE 7. Perforated 293 holes per sq. ft.,  $\frac{3}{16}$ " and  $\frac{1}{4}$ " diameters, randomly spaced.
- NOTE 8. Perforated in a geometric pattern with small diameter holes.
- NOTE 9. Deleted in page proofs.
- NOTE 10. Perforated with small diameter holes randomly spaced.
- NOTE 11. Available either with standard or with No. 9 flame-resisting finish which provides a Class "C" flame resistance rating according to Federal Specification SS-A-118b.
- NOTE 12. Perforated with 1024 holes per sq. ft., 0.109" diameter, regularly spaced, enameled metal pan with sound absorbing mineral wool pad. Thickness includes tee bar.
- NOTE 13. Perforated with 1105 holes per sq. ft., 0.109" diameter, enameled metal pan backed with mineral wool pad. Thickness includes tee bar.
- NOTE 14. Perforated with 1740 holes per sq. ft., 0.109" diameter, enameled pans with mineral wool pad. Thickness includes tee bar.
- NOTE 15. Perforated with 2 sizes of holes, 884 per sq. ft., randomly spaced, enameled metal pan with mineral wool pad. Thickness includes tee bar.
- NOTE 16. Perforated asbestos cement board 570 holes per sq. ft.,  $\frac{3}{16}$ " diameter.
- NOTE 17. Thin embossed vinyl membrane cemented to board face.
- NOTE 18. Acoustical Ceiling Constructions Classified by Underwriters' Laboratories, Incorporated
- No. 4349-2— $\frac{5}{8}$ " Protectone Tile—Design 22—2 Hours
  - $\frac{3}{4}$ " Protectone Tile—Design 22—2 Hours
  - No. 4349-3— $\frac{5}{8}$ " Protectone Tile—Design 12—1 Hour
  - $\frac{3}{4}$ " Protectone Tile—Design 12—1 Hour
  - No. 4349-8— $\frac{5}{8}$ " Protectone Tile—Design 23—2 Hours
  - No. 4349-4— $\frac{3}{4}$ " Protectone Tile—Design 23—2 Hours
  - No. 4349-5— $\frac{5}{8}$ " Protectone Tile—Design 36—4 Hours
  - $\frac{3}{4}$ " Protectone Tile—Design 36—4 Hours
  - No. 4349-6— $\frac{5}{8}$ " Protectone Tile—Design 34—2 Hours
  - $\frac{3}{4}$ " Protectone Tile—Design 34—2 Hours
  - No. 4349-14— $\frac{3}{4}$ " Protectone Tile—Design 80—2 Hours
  - No. 4349-15— $\frac{5}{8}$ " Protectone Tile—Design 95—2 Hours
  - $\frac{3}{4}$ " Protectone Tile—Design 95—2 Hours
  - No. 4349-18— $\frac{3}{4}$ " Protectone Tile—Design 200—2 Hours
  - No. 4349-19— $\frac{3}{4}$ " Protectone Tile—Design 77—3 Hours
  - No. 4349— $\frac{3}{4}$ " Protectone Tile—Design 69—3 Hours
- NOTE 19. Acoustical Ceiling Constructions Classified by Underwriters' Laboratories, Incorporated
- No. 4349-7— $\frac{5}{8}$ " Protectone Lay-In Panels—Design 35—2 Hours
  - No. 4349-9— $\frac{5}{8}$ " Protectone Lay-In Panels—Design 36—2 Hours
  - No. 4349-10— $\frac{5}{8}$ " Protectone Lay-In Panels—Design 47—3 Hours
  - Design 62—2 Hours
  - No. 4349-12—1" Protectone Lay-In Panels—Design 36—2 Hours
  - No. 4349-13— $\frac{1}{2}$ " Protectone Lay-In Panels—Design 22—1 Hour
  - $\frac{5}{8}$ " Protectone Lay-In Panels—Design 22—1 Hour
  - No. 4349— $\frac{1}{2}$ " Protectone Lay-In Panels—Design 43—1 Hour
- NOTE 20. Acoustical Ceiling Constructions Classified by Underwriters' Laboratories, Incorporated
- No. 4349-10— $\frac{5}{8}$ " Protectone Lay-In Panels—Design 47—3 Hours
  - Design 62—2 Hours

# GUSTIN-BACON MANUFACTURING COMPANY

MATERIAL	Thickness	Flame Resistance SS-A-118b See Page 5	Flame Spread Index E84-61 See Page 5	SURFACE	Mounting See Page 5	COEFFICIENTS						Unit Size Tested	Weight Lbs. per Sq. Ft.	Test No.
						125 cps	250 cps	500 cps	1000 cps	2000 cps	4000 cps			
ULTRACOUSTIC CEILING BOARD Travertine	5/8"	A		Fissured, painted	7	.74	.77	.72	.91	.91	.77	24"x48"	.20	A8140
	3/4"	A		Fissured, painted	7	.78	.86	.74	.93	.95	.75	24"x48"	.25	A7344
	1"	A		Same as above	7	.84	.86	.80	.99	.97	.76	24"x48"	.30	A7345
ULTRACOUSTIC CEILING BOARD VINYL FACED Class A	5/8"		I	Membrane faced	7	.57	.37	.33	.93	.79	.51	24"x48"	.15	A9239
	7/8"		I	Same as above	7	.59	.45	.69	.89	.88	.63	24"x48"	.20	A9152
G-B VINYL FACED CEILING BOARD Class C	1"	C		Membrane faced	7	.39	.45	.83	.93	.80	.44	24"x48"	.20	A8240
	1 1/2"			Same as above	7	.69	.58	.83	.92	.71	.47	24"x48"	.25	A7351
	2"			Same as above	7	.89	.82	.93	.95	.69	.48	24"x48"	.30	A7352
	2 1/2"			Same as above	7	.90	.77	.91	.97	.73	.44	24"x48"	.35	A7353
	3"			Same as above	7	.98	.82	.96	.94	.68	.44	24"x48"	.40	A7354
ULTRAQUIET METAL PAN FILLER Fiber glass rolls (Note 1)	2"			Note 2	7	.99	.90	.89	.94	.77	.60	12"x6'	.15	A6374
	2 1/2"			Same as above	7	.89	.88	.89	.91	.83	.55	12"x8'	.15	A6375
	3"			Same as above	7	.93	.94	.92	.91	.82	.56	12"x8'	.20	A6376
Charcoal gray pads	1"			Notes 2, 3	7	.73	.72	.62	.83	.70	.52	12"x24"	.05	A6372
Fiber glass pads	1 1/4"			Notes 3, 4	X-2 1/4	.34	.69	.99	.99	.68	.59	12"x24"	.25	A6387
	1"			Notes 3, 5	7	.92	.61	.66	.82	.69	.43	12"x24"	.05	A6367
	1 1/2"			Same as above	7	.95	.71	.73	.91	.69	.45	12"x24"	.10	A6366

NOTE 1. Ultraquiet blanket supported by tee bars, providing about 1 1/2" air space between the perforated metal pans and the blanket.

NOTE 2. Tests conducted with perforated metal pans having 1013 holes per sq. ft., 3/32" diameter.

NOTE 3. Wire spacer omitted, pad in direct contact with metal pan.

NOTE 4. Tests conducted with perforated metal pans having 1013 holes per sq. ft., 0.109" diameter.

NOTE 5. Tests conducted with random perforated metal pans having 523 holes per sq. ft., 384 of 1/8" and 139 of 3/16" diameters.



MATERIAL	Thickness	Flame Resistance SS-A-118b See Page 5	Flame Spread Index E84-61 See Page 5	SURFACE Superscript numbers refer to footnotes	Mounting See Page 5	COEFFICIENTS						Unit Size Tested	Weight Lbs. per Sq. Ft.	Test No.
						125 cps	250 cps	500 cps	1000 cps	2000 cps	4000 cps			
HANSONITE Random Perforated Wood Fiber Acoustical Tile	1/2"	C, D		Perforated <sup>1</sup> , painted <sup>2</sup>	1	.08	.24	.63	.66	.72	.75	12"x12"	.70	A4793
					2	.13	.59	.58	.65	.79	.71	12"x12"	.70	A4792
					7	.65	.39	.43	.57	.68	.81	12"x12"	.70	A6797
	3/4"	C, D		Same as above	1	.16	.42	.72	.72	.83	.65	12"x12"	1.0	A4796
					2	.27	.61	.60	.72	.86	.63	12"x12"	1.0	A4795
					7	.51	.36	.57	.73	.80	.67	12"x12"	1.0	A7711
HANSOSTAR Perforated Wood Fiber Acoustical Tile	1/2"	C, D		Perforated <sup>3</sup> , painted <sup>2</sup>	1	.11	.28	.67	.65	.71	.59	12"x12"	.75	A5771
					2	.19	.68	.46	.65	.73	.61	12"x12"	.75	A5770
HANSOLUX Fissured Wood Fiber Acoustical Tile	3/16"	C		Fissured <sup>4</sup> , painted	1	.22	.30	.72	.74	.61	.45	12"x12"	.75	A6558
					7	.44	.39	.53	.72	.63	.51	12"x12"	.75	A6556
HANSOSTAR Gold Mist Wood Fiber Acoustical Tile	1/2"	C		Perforated <sup>3</sup> , painted <sup>5</sup>	1	.11	.28	.67	.65	.71	.59	12"x12"	.75	A5771
HANSONITE Perforated Wood Fiber Ceiling Board	1/2"	C		Perforated <sup>6</sup> , painted	7	.39	.33	.41	.54	.49	.30	24"x48"	.75	A7714
HANSONITE Fissured Mineral Tile	3/4"	A	I	Fissured, painted	1	.03	.27	.83	.99	.82	.71	12"x12"	1.3	A4594
					7	.68	.67	.65	.84	.87	.74	12"x12"	1.3	A6541
HANSONITE 007 Fissured Mineral Tile	3/4"	A	I	Rough fissured, painted	7	.55	.61	.57	.81	.98	.95	12"x12"	1.2	A91093
HANSONITE Fine Textured Mineral Tile	3/4"	A	I	Finely fissured, painted	7	.78	.57	.59	.73	.70	.60	12"x12"	1.3	A7755
HANSONITE Regular Perforated Mineral Tile	5/8"	A	I	Perforated <sup>7</sup> , painted	1	.03	.23	.71	.92	.69	.58	12"x12"	1.0	A5732
					2	.11	.32	.73	.99	.91	.70	12"x12"	1.0	A5731
HANSONITE Random Perforated Mineral Tile	1/2"	A	I	Perforated <sup>1</sup> , painted	1	.05	.16	.48	.99	.86	.58	12"x12"	.85	A5726
					2	.10	.40	.68	.97	.86	.62	12"x12"	.85	A5725
	5/8"	A	I	Same as above	1	.06	.17	.61	.99	.78	.47	12"x24"	1.0	A5729
					2	.11	.36	.84	.99	.85	.56	12"x24"	1.0	A5728
					7	.61	.57	.69	.99	.83	.51	12"x12"	1.0	A6665
	3/4"	A	I	Same as above	1	.08	.21	.70	.99	.77	.52	12"x12"	1.2	A5767
					7	.70	.69	.80	.99	.82	.56	12"x12"	1.2	A6666
HANSOSTAR Perforated Mineral Tile	1/2"	A	I	Perforated <sup>3</sup> , painted	1	.05	.13	.50	.99	.84	.58	12"x12"	.90	A5733
	5/8"	A	I	Same as above	1	.03	.16	.71	.99	.85	.74	12"x24"	1.1	A5735
					7	.63	.52	.69	.92	.82	.65	12"x12"	1.1	A6667
	3/4"	A	I	Same as above	1	.10	.21	.90	.99	.85	.61	12"x12"	1.3	A5769
	5/8"	A	I	Same as above	7	.37	.39	.75	.89	.82	.60	12"x12"	1.1	A7891
HANSOSTAR Vinyl Coated Perforated Mineral Tile	1/2"	A	I	Perforated <sup>3</sup> , painted	1	.07	.10	.68	.94	.78	.63	12"x12"	.90	A8785
					2	.09	.46	.71	.87	.78	.60	12"x12"	.90	A8784
	5/8"	A	I	Same as above	1	.03	.16	.71	.99	.85	.74	12"x24"	1.1	A5735
					7	.63	.52	.69	.92	.82	.65	12"x12"	1.1	A6667

See pages following for continuation of table and footnotes



MATERIAL	Thickness	Flame Resistance SS-A-110h See Page 5	Flame Spread Index E84-61 See Page 5	SURFACE Superscript numbers refer to footnotes	Mounting See Page 5	COEFFICIENTS						Unit Size Tested	Weight Lbs. per Sq. Ft.	Test No.
						125 cps	250 cps	500 cps	1000 cps	2000 cps	4000 cps			
HANSONITE Die Fissured Mineral Tile	1/2"	A	I	Fissured <sup>4</sup> , painted	1	.05	.16	.67	.93	.77	.68	12"x12"	.90	A8783
					2	.12	.52	.61	.89	.81	.74	12"x12"	.90	A8778
	3/4"	A	I	Same as above	1	.03	.29	.96	.94	.83	.77	12"x12"	1.6	A8747
					7	.58	.54	.68	.87	.89	.72	12"x12"	1.6	A8746
	3/4"	A	I	Same as above	7	.41	.47	.78	.87	.89	.84	12"x12"	1.6	A8748
HANSOSTAR Gold Mist Mineral Tile	1/2"	A	I	Perforated <sup>3</sup> , painted <sup>5</sup>	1	.05	.13	.50	.99	.84	.58	12"x12"	.90	A5733
	5/8"	A	I	Same as above	1	.03	.16	.71	.99	.85	.74	12"x24"	1.1	A5735
					7	.63	.52	.69	.92	.82	.65	12"x12"	1.1	A6667
	3/4"	A	I	Same as above	1	.10	.21	.90	.99	.85	.61	12"x12"	1.3	A5769
HANSOBOARD HANSOSTAR Perforated Mineral Ceiling Board	1/2"	A	I	Perforated <sup>3</sup> , painted	7	.24	.37	.52	.87	.71	.51	24"x48"	1.0	A8776
	5/8"	A	I	Same as above	7	.56	.51	.69	.89	.76	.52	24"x48"	1.0	A6670
HANSOBOARD HANSOSTAR Gold Mist Perforated Mineral Ceiling Board	5/8"	A	I	Perforated <sup>3</sup> , painted <sup>5</sup>	7	.56	.51	.69	.89	.76	.52	24"x48"	1.0	A6670
HANSOBOARD HANSOSTAR Perforated Vinyl Coated Mineral Ceiling Board	5/8"	A	I	Perforated <sup>3</sup> , painted	7	.56	.51	.69	.89	.76	.52	24"x48"	1.0	A6670
HANSOBOARD Sand Finish Mineral Ceiling Board	5/8"	A	I	Sand textured, painted <sup>24</sup>	7	.40	.45	.63	.83	.60	.38	24"x48"	1.0	A9979
HANSOBOARD Fissured Mineral Ceiling Board	1/2"	A	I	Fissured <sup>4</sup> , painted	7	.36	.36	.53	.80	.74	.71	24"x48"	1.0	A9645
	5/8"	A	I	Same as above	7	.31	.37	.63	.88	.87	.87	24"x48"	1.0	A8648
HANSOBOARD Fissured Vinyl Coated Mineral Ceiling Board	5/8"	A	I	Fissured <sup>4</sup> , painted	7	.16	.32	.59	.85	.83	.85	24"x48"	1.0	A8775
HANSOBOARD Fashion Design Mineral Ceiling Board	1/2"	A	I	Textured, painted	7	.31	.25	.51	.76	.68	.53	24"x48"	1.0	A0886
	5/8"	A	J	Same as above	7	.30	.28	.64	.79	.71	.31	24"x48"	1.0	A0885
HANSOGUARD (Note 8) Random Perforated Fire Protective Acoustical Tile	5/8"	A	I	Perforated <sup>1</sup> , painted	7	.48	.41	.57	.96	.89	.59	12"x12"	1.2	A6668
HANSOGUARD (Note 25) Hansostar Perforated Fire Protective Acoustical Tile	5/8"	A	I	Perforated <sup>3</sup> , painted	7	.41	.38	.66	.89	.77	.60	12"x12"	1.3	A6669
HANSOGUARD (Note 8) Fissured Fire Protective Acoustical Tile	5/8"	A	I	Fissured <sup>4</sup> , painted	7	.42	.48	.65	.81	.82	.78	12"x12"	1.3	A8796
HANSOGUARD (Note 25) Fissured 1 1/2 Hour Rated Acoustical Tile	3/4"	A	I	Fissured, painted	7	.83	.73	.68	.87	.93	.78	12"x12"	1.3	A6542

See pages following for continuation of table and footnotes

MATERIAL	Thickness	Flame Resistance SS-A-118b See Page 5	Flame Spread Index E84-61 See Page 5	SURFACE Superscript numbers refer to footnotes	Mounting See Page 5	COEFFICIENTS						Unit Size Tested	Weight Lbs. per Sq. Ft.	Test No.
						125 cps	250 cps	500 cps	1000 cps	2000 cps	4000 cps			
HANSOGUARD (Note 10) HANSOSTAR Perforated Fire Protective Ceiling Board (Note 9)	1/2"	A	I	Perforated <sup>3</sup> , painted	7	.21	.36	.68	.94	.74	.59	24"x48"	1.1	A8743
	5/8"	A	I	Same as above	7	.68	.50	.64	.98	.75	.54	24"x48"	1.1	A7856
HANSOGUARD (Note 10) Fissured Fire Protective Ceiling Board (Note 9)	1/2"	A	I	Fissured <sup>4</sup> , painted	7	.42	.38	.61	.85	.84	.85	24"x48"	1.1	A8649
	5/8"	A	I	Same as above	7	.39	.40	.66	.84	.84	.69	24"x48"	1.1	A8650
HANSOGUARD (Note 9) Sand Finish Fire Protective Ceiling Board	5/8"	A	I	Sand textured, painted <sup>24</sup>	7	.35	.40	.68	.93	.64	.43	24"x48"	1.1	A9980
HANSOGUARD Fashion Design (Note 10) Protective Ceiling Board (Note 9)	1/2"	A	I	Textured, perforated, painted	7	.31	.31	.63	.78	.63	.50	24"x48"	1.1	A1888
	5/8"	A	I	Same as above	7	.27	.29	.61	.76	.62	.49	24"x48"	1.1	A1887
HANSOQUILT Studio Blanket	1"			Quilted, flame resistant white fabric	2	.09	.15	.41	.78	.90	.90	4' wide roll	.25	A7346
	2"			Same as above	2	.02	.21	.60	.99	.95	.91	4' wide roll	.40	A7347
HANSOPAN Regular Perforated Metal Pan														
1 1/4" paper wrapped pad	1 9/16"	A	I	Perforated, enameled metal <sup>11</sup>	7	.81	.89	.93	.99	.77	.80	12"x24"	Pad .40	A6786
1"—0.6 lb. density pad	1 9/16"	A	I	Perforated enameled metal <sup>11,12</sup>	7	.65	.56	.57	.73	.66	.54	12"x24"	Pad .05	A61053
1 1/4" paper wrapped pad Backed with 2" special blanket	3 5/8"	A	I	Perforated enameled metal <sup>11,13</sup>	7	.61	.73	.93	.99	.81	.67	12"x24"	Pad .55 Blan- ket .35	A71040
HANSOPAN Diagonal Perforated Metal Pan														
1 1/4" paper wrapped pad (1105 hole pans)	1 9/16"	A	I	Perforated, enameled metal <sup>14</sup>	7	.85	.76	.82	.96	.79	.69	12"x24"	Pad .40	A01049
1 1/4" paper wrapped pad Backed with 1/2" gypsum board (1105 hole pans)	2 1/16"	A	I	Perforated, enameled metal <sup>14,27</sup>	7	.23	.34	.93	.99	.79	.71	12"x24"	Pad .40	A01050
1 1/4" paper wrapped pad (1740 hole pans)	1 9/16"	A	I	Perforated, enameled metal <sup>26</sup>	7	.76	.76	.90	.99	.85	.70	12"x24"	Pad .40	A91009
HANSOPAN Needlepoint Perforated Metal Pan														
1 1/4" paper wrapped pad	1 9/16"	A	I	Perforated, enameled metal <sup>15</sup>	7	.91	.79	.88	.99	.79	.60	12"x24"	Pad .40	A91008

See pages following for continuation of table and footnotes



MATERIAL	Thickness	Flame Resistance SS-A-118b See Page 5	Flame Spread Index E84-61 See Page 5	SURFACE Superscript numbers refer to footnotes	Mounting See Page 5	COEFFICIENTS						Unit Size Tested	Weight Lbs. per Sq. Ft.	Test No.
						125 cps	250 cps	500 cps	1000 cps	2000 cps	4000 cps			
HANSOCOUSTIC Glass Fiber Ceiling Board	1"	C		Embossed, membrane faced <sup>16</sup>	7	.77	.57	.84	.93	.75	.51	24"x48"	.15	A6678
	1½"	C		Same as above	7	.75	.91	.86	.93	.79	.50	48"x48"	.25	A6679
	2"			Same as above	7	.53	.86	.94	.91	.63	.39	48"x48"	.30	A6570
	2½"			Same as above	7	.64	.88	.99	.93	.65	.39	48"x48"	.40	A6571
	3"			Same as above	7	.84	.87	.99	.85	.58	.30	48"x48"	.45	A6572
HANSOGLOW Acoustical Luminous Ceiling Panel	1"		I	Translucent panels— single panel <sup>17</sup>	7	.64	.69	.62	.74	.72	.62	24"x24"	.10	A7162
	2"			Translucent panels— double panel <sup>18</sup>	7	.48	.39	.47	.76	.84	.56	24"x24"	.20	A7179
HANSONITE Perforated Asbestos Board	1⅜"	A	I	Perforated, textured, painted <sup>19,20</sup>	5	.09	.31	.56	.93	.68	.23	24"x24"	Pad .05	A61058
					7	.75	.66	.62	.75	.65	.44	24"x24"	.05	A61055
	2⅜"	A	I	Perforated, textured, painted <sup>19,21</sup>	7	.93	.81	.86	.96	.65	.45	24"x24"	.10	A61056
					8	.18	.55	.98	.98	.58	.44	24"x24"	.10	A61059
E H INCOMBUSTIBLE NOISE REDUCTION PANELS	2⅜"			Perforated face <sup>22</sup> , absorbent septum, solid back	4	.20	.61	.99	.98	.60	.32	48"x96"		A4204

MATERIAL	Thickness	Surface	Standard Mounting See Page 8	ATTENUATION FACTORS—Decibels*											Ceiling Sound Transmission Class	Unit Size Tested	Weight Lbs. per Sq. Ft.	Test No.
				125 cps	175 cps	250 cps	350 cps	500 cps	700 cps	1000 cps	1400 cps	2000 cps	2800 cps	4000 cps				
HANSONITE Random Perforated Wood Fiber Acoustical Tile	¾"	See preceding table	ICT	26	35	33	36	41	45	47	54	54	57	39	42	12"x12"	1.1	T18WO
HANSONITE Perforated Wood Fiber Ceiling Board	½"		IE	25	30	30	33	36	42	44	49	50	54	53	39	24"x48"	.80	T15WO
HANSONITE Fissured Mineral Tile	¾"		ICF	23	27	25	23	26	27	28	32	37	43	50	29	12"x24"	1.3	T01UN
			ICX Note 23	31	36	38	41	46	48	52	59	58	62	59	47	12"x12"	1.3	T02UN
HANSONITE Fine Textured Mineral Tile	¾"		ICF	26	29	29	28	31	33	35	41	47	57	58	34	12"x12"	1.3	T39UN
HANSONITE Random Perforated Mineral Tile	⅝"		ICT	27	36	28	29	31	31	32	37	43	53	57	34	12"x12"	1.0	T16WO
HANSOSTAR Perforated Mineral Tile	⅝"		ICT	26	35	28	28	30	32	35	44	51	60	58	34	12"x12"	1.1	T17WO
Perforated Mineral Tile Sound Barrier Treated	⅝"		ICT	33	34	33	37	41	45	48	55	56	60	55	43	12"x12"	1.1	T13WO

\*Normalized to 126 sabins—see page 7

See pages following for continuation of table and footnotes



MATERIAL	Thickness	Surface	Standard Mounting See Page 8	ATTENUATION FACTORS—Decibels*											Ceiling Sound Transmission Class	Unit Size Tested	Weight Lbs. per Sq. Ft.	Test No.
				125 cps	175 cps	250 cps	350 cps	500 cps	700 cps	1000 cps	1400 cps	2000 cps	2800 cps	4000 cps				
HANSONITE Die Fissured Mineral Tile	¾"	See preceding table	ICF	34	39	31	35	38	40	45	54	57	64	61	41	12"x12"	1.6	T40WO
Die Fissured Mineral Tile Sound Barrier Treated	¾"		ICF	35	39	35	41	44	46	49	56	56	64	61	47	12"x12"	1.6	T39WO
HANSOBOARD HANSOSTAR Perforated Mineral Ceiling Board	½"		IE	33	38	30	32	36	37	42	49	54	60	60	38	24"x48"	1.0	T33WO
	⅝"		IE	27	31	31	30	31	34	36	45	50	59	60	35	24"x48"	1.0	T07WO
HANSOBOARD HANSOSTAR Gold Mist Perforated Ceiling Board	⅝"		IE	27	31	31	30	31	34	36	45	50	59	60	35	24"x48"	1.0	T07WO
HANSOBOARD Fissured Mineral Ceiling Board	½"		IE	28	32	26	29	30	31	32	38	44	52	57	33	24"x48"	1.0	T45WO
	⅝"		IE	30	32	33	37	38	42	45	49	52	57	57	42	24"x48"	1.2	T28WO
HANSOBOARD Fashion Design Mineral Ceiling Board	½"		IE	32	36	31	31	34	36	38	45	53	59	62	37	24"x48"	1.0	T48WO
	⅝"		IE	32	38	30	33	35	38	43	50	58	62	61	39	24"x48"	1.0	T47WO
HANSOGUARD Random Perforated Fire Protective Acoustical Tile	⅝"		ICF	28	35	31	32	36	37	39	46	49	58	59	38	12"x12"	1.2	T06WO
HANSOGUARD HANSOSTAR Perforated Fire Protective Acoustical Tile	⅝"		ICF	29	37	32	33	38	39	42	51	54	63	56	39	12"x12"	1.3	T05WO
HANSOGUARD Fissured Fire Protective Acoustical Tile	⅝"		ICN	35	37	34	35	39	42	48	56	57	66	64	41	12"x12"	1.3	T42WO
HANSOGUARD HANSOSTAR Perforated Fire Protective Ceiling Board	½"		IE	31	36	30	31	33	33	37	45	52	64	63	36	24"x48"	1.1	T34WO
	⅝"		IE	28	34	31	31	35	37	41	47	54	57	53	37	24"x48"	1.1	T22WO
HANSOGUARD Fissured Fire Protective Ceiling Board	½"		IE	29	31	33	36	38	41	45	49	51	57	57	42	24"x48"	1.1	T29WO
	⅝"		IE	27	32	33	36	38	42	46	49	52	57	57	42	24"x48"	1.1	T30WO
HANSOGUARD Fashion Design Fire Protective Ceiling Board	½"		IE(H)	34	40	33	34	38	40	45	52	59	62	61	40	24"x48"	1.1	T50WO
	⅝"		IE(H)	33	40	33	35	38	40	45	50	59	61	60	41	24"x48"	1.1	T49WO
HANSOPAN Regular Perforated Metal Pan 1¼" paper wrapped pad. Backed with 2" special blanket	3⅝"		ICX	19	26	26	38	32	36	40	45	51	49	47	34	12"x24"		T09NA
HANSOPAN Diagonal Perforated Metal Pan (1105 holes) 1¼" paper wrapped pad Backed with ½" gypsum board	2⅛"		ICX	30	38	35	39	44	43	43	49	51	57	54	44	12"x24"		T153NA

\*Normalized to 126 sabins—see page 7

See page following for footnotes

- NOTE 1. Perforated 320 holes per sq. ft., 111 of  $\frac{1}{4}$ " and 209 of  $\frac{3}{16}$ " diameters, randomly spaced.
- NOTE 2. Available with standard finish or with flame resistant finish which meets Federal Specifications SS-A-118b Class "C" requirements.
- NOTE 3. Perforated 1596 holes per sq. ft.,  $\frac{3}{64}$ ",  $\frac{1}{16}$ ",  $\frac{5}{64}$ " and  $\frac{3}{32}$ " diameters, randomly spaced.
- NOTE 4. Fissured surface with fine perforations.
- NOTE 5. Factory painted white base with textured gold overlay; flame resistant finish meets Federal Specification SS-A-118b Class "C" requirements.
- NOTE 6. Perforated 830 holes per sq. ft.,  $\frac{3}{64}$ ",  $\frac{1}{16}$ ",  $\frac{5}{64}$ " and  $\frac{3}{32}$ " diameters, randomly spaced.
- NOTE 7. Perforated 484 holes per sq. ft.,  $\frac{3}{16}$ " diameter, uniformly spaced.
- NOTE 8. Acoustical Ceiling Tile Constructions Classified by Underwriters' Laboratories, Incorporated  
     No. 4355-1 —  $\frac{5}{8}$ " Hansoguard — Design 18 — 2 Hours.  
     No. 4355-2 —  $\frac{5}{8}$ " Hansoguard—Design 35—1 Hour  
     No. 4355-3 —  $\frac{5}{8}$ " Hansoguard—Design 24—2 Hours
- NOTE 9. Acoustical Ceiling Board Constructions Classified by Underwriters' Laboratories, Incorporated  
     No. 4355-4 —  $\frac{5}{8}$ " Hansoguard—Design 32— 2 Hours  
     No. 4355-5 —  $\frac{5}{8}$ " Hansoguard—Design 43—2 Hours  
     No. 4355-6 —  $\frac{5}{8}$ " Hansoguard—Design 11—1½ Hours  
     No. 4355-12 —  $\frac{5}{8}$ " Hansoguard—Design 206—2 Hours  
     No. 4355-13 —  $\frac{5}{8}$ " Hansoguard—Design 211—2 Hours  
     No. 4355-14 —  $\frac{5}{8}$ " Hansoguard—Design 233—2 Hours
- NOTE 10. Acoustical Ceiling Board Constructions Classified by Underwriters' Laboratories, Incorporated  
     No. 4355-11 —  $\frac{1}{2}$ " Hansoguard—Design 24—1 Hour  
     No. 4355-15 —  $\frac{1}{2}$ " Hansoguard—Design 45—1 Hour
- NOTE 11. Perforated, enameled metal pan backed with sound absorptive element as stated under Material. Metal pan perforated 1024 holes per sq. ft., 0.109" diameter, 0.360" o.c., 6.7% open area. Thickness includes tee bar.
- NOTE 12. Sound absorbing pad is nonenclosed glass fiber with no wire grid pad support.
- NOTE 13. Semi-thick blanket installed on top of pans and pads, vapor barrier side toward the pan.
- NOTE 14. Perforated, enameled metal pan backed with sound absorptive element as stated under Material. Metal pan perforated 1105 holes per sq. ft., 0.109" diameter, 0.25 o.c., 7.16% open area.
- NOTE 15. Perforated, enameled metal pan backed with sound absorptive element as stated under Material. Metal pan perforated 884 holes per sq. ft., 571 of  $\frac{1}{8}$ " and 313 of  $\frac{1}{16}$ " diameters, randomly spaced, 5.5% open area.
- NOTE 16. Thin embossed plastic membrane cemented to board face.
- NOTE 17. Perforated vinyl septum with acrylic medium on both sides.
- NOTE 18. Same as under Note 17, but with back panel of translucent vinyl acting as "dust-shield".
- NOTE 19.  $\frac{3}{16}$ " autoclaved asbestos cement board perforated 550 holes per sq. ft.,  $\frac{3}{16}$ " diameter,  $\frac{1}{2}$ " o.c.
- NOTE 20. Pad thickness 1".
- NOTE 21. Pad thickness 2".
- NOTE 22. Perforated aluminum face  $\frac{1}{8}$ " diameter holes on  $\frac{1}{16}$ " centers in equilateral triangle pattern. Unpainted natural finish.
- NOTE 23. Tile cemented to  $\frac{5}{8}$ " gypsum board suspended ceiling.
- NOTE 24. Sand textured paint finish applied over fine perforations.
- NOTE 25. Acoustical Ceiling Tile Constructions Classified by Underwriters' Laboratories, Incorporated  
     No. 4351-1 —  $\frac{3}{4}$ " Hansoguard Fissured 1½ Hour Rated—Design 6—1½ Hours  
     No. 4351-3 —  $\frac{3}{4}$ " Hansoguard Fissured 1½ Hour Rated—Design 15—1 Hour
- NOTE 26. Perforated metal pan backed with sound absorptive element as stated under Material. Metal pan perforated 1740 holes per sq. ft., 0.109" diameter, 0.20" o.c., 11.3% open area.
- NOTE 27.  $\frac{1}{2}$ " gypsum board placed over pads and tee bars.



# THE E. F. HAUSERMAN COMPANY

MATERIAL	Thickness	Flame Resistance SS-A-118b See Page 5	Flame Spread Index E-84-61 See Page 5	SURFACE	Mounting See Page 5	COEFFICIENTS						Unit Size Tested	Weight Lbs. per Sq. Ft.	Test No.
						125 cps	250 cps	500 cps	1000 cps	2000 cps	4000 cps			
ACOUSTIC DECK	3"	A		Perforated metal Notes 1 and 3	4	.71	.60	.81	.99	.69	.50	18"x10' Note 2		A5434
ACOUSTI-WALL	2 3/4"	A		Perforated metal Notes 1 and 4	4	.70	.47	.77	.99	.69	.44	36"x84" 42"x84" Note 2		A5435
SIGNATURE WALL PANEL	2 1/4"			Perforated metal Notes 1 and 4	4	.41	.49	.78	.99	.67	.42	40"x84"		A5442

NOTE 1. Color as selected, factory baked enamel.

NOTE 2. See current catalog for other standard unit sizes.

NOTE 3. Perforated steel face, airspace with 1" glass fiber board, 3/8" gypsum board, rock wool and unperforated back.

NOTE 4. Construction similar to Note 3 except 1/4" gypsum board.

# JOHNS-MANVILLE SALES CORPORATION

MATERIAL	Thickness	Flame Resistance SS-A-118b See Page 5	Flame Spread Index E84-61 See Page 5	SURFACE Superscript numbers refer to footnotes	Mounting See Page 5	COEFFICIENTS						Unit Size Tested	Weight Lbs. per Sq. Ft.	Test No.
						125 cps	250 cps	500 cps	1000 cps	2000 cps	4000 cps			
ACOUSTI-SHELL GFV	2"		I	Dome shaped <sup>1</sup> , glass fiber fabric facing	7	.76	.80	.65	.77	.80	.75	24"x24"	.15	A7234
ACOUSTI-SHELL TV	2"	A	I	Dome shaped <sup>2</sup> , textured, painted	7	.64	.66	.67	.75	.72	.70	24"x24"	.20	A8005
ACOUSTI-SHELL TF	1/8"	A	I	Flat, textured, painted	7	.70	.69	.66	.80	.84	.83	24"x24"	.20	A8006
FIREDIKE TILE (Note 13) Uniform Drilled	5/8"	A	I	Perforated <sup>3</sup> , painted	7	.26	.36	.54	.92	.98	.79	12"x12"	1.2	A8306
	3/4"	A	I	Same as above	X - 10 3/4 7	.44 .54	.47 .55	.59 .70	.83 .92	.87 .85	.68 .71	12"x12" 12"x12"	1.4 1.4	A6352 A5058
FIREDIKE TILE (Note 13) Random Drilled	5/8"	A	I	Perforated <sup>4</sup> , painted	7	.32	.34	.57	.78	.88	.77	12"x12"	1.2	A8307
	3/4"	A	I	Same as above	7	.45	.46	.64	.89	.85	.65	12"x12"	1.4	A7003
FIREDIKE TILE (Note 13) Pierced Pattern	5/8"	A	I	Perforated <sup>5</sup> , painted	7	.33	.34	.63	.89	.78	.59	12"x12"	1.2	A8308
	3/4"	A	I	Same as above	7	.52	.58	.73	.98	.84	.67	12"x12"	1.4	A7187
FIREDIKE TILE (Note 13) Fissured	5/8"	A	I	Fissured, painted	7	.42	.40	.72	.76	.76	.70	12"x12"	1.2	A8309
	3/4"	A	I	Same as above	7	.56	.50	.72	.87	.86	.76	12"x12"	1.4	A7310
FIREDIKE PANELS (Note 14) Pierced Pattern	1/2"	A	I	Perforated <sup>6</sup> , painted	7	.25	.23	.53	.96	.93	.67	24"x48"	1.0	A8310
	5/8"	A	I	Same as above	7	.12	.25	.65	.99	.74	.70	24"x48"	1.2	A9313
FIREDIKE PANELS (Note 14) Fissured	5/8"	A	I	Fissured, painted	7	.07	.33	.56	.88	.89	.74	24"x48"	1.2	A8300
SPINTONE TILE Uniform Drilled	1/2"	A	I	Perforated <sup>3</sup> , painted	1	.09	.23	.62	.75	.77	.77	12"x12"	1.0	A7002
	5/8"	A	I	Same as above	1	.18	.28	.68	.95	.84	.66	12"x12"	1.2	A5257
					7	.44	.50	.65	.90	.92	.67	12"x12"	1.2	A5256
	3/4"	A	I	Same as above	1	.20	.31	.78	.95	.78	.65	12"x12"	1.4	A5057
					7	.54	.55	.70	.92	.85	.71	12"x12"	1.4	A5058
SPINTONE TILE Random Drilled	1/2"	A	I	Perforated <sup>4</sup> , painted	1	.14	.26	.64	.65	.64	.58	12"x12"	1.0	A7001
	5/8"	A	I	Same as above	1	.20	.35	.68	.71	.80	.78	12"x12"	1.2	A5055
					7	.58	.50	.67	.92	.91	.72	12"x12"	1.2	A5255
	3/4"	A	I	Same as above	7	.45	.46	.64	.89	.85	.65	12"x12"	1.4	A7003
SPINTONE TILE Pierced Pattern	1/2"	A	I	Perforated <sup>5</sup> , painted	1	.09	.18	.63	.96	.82	.61	12"x12"	1.0	A7182
	5/8"	A	I	Same as above	1	.09	.24	.78	.99	.76	.57	12"x12"	1.2	A7184
					7	.52	.43	.66	.95	.82	.74	12"x12"	1.2	A7183
	3/4"	A	I	Same as above	1	.10	.31	.95	.95	.79	.67	12"x12"	1.4	A7186
					7	.52	.58	.73	.98	.84	.67	12"x12"	1.4	A7185
SPINTONE PANELS Pierced Pattern	1/2"	A	I	Perforated <sup>6</sup> , painted	7	.25	.23	.53	.96	.93	.67	24"x48"	1.0	A8310
	5/8"	A	I	Same as above	7	.08	.24	.57	.99	.95	.62	24"x48"	1.2	A8299
SPINTONE PANELS Fissured	5/8"	A	I	Fissured, painted	7	.11	.35	.55	.77	.85	.75	24"x48"	1.2	A8301

See pages following for continuation of table and footnotes



MATERIAL	Thickness	Flame Resistance SS-A-118b See Page 5	Flame Spread Index E84-61 See Page 5	SURFACE Superscript numbers refer to footnotes	Mounting See Page 5	COEFFICIENTS						Unit Size Tested	Weight Lbs. per Sq. Ft.	Test No.
						125 cps	250 cps	500 cps	1000 cps	2000 cps	4000 cps			
PERMACOUSTIC FIREDIKE (Note 15)	3/4"	A	I	Fissured, painted	7	.53	.47	.55	.80	.88	.89	12"x12"	1.3	A9422
PERMACOUSTIC	3/4"	A	I	Fissured, painted	1 7	.12 .55	.24 .59	.84 .66	.98 .88	.86 .92	.81 .82	12"x12" 12"x12"	1.4 1.4	A4219 A4217
SPINTONE VENTILATING TILE Pierced Pattern 50% Ventilating and 50% Nonventilating	5/8"	A	I	Perforated <sup>5,7</sup> , painted	7	.66	.37	.56	.98	.99	.66	12"x12"	1.2	A9312
ACOUSTI-CLAD "P" Random Perforated	7/8"		I	Perforated <sup>8</sup> , painted	1	.27	.31	.62	.78	.53	.30	12"x12"	.90	A7233
ACOUSTI-CLAD "S"	5/8"			Perforated <sup>8</sup> , painted	7	.49	.35	.67	.83	.57	.27	12"x12"	1.2	A9157
SANACOUSTIC "W" J-M Mineral Wool Pad Paper wrapped	1 9/16"	A	I	Perforated <sup>9</sup> , enameled metal	7	.81	.71	.89	.99	.80	.67	12"x24"	Pad .70	A7767
SANACOUSTIC "W" J-M Mineral Wool Pad Paper wrapped, backed with 1/8" J-M Flexboard Attenuation Baffles	1 9/16"	A	I	Same as above	7	.49	.53	.85	.99	.75	.63	12"x24"	Pad .70	A7769
SANACOUSTIC "W" J-M Microlite Blanket 1 1/2" thick, 0.6 lb. density	3"	A	I	Perforated <sup>9</sup> , enameled metal <sup>10</sup>	7	.57	.74	.72	.87	.73	.57	12"x24"	Blan- ket .05	A7771
SANACOUSTIC "W" J-M Microlite Blanket 1 1/2" thick, 0.75 lb. density	3"	A	I	Same as above	X - 12 1/2	.61	.83	.85	.91	.77	.58	12"x24"	Blan- ket .10	A7772
SANACOUSTIC "W" J-M Microlite Blanket 1" thick, 1.0 lb. density	2 1/2"	A	I	Same as above	7	.69	.72	.71	.88	.73	.55	12"x24"	Blan- ket .10	A7773
PERFORATED TRANSITE PANELS J-M Microlite Blanket 1" thick, 1.0 lb. density	1 3/16"	A	I	Perforated <sup>11</sup> , painted	5	.20	.30	.69	.98	.68	.25	24"x24"	Blan- ket .10	A5044
PERFORATED TRANSITE PANELS J-M Microlite Pad 1" thick, 0.6 lb. density	1 3/16"	A	I	Perforated <sup>12</sup> , pebbled, painted	5	.09	.31	.56	.93	.68	.23	24"x24"	Pad .05	A61158
PERFORATED TRANSITE PANELS J-M Microlite Blanket 2" thick, 1.0 lb. density	2 3/16"	A	I	Perforated <sup>11</sup> , painted	8	.32	.62	.99	.86	.63	.37	24"x24"	Blan- ket .15	A5045
PERFORATED TRANSITE PANELS J-M Microlite Pad 2" thick, 0.6 lb. density	2 3/16"	A	I	Perforated <sup>12</sup> , pebbled, painted	8	.18	.55	.98	.98	.58	.44	24"x24"	Pad .10	A61159
PERFORATED TRANSITE PANELS J-M Microlite Pad 1" thick, 0.6 lb. density	1 3/16"	A	I	Same as above	7	.75	.66	.62	.75	.65	.44	24"x24"	Pad .05	A61155
PERFORATED TRANSITE PANELS J-M Microlite Pad 2" thick, 0.6 lb. density	2 3/16"	A	I	Same as above	7	.93	.81	.86	.96	.65	.45	24"x24"	Pad .10	A61156
FIBRETONE Uniform Drilled	1/2"	C, D		Perforated <sup>3</sup> , painted	1 2	.03 .13	.16 .57	.58 .56	.82 .74	.87 .84	.71 .71	12"x12" 12"x12"	.70 .70	A3066 A3065
	3/4"	C, D		Same as above	1 2	.04 .08	.29 .65	.77 .65	.88 .87	.81 .87	.55 .65	12"x12" 12"x12"	1.0 1.0	A3068 A3067

See pages following for continuation of table and footnotes

MATERIAL	Thickness	Flame Resistance SS-A-118b See Page 5	Flame Spread Index E84-61 See Page 5	SURFACE Superscript numbers refer to footnotes	Mounting See Page 5	COEFFICIENTS						Unit Size Tested	Weight Lbs. per Sq. Ft.	Test No.
						125 cps	250 cps	500 cps	1000 cps	2000 cps	4000 cps			
FIBRETONE Random Drilled	1/2"			Perforated <sup>1</sup> , painted	1	.18	.25	.62	.79	.84	.73	12"x12"	.70	A3034
					2	.11	.59	.61	.70	.85	.81	12"x12"	.70	A3033
	3/4"			Same as above	1	.23	.34	.73	.79	.81	.63	12"x12"	1.0	A3038
					2	.23	.71	.61	.75	.87	.65	12"x12"	1.0	A3037
FIBRETONE Comet	1/2"			Perforated <sup>5</sup> , painted	2	.26	.77	.39	.57	.47	.37	12"x12"	.80	A7235

MATERIAL	Thickness	Surface	Standard Mounting See Page 8	ATTENUATION FACTORS—Decibels*										Ceiling Sound Transmission Class	Unit Size Tested	Weight Lbs. per Sq. Ft.	Test No.	
				125 cps	175 cps	250 cps	350 cps	500 cps	700 cps	1000 cps	1400 cps	2000 cps	2800 cps					4000 cps
FIREDIKE TILE Uniform Drilled	¾"	See preceding table	ICF	35	37	34	36	39	43	45	56	57	67	63	42	12"x12"	1.4	T12JO
FIREDIKE TILE Random Drilled	⅝"		ICF	36	38	36	38	42	43	47	54	56	65	61	44	12"x12"	1.2	T28JO
			CCF	29	37	36	37	41	43	47	52	54	59	56	43	12"x12"	1.2	T32JO
FIREDIKE PANELS Pierced Pattern	½"		IE(H)	36	37	35	38	41	42	47	53	55	62	61	44	24"x48"	1.0	T29JO
			CE(H)	31	36	36	36	39	41	47	53	53	61	58	42	24"x48"	1.0	T30JO
	⅝"		IE(H)	30	39	37	38	41	44	46	52	53	57	53	44	24"x48"	1.2	T25JO
			CE(H)	32	39	36	36	40	42	46	51	52	56	53	42	24"x48"	1.2	T23JO
FIREDIKE PANELS Fissured	⅝"		IE(H)	31	37	36	37	41	44	46	51	52	56	54	43	24"x48"	1.2	T26JO
			CE(H)	31	38	35	35	41	42	45	48	52	55	53	41	24"x48"	1.2	T24JO
SPINTONE TILE Random Drilled	⅝"		ICT	28	34	31	34	36	39	41	48	52	56	57	40	12"x12"	1.2	T03JO
SPINTONE PANELS Pierced Pattern	⅝"		IE(H)	32	40	36	38	41	44	46	51	53	55	53	44	24"x48"	1.2	T27JO
			CE(H)	36	36	37	37	41	42	47	52	53	59	56	43	24"x48"	1.2	T31JO
SANACOUSTIC "W" J-M Mineral Wool Pad Paper wrapped	1⅞"		ICX	23	25	22	20	25	26	28	33	39	48	50	26	12"x24"	.70	T07JO
SANACOUSTIC "W" J-M Mineral Wool Pad Paper wrapped, backed with ⅛" J-M Flexboard Attenuation Baffles	1⅞"		ICX	32	31	34	39	47	50	53	59	56	60	56	45	12"x24"	.70	T08JO

\*Normalized to 126 sabins—see page 7

See page following for footnotes



- NOTE 1. Three dimensional glass fiber lay-in panels, approximately  $\frac{5}{32}$ " thick, with glass fiber fabric finish available in beige, green and blue.
- NOTE 2. Three dimensional glass fiber lay-in panels, approximately  $\frac{5}{32}$ " thick with textured, painted white finish.
- NOTE 3. Perforated 484 holes per sq. ft.,  $\frac{3}{16}$ " diameter.
- NOTE 4. Perforated 312 holes per sq. ft., 117 of  $\frac{1}{4}$ " and 195 of  $\frac{3}{16}$ " diameters.
- NOTE 5. Random punched approximately 1475 holes per sq. ft. in three pin size diameters.
- NOTE 6. Random punched approximately 1750 holes per sq. ft. in three pin size diameters.
- NOTE 7. Ventilating tile through perforated 375 holes, .093" diameter.
- NOTE 8. Aluminum faced tile perforated 350 hexagonal holes per sq. ft., 86 of 0.234" and 264 of 0.185" diameters measured across the points.
- NOTE 9. Perforated, enameled metal pan with sound absorptive element as stated under Material. Pan perforated 1105 holes per sq. ft.,  $\frac{3}{32}$ " diameter. Thickness includes tee bar.
- NOTE 10. Blanket supported by tee bars about  $1\frac{1}{2}$ " above face of metal pan.
- NOTE 11.  $\frac{3}{16}$ " asbestos cement board, perforated 600 holes per sq. ft.,  $\frac{3}{16}$ " diameter. Also available autoclaved for lay-in panels.
- NOTE 12.  $\frac{3}{16}$ " autoclaved asbestos cement board, perforated 550 holes per sq. ft.,  $\frac{3}{16}$ " diameter.
- NOTE 13. Acoustical Ceiling Constructions Classified by Underwriters' Laboratories, Incorporated  
     No. 4400-1— $\frac{3}{4}$ " Firedike Tile—Design 29—2 Hours  
     No. 4400-3— $\frac{3}{4}$ " Firedike Tile—Design 34—3 Hours  
     No. 4400-4— $\frac{5}{8}$ " Firedike Tile—Design 70—2 Hours  
      $\frac{3}{4}$ " Firedike Tile—Design 70—2 Hours  
     No. 4400-5— $\frac{5}{8}$ " Firedike Tile—Design 60—2 Hours  
      $\frac{3}{4}$ " Firedike Tile—Design 60—2 Hours  
     No. 4400-8— $\frac{3}{4}$ " Firedike Tile—Design 54—3 Hours  
     No. 4400-10— $\frac{3}{4}$ " Firedike Tile—Design 20—1 Hour
- NOTE 14. Acoustical Ceiling Constructions Classified by Underwriters' Laboratories, Incorporated  
     No. 4400-2— $\frac{5}{8}$ " Firedike Panels—Design 45—2 Hours  
     No. 4400-6— $\frac{1}{2}$ " Firedike Panels—Design 14— $1\frac{1}{2}$  Hours  
     No. 4400-6— $\frac{5}{8}$ " Firedike Panels—Design 76—2 Hours  
     No. 4400-7— $\frac{5}{8}$ " Firedike Panels—Design 71—2 Hours  
     No. 4400-9— $\frac{5}{8}$ " Firedike Panels—Design 21—1 Hour
- NOTE 15. Acoustical Ceiling Constructions Classified by Underwriters' Laboratories, Incorporated  
     No. 4400-12— $\frac{3}{4}$ " Permacoustic Firedike Tile—Design 16— $1\frac{1}{2}$  Hours  
     No. 4400-12— $\frac{3}{4}$ " Permacoustic Firedike Tile—Design 91—2 Hours

# KAISER GYPSUM COMPANY, INC.

MATERIAL	Thickness	Flame Resistance SS-A-118b See Page 5	Flame Spread Index E84-61 See Page 5	SURFACE Superscript numbers refer to footnotes	Mounting See Page 5	COEFFICIENTS						Unit Size Tested	Weight Lbs. per Sq. Ft.	Test No.
						125 cps	250 cps	500 cps	1000 cps	2000 cps	4000 cps			
KAISER FIRE RATED ACOUSTICAL PRODUCTS (Note 5)														
Circle-Punched Lay-In	½"	A	I	Perforated <sup>1</sup> , painted <sup>11</sup>	7	.36	.27	.52	.75	.67	.54	24"x48"	1.1	A9260
	⅝"	A	I	Same as above	7	.47	.27	.66	.85	.70	.48	24"x48"	1.3	A9261
Swirl-Punched Lay-In	½"	A	I	Perforated <sup>2</sup> , painted <sup>11</sup>	7	.21	.25	.59	.79	.55	.38	24"x48"	1.1	A0253
	⅝"	A	I	Same as above	7	.36	.31	.70	.68	.47	.36	24"x48"	1.3	A0283
Fissured Lay-In	½"	A	I	Fissured, perforated, painted <sup>11</sup>	7	.28	.28	.56	.79	.76	.67	24"x48"	1.1	A9262
	⅝"	A	I	Same as above	7	.14	.28	.65	.88	.70	.57	24"x48"	1.3	A9263
Textured Lay-In	½"	A	I	Textured, painted	7	.32	.26	.29	.40	.44	.43	24"x48"	1.1	A0224
	⅝"	A	I	Same as above	7	.29	.27	.33	.50	.53	.57	24"x48"	1.3	A0254
(Note 6) Circle-Punched Tile	⅝"	A	I	Perforated <sup>1</sup> , painted <sup>11</sup>	7	.50	.33	.61	.79	.62	.45	12"x12"	1.3	A0284
Fissured Tile	⅝"	A	I	Fissured, perforated, painted <sup>11</sup>	7	.35	.36	.63	.74	.64	.61	12"x12"	1.3	A0112
Textured Tile	⅝"	A	I	Textured, painted	7	.51	.28	.32	.46	.51	.56	12"x12"	1.3	A0352
Swirl-Punched Tile	⅝"	A	I	Perforated <sup>2</sup> , painted <sup>11</sup>	7	.34	.36	.66	.64	.46	.37	12"x12"	1.3	A0315
KAISER MINERAL FIBER ACOUSTICAL PRODUCTS Casual Drilled Tile														
	½"	A	I	Perforated <sup>4</sup> , painted	1	.03	.11	.47	.97	.95	.67	12"x12"	.90	A8174
	⅝"	A	I	Same as above	1 7	.16 .62	.16 .48	.64 .66	.99 .97	.95 .97	.65 .71	12"x12" 12"x12"	1.1 1.1	A8176 A8175
	¾"	A	I	Same as above	1 7	.03 .53	.21 .54	.74 .77	.99 .99	.87 .90	.61 .61	12"x12" 12"x12"	1.4 1.4	A8178 A8177
	Circle-Punched Tile	½"	A	I	Perforated <sup>1</sup> , painted <sup>11</sup>	1	.03	.16	.75	.97	.65	.41	12"x12"	1.0
⅝"		A	I	Same as above	1 7	.03 .55	.31 .49	.89 .67	.94 .88	.66 .71	.43 .51	12"x12" 12"x12"	1.2 1.2	A8181 A8180
	¾"	A	I	Same as above	1 7	.03 .60	.32 .46	.99 .76	.86 .85	.62 .68	.44 .50	12"x12" 12"x12"	1.4 1.4	A8183 A8182
	Swirl-Punched Tile	½"	A	I	Perforated <sup>2</sup> , painted <sup>11</sup>	1	.14	.18	.75	.80	.49	.30	12"x12"	.90
⅝"		A	I	Same as above	1 7	.12 .35	.26 .35	.71 .66	.74 .65	.46 .48	.33 .35	12"x12" 12"x12"	1.2 1.2	A0356 A0355
Fissured Tile	½"	A	I	Fissured, perforated, painted <sup>11</sup>	1	.03	.19	.68	.85	.67	.57	12"x12"	1.0	A8185
	¾"	A	I	Same as above	1 7	.09 .56	.31 .43	.92 .71	.94 .94	.75 .79	.71 .68	12"x12" 12"x12"	1.4 1.4	A8232 A8231
Fissured Tile—Type TL	⅝"	A	I	Same as above	7	.59	.35	.69	.94	.80	.62	12"x12"	1.2	A9268
Textured Tile	⅝"	A	I	Textured, painted	1 7	.20 .56	.34 .33	.70 .42	.68 .55	.60 .63	.58 .58	12"x12" 12"x12"	1.2 1.2	A0354 A0353
	Circle-Punched Lay-In	½"	A	I	Perforated <sup>1</sup> , painted <sup>11</sup>	7	.32	.33	.55	.75	.67	.53	24"x48"	1.0
⅝"		A	I	Same as above	7	.56	.46	.71	.91	.74	.53	24"x48"	1.2	A8184
Swirl-Punched Lay-In	½"	A	I	Perforated <sup>2</sup> , painted <sup>11</sup>	7	.26	.34	.65	.76	.59	.43	24"x48"	1.0	A0111
	⅝"	A	I	Same as above	7	.27	.34	.67	.73	.51	.37	24"x48"	1.2	A0195

See pages following for continuation of table and footnotes



MATERIAL	Thickness	Flame Resistance SS-A-118b See Page 5	Flame Spread Index E84-61 See Page 5	SURFACE Superscript numbers refer to footnotes	Mounting See Page 5	COEFFICIENTS						Unit Size Tested	Weight Lbs. per Sq. Ft.	Test No.
						125 cps	250 cps	500 cps	1000 cps	2000 cps	4000 cps			
KAISER MINERAL FIBER ACOUSTICAL PRODUCTS Fissured Lay-In	1/2"	A	I	Fissured, perforated, painted <sup>11</sup>	7	.35	.60	.55	.80	.74	.69	24"x48"	1.0	A0196
	5/8"	A	I	Same as above	7	.61	.44	.69	.92	.80	.69	24"x48"	1.2	A8186
	Textured Lay-In	A	I	Textured, painted	7	.34	.32	.44	.60	.69	.68	24"x48"	1.0	A0223
KAISER CAST MINERAL FISSURED TILE	3/4"	A	I	Fissured, painted	1	.07	.23	.74	.90	.92	.86	12"x12"	1.2	A4708
					7	.53	.62	.60	.83	.95	.98	12"x12"	1.2	A9792
KAISER GLASS FIBER CEILING BOARD Vinyl Face-C	1"	C		Embossed membrane faced <sup>7</sup>	7	.77	.57	.84	.93	.75	.51	24"x48"	.20	A6578
	1 1/2"	C		Same as above	7	.75	.91	.86	.93	.79	.50	48"x48"	.25	A6579
	2"			Same as above	7	.53	.86	.94	.91	.63	.39	48"x48"	.30	A6470
	2 1/2"			Same as above	7	.64	.88	.99	.93	.65	.39	48"x48"	.40	A6471
	3"			Same as above	7	.84	.87	.99	.85	.58	.30	48"x48"	.45	A6472
KAISER FIR-TEX ACOUSTICAL PRODUCTS Casual Drilled Tile	1/2"	C	II, III	Perforated <sup>4</sup> , painted <sup>9</sup>	1	.10	.22	.61	.66	.74	.72	12"x12"	.75	A4105
					2	.13	.60	.51	.65	.73	.71	12"x12"	.75	A4104
					7	.52	.37	.50	.69	.79	.78	12"x12"	.75	A5295
Circle-Punched Tile	3/4"	C	II, III	Same as above	1	.24	.32	.76	.86	.83	.65	12"x12"	1.1	A4108
					2	.33	.63	.62	.84	.84	.65	12"x12"	1.1	A4107
	1/2"	C	II, III	Perforated <sup>1</sup> , painted <sup>9,10</sup>	1	.07	.22	.63	.78	.67	.59	12"x12"	.80	A6287
Swirl-Punched Tile					2	.16	.62	.59	.73	.64	.49	12"x12"	.80	A6286
					7	.60	.43	.54	.73	.68	.60	12"x12"	.80	A6285
	3/4"	C	II, III	Same as above	1	.13	.36	.88	.73	.57	.44	12"x12"	1.1	A7220
Fissured Tile					2	.29	.72	.72	.74	.59	.47	12"x12"	1.1	A7219
					7	.48	.42	.68	.73	.61	.40	12"x12"	1.1	A7218
	1/2"	C	II, III	Perforated <sup>2</sup> painted <sup>9,10</sup>	1	.10	.23	.72	.71	.50	.33	12"x12"	.80	A0114
Circle-Punched Lay-In					2	.16	.46	.63	.68	.48	.31	12"x12"	.80	A0113
					1	.18	.37	.83	.58	.42	.31	12"x12"	1.1	A0185
	3/4"	C	II, III	Same as above	7	.35	.35	.63	.54	.44	.35	12"x12"	1.1	A0184
Fissured Lay-In	1/2"	C	II, III	Fissured, perforated, painted <sup>9,10</sup>	1	.05	.23	.69	.76	.63	.59	12"x12"	.80	A6290
					2	.12	.63	.58	.71	.65	.56	12"x12"	.80	A6289
					7	.75	.40	.51	.69	.62	.56	12"x12"	.80	A7246
Circle-Punched Lay-In	3/4"	C	II, III	Same as above	1	.12	.33	.91	.79	.63	.51	12"x12"	1.1	A7223
					2	.19	.75	.75	.74	.61	.49	12"x12"	1.1	A7222
					7	.53	.45	.69	.76	.68	.59	12"x12"	1.1	A7221
Circle-Punched Lay-In	1/2"	C	II, III	Perforated <sup>1</sup> , painted <sup>9,10</sup>	7	.34	.30	.51	.66	.62	.60	24"x48"	.80	A0285
Swirl-Punched Lay-In	1/2"	C	II, III	Perforated <sup>2</sup> , painted <sup>9,10</sup>	7	.34	.28	.51	.59	.49	.37	24"x48"	.80	A0221
Fissured Lay-In	1/2"	C	II, III	Fissured, perforated, painted <sup>9,10</sup>	7	.26	.31	.46	.69	.58	.62	24"x48"	.80	A0222

See pages following for continuation of table and footnotes

MATERIAL	Thickness	Flame Resistance SS-A-118b See Page 5	Flame Spread Index E84-61 See Page 5	SURFACE Superscript numbers refer to footnotes	Mounting See Page 5	COEFFICIENTS						Unit Size Tested	Weight Lbs. per Sq. Ft.	Test No.
						125 cps	250 cps	500 cps	1000 cps	2000 cps	4000 cps			
KAISER FIR-TEX CLASS I ACOUSTICAL PRODUCTS Regular Drilled Tile	3/4"		I	Perforated <sup>3</sup> , painted	1	.17	.23	.72	.94	.90	.61	12"x12"	1.0	A1360
					2	.23	.55	.60	.91	.87	.63	12"x12"	1.0	A0359
Casual Drilled Tile	1/2"		I	Perforated <sup>4</sup> , painted	1	.03	.17	.59	.71	.72	.67	12"x12"	.80	A0252
					2	.14	.48	.47	.59	.70	.70	12"x12"	.80	A0251
	3/4"		I	Same as above	1	.05	.29	.76	.76	.76	.60	12"x12"	1.0	A0220
					2	.22	.58	.60	.69	.75	.59	12"x12"	1.0	A0219
	1/2"		I	Perforated <sup>2</sup> , painted <sup>11</sup>	7	.35	.37	.55	.73	.79	.63	12"x12"	1.0	A0218
					1	.19	.28	.58	.59	.39	.27	12"x12"	.85	A0325
Swirl-Punched Tile	1/2"		I	Perforated <sup>2</sup> , painted <sup>11</sup>	2	.26	.51	.49	.55	.38	.27	12"x12"	.85	A0316
					7	.23	.29	.55	.57	.45	.45	12"x12"	.85	A0110
	3/4"		I	Same as above	1	.05	.33	.77	.52	.38	.34	12"x12"	1.1	A0217
					7	.41	.38	.56	.52	.44	.43	12"x12"	1.1	A0216
Fissured Tile	1/2"		I	Fissured, perforated, painted <sup>11</sup>	1	.15	.22	.66	.64	.49	.49	12"x12"	.85	A0318
					2	.24	.54	.51	.58	.50	.53	12"x12"	.85	A0324
	3/4"		I	Same as above	1	.23	.35	.73	.63	.49	.49	12"x12"	1.1	A0358
					7	.53	.38	.55	.54	.49	.58	12"x12"	1.1	A0357
KAISER FIR-TEX ACOUSTICAL ROOFDEK	2"	C		Perforated <sup>8</sup> , painted	4	.22	.34	.52	.73	.90	.80	2'x8'	3.2	A4112
	3"	C		Same as above	4	.26	.31	.46	.69	.86	.87	2'x8'	4.9	A4113

See page following for continuation of table and footnotes



MATERIAL	Thickness	Surface	Standard Mounting See Page 8	ATTENUATION FACTORS—Decibels*										Ceiling Sound Transmission Class	Unit Size Tested	Weight Lbs. per Sq. Ft.	Test No.	
				125 cps	175 cps	250 cps	350 cps	500 cps	700 cps	1000 cps	1400 cps	2000 cps	2800 cps					4000 cps
KAISER FIRE RATED ACOUSTICAL PRODUCTS Circle-Punched Lay-In	½"	See preceding table	IE	34	36	34	31	35	37	41	47	53	61	61	37	24"x48"	1.1	T31KA
	⅝"		IE	34	35	35	31	35	38	43	48	55	63	61	37	24"x48"	1.3	T33KA
Fissured Lay-In	½"		IE	32	36	34	30	35	35	40	46	53	61	60	36	24"x48"	1.1	T30KA
	⅝"		IE	34	37	33	31	33	35	40	47	53	62	62	37	24"x48"	1.3	T32KA
Textured Lay-In	½"		IE(H)	33	36	31	34	38	41	44	47	51	55	56	40	24"x48"	1.1	T42KA
Circle-Punched Tile	⅝"		ICF	31	39	32	36	42	45	47	53	56	60	58	42	12"x12"	1.3	T43KA
Fissured Tile	⅝"		CCF	32	36	35	38	40	42	49	55	57	53	48	44	12"x12"	1.3	T46KA
Textured Tile	⅝"		ICF	27	39	36	43	44	48	51	52	57	61	58	49	12"x12"	1.3	T44KA
KAISER MINERAL FIBER ACOUSTICAL TILE Casual Drilled Tile	⅝"		ICT	27	32	29	29	31	31	31	36	42	49	53	32	12"x12"	1.1	T26KA
Circle-Punched Tile	⅝"		ICT	33	38	31	30	31	33	37	46	50	58	47	36	12"x12"	1.2	T25KA
Fissured Tile	¾"		ICT	29	37	30	32	35	39	44	53	55	60	54	39	12"x12"	1.4	T24KA
Fissured Tile — Type TL	⅝"		ICT	34	35	36	33	39	39	44	51	55	62	61	39	12"x12"	1.2	T35KA
Textured Tile	⅝"		ICT	31	39	32	34	36	38	43	48	57	61	59	40	12"x12"	1.2	T45KA
Circle-Punched Lay-In	½"		IE	30	36	32	29	34	35	39	45	52	60	60	35	24"x48"	1.0	T34KA
	⅝"		IE	27	33	30	31	34	37	40	47	52	53	43	37	24"x48"	1.2	T23KA
Fissured Lay-In	½"		IE	32	37	29	31	33	35	39	42	48	53	51	37	24"x48"	1.0	T41KA
	⅝"	IE	27	36	31	30	33	35	38	46	51	58	46	36	24"x48"	1.2	T27KA	
Textured Lay-In	½"	CE	30	37	31	32	34	38	42	43	50	56	56	38	24"x48"	1.0	T48KA	
KAISER CAST MINERAL Fissured Tile	¾"	ICF	29	30	33	32	33	36	37	46	50	58	55	37	12"x24"	1.2	T01BA	

\*Normalized to 126 sabins—see page 7

- NOTE 1. Randomly punch perforated, approximately 1400 holes per sq. ft., 0.10" and 0.040" diameters.
- NOTE 2. Randomly punch perforated, approximately 1700 holes per sq. ft., 0.070" and 0.040" diameters.
- NOTE 3. Perforated 529 holes per sq. ft., 3/16" diameter, uniformly spaced.
- NOTE 4. Perforated 316 holes per sq. ft.; 98 of 13/64", 118 of 15/64" and 100 of 17/64" diameters, randomly spaced.
- NOTE 5. Acoustical Ceiling Construction Classified by Underwriters' Laboratories, Incorporated  
 No. 4757-1—1/2" Kaiser Fire Rated Acoustical Products Lay-In—Design 23—1 Hour  
 5/8" Kaiser Fire Rated Acoustical Products Lay-In—Design 23—1 Hour  
 No. 4757-2—5/8" Kaiser Fire Rated Acoustical Products Lay-In—Design 88—2 Hours
- NOTE 6. Acoustical Ceiling Construction Classified by Underwriters' Laboratories, Incorporated  
 No. 4757-3—5/8" Kaiser Fire Rated Acoustical Tile—Design 96—2 Hours
- NOTE 7. Thin embossed plastic membrane cemented to board face.
- NOTE 8. Perforated 540 holes per sq. ft., 13/64" diameter, uniformly spaced.
- NOTE 9. Factory-painted face and bevels, Class "C" flame resistance and Class III flame spread. Also available factory-painted face and bevels, Class "C" flame resistance and Class II flame spread.
- NOTE 10. Also available Vinyl Painted Surface with Class III or Class II flame spread.
- NOTE 11. Also available Vinyl Painted Surface with Class I flame spread.

# NATIONAL GYPSUM COMPANY

MATERIAL	Thickness	Flame Resistance SS-A-118b See Page 5	Flame Spread Index E84-61 See Page 5	SURFACE Superscript numbers refer to footnotes	Mounting See Page 5	COEFFICIENTS						Unit Size Tested	Weight Lbs. per Sq. Ft.	Test No.
						125 cps	250 cps	500 cps	1000 cps	2000 cps	4000 cps			
ACOUSTIFIBRE Full Random Pattern	1/2"	C		Perforated <sup>1</sup> , painted	1	.09	.26	.63	.74	.65	.62	12"x12"	.70	A6228
	3/4"	C		Same as above	1 7	.20 .32	.39 .40	.73 .55	.79 .72	.75 .75	.42 .65	12"x12" 12"x12"	1.0 1.0	A6225 A6223
Needlepoint Pattern	1/2"	C	II	Perforated <sup>2</sup> , painted	1	.16	.25	.61	.58	.59	.49	12"x12"	.70	A6231
	3/4"	C	II	Same as above	1 7	.27 .42	.36 .37	.63 .49	.61 .63	.58 .63	.51 .68	12"x12" 12"x12"	1.0 1.0	A6234 A6232
Fissured Pattern	3/4"	C	II	Fissured, painted	1 7	.17 .50	.34 .40	.67 .50	.68 .66	.63 .69	.46 .73	12"x12" 12"x12"	1.0 1.0	A6243 A6241
ECONACOUSTIC	1/2"	D	II	Textured, painted	1	.09	.25	.72	.75	.77	.83	12"x12"	.50	A5197
	5/8"	D	II	Same as above	2	.21	.71	.58	.68	.74	.75	12"x12"	.60	A5196
ECONACOUSTIC CLASS I	5/8"		I	Textured, painted	1 2	.06 .15	.25 .54	.59 .42	.52 .49	.54 .53	.51 .51	12"x12" 12"x12"	.75 .75	A0423 A0422
ACOUSTIROC Striated Pattern	3/4"	A	I	Striated, painted	1 7	.17 .70	.23 .70	.68 .74	.93 .94	.90 .91	.89 .95	12"x12" 12"x12"	1.2 1.2	A4234 A6101
	1/2"	A	I	Perforated <sup>3</sup> , painted	1	.07	.12	.47	.99	.89	.67	12"x12"	.80	A4235
Full Random Pattern	3/4"	A	I	Same as above	1 7	.03 .77	.19 .76	.73 .81	.99 .99	.84 .86	.72 .63	12"x12" 12"x12"	1.2 1.2	A4237 A6102
	1/2"	A	I	Perforated <sup>2</sup> , painted	1	.04	.16	.53	.97	.94	.64	12"x12"	.80	A7251
Needlepoint Pattern	3/4"	A	I	Same as above	1 7	.09 .76	.30 .59	.94 .71	.99 .94	.80 .86	.58 .65	12"x12" 12"x12"	1.2 1.2	A7253 A7252
	3/4"	A	I	Fissured, painted	1 7	.11 .62	.32 .58	.77 .61	.88 .79	.87 .90	.84 .83	12"x12" 12"x12"	1.2 1.2	A6105 A6104
Textured Pattern	1/2"	A	I	Textured, painted	1	.11	.14	.58	.86	.87	.84	12"x12"	.80	A9317
	3/4"	A	I	Same as above	1 7	.13 .72	.26 .51	.79 .62	.93 .86	.90 .92	.86 .93	12"x12" 12"x12"	1.2 1.2	A9256 A9255
Fissured Pattern Foil Backed	3/4"	A	I	Fissured, painted	7	.53	.38	.63	.81	.86	.88	12"x12"	1.2	A9257
SOLITUDE Needlepoint Pattern	1/2"	A	I	Perforated <sup>2</sup> , painted <sup>4</sup>	1	.03	.22	.64	.95	.72	.53	12"x12"	.95	A9337
	5/8"	A	I	Same as above	7	.47	.35	.73	.83	.64	.50	12"x12"	1.2	A0425
Fissured Pattern	1/2"	A	I	Fissured, painted	1	.04	.26	.69	.73	.59	.43	12"x12"	.95	A9331
Textured Micro-Perf. Pattern	1/2"	A	I	Textured, perforated <sup>26</sup> , painted	1	.05	.24	.83	.68	.50	.31	12"x12"	.95	A9358
	5/8"	A	I	Same as above	7	.32	.39	.62	.59	.44	.26	12"x12"	1.2	A9359
TRAVACOUSTIC	3/4"	A	I	Fissured, painted	1 7	.07 .60	.33 .57	.80 .65	.99 .90	.92 .97	.85 .85	12"x12" 12"x12"	1.3 1.3	A8160 A8159
TRAVACOUSTIC Sculptured Pattern	3/4"	A	I	Striated, painted	1 7	.13 .61	.30 .41	.75 .52	.82 .74	.64 .83	.83 .89	12"x12" 12"x12"	1.3 1.3	A0340 A0339
TRAVACOUSTIC Foil Backed	3/4"	A	I	Fissured, painted	7	.32	.39	.62	.86	.88	.71	12"x12"	1.3	A9169

See pages following for continuation of table and footnotes



MATERIAL	Thickness	Flame Resistance SS-A-118h See Page 5	Flame Spread Index E84-61 See Page 5	SURFACE Superscript numbers refer to footnotes	Mounting See Page 5	COEFFICIENTS						Unit Size Tested	Weight Lbs. per Sq. Ft.	Test No.
						125 cps	250 cps	500 cps	1000 cps	2000 cps	4000 cps			
<b>FIRE-SHIELD ACOUSTIROC</b> (Note 12)														
Striated Pattern	3/4"	A	I	Striated, painted	7	.74	.67	.70	.89	.91	.91	12"x12"	1.2	A7349
Full Random Pattern	3/4"	A	I	Perforated <sup>3</sup> , painted	7	.85	.75	.77	.99	.97	.75	12"x12"	1.2	A7249
Needlepoint Pattern	3/4"	A	I	Perforated <sup>2</sup> , painted	7	.84	.66	.75	.96	.89	.71	12"x12"	1.2	A7250
Fissured Pattern	3/4"	A	I	Fissured, painted	7	.65	.56	.66	.88	.94	.99	12"x12"	1.2	A7401
Textured Pattern	3/4"	A	I	Textured, painted	7	.51	.50	.60	.84	.87	.85	12"x12"	1.2	A9258
<b>FIRE-SHIELD SOLITUDE</b> (Note 13)														
Fissured Pattern	1/2"	A	I	Fissured, painted	7	.30	.37	.58	.67	.65	.47	12"x12"	1.1	A9365
Textured Micro-Perf. Pattern	1/2"	A	I	Textured, perforated <sup>26</sup> , painted	7	.29	.44	.77	.64	.55	.58	12"x12"	1.1	A9371
Needlepoint Pattern	1/2"	A	I	Perforated <sup>2</sup> , painted <sup>4</sup>	7	.38	.39	.62	.88	.76	.33	12"x12"	1.1	A9366
<b>FIRE-SHIELD SOLITUDE</b> (Note 14)														
Textured Micro-Perf. Pattern	5/8"	A	I	Textured, perforated <sup>26</sup> , painted	7	.29	.35	.66	.58	.49	.22	12"x12"	1.3	A9372
Full Random Pattern	5/8"	A	I	Perforated <sup>1</sup> , painted <sup>4</sup>	7	.59	.38	.56	.92	.89	.62	12"x12"	1.3	A7341
Needlepoint Pattern	5/8"	A	I	Perforated <sup>2</sup> , painted <sup>4</sup>	7	.64	.41	.68	.92	.70	.59	12"x12"	1.3	A7378
Fissured Pattern	5/8"	A	I	Fissured, painted <sup>4</sup>	7	.33	.40	.64	.62	.65	.64	12"x12"	1.3	A0427
<b>FIRE-SHIELD SOLITUDE</b> (Note 15)														
Full Random Pattern	3/4"	A	I	Perforated <sup>1</sup> , painted <sup>4</sup>	7	.49	.49	.70	.99	.82	.44	12"x12"	1.5	A6247
Needlepoint Pattern	3/4"	A	I	Perforated <sup>2</sup> , painted <sup>4</sup>	7	.51	.46	.75	.86	.67	.45	12"x12"	1.5	A6248
Fissured Pattern	3/4"	A	I	Fissured, painted <sup>4</sup>	7	.50	.39	.66	.62	.64	.59	12"x12"	1.5	A0334
<b>ACOUSTIMETAL</b> Square Pattern (Note 23)	1 9/16"	A	I	Perforated, enameled metal <sup>5</sup>	7	.81	.89	.93	.99	.77	.80	12"x24"	Pad .40	A6086
Needlepoint Pattern (Note 23)	1 9/16"	A	I	Perforated, enameled metal <sup>6</sup>	7	.91	.79	.88	.99	.79	.60	12"x24"	Pad .40	A9308
Diagonal Pattern #1740 (Note 23)	1 9/16"	A	I	Perforated, enameled metal <sup>7</sup>	7	.76	.76	.90	.99	.85	.70	12"x24"	Pad .40	A9309
Diagonal Pattern #1105 (Note 23)	1 9/16"	A	I	Perforated, enameled metal <sup>8</sup>	7	.85	.76	.82	.96	.79	.69	12"x24"	Pad .40	A0349
Diagonal Pattern #1105 with 1/2" Gypsum Board (Note 24)	2 1/16"	A	I	Same as above	7	.23	.34	.93	.99	.79	.71	12"x24"	Pad .40	A0350
<b>GOLD BOND PERFORATED ASBESTOS PANELS</b>	1 3/16"	A	I	Perforated, textured, painted <sup>9</sup>	5 7	.09 .75	.31 .66	.56 .62	.93 .75	.68 .65	.23 .44	24"x24" 24"x24"	Pad .05 .05	A6358 A6355
	2 3/16"	A	I	Perforated, textured, painted <sup>10</sup>	7 8	.93 .18	.81 .55	.86 .98	.96 .98	.65 .58	.45 .44	24"x24" 24"x24"	Pad .10 .10	A6356 A6359
<b>ASBESTIBEL GRID PANELS</b>	3/16"	A	I	Perforated, textured, painted <sup>11</sup>	7	.97	.89	.66	.72	.65	.51	24"x48"	1.5	A7039

See pages following for continuation of table and footnotes

MATERIAL	Thickness	Flame Resistance SS-A-118b See Page 5	Flame Spread Index E84-61 See Page 5	SURFACE Superscript numbers refer to footnotes	Mounting See Page 5	COEFFICIENTS						Unit Size Tested	Weight Lbs. per Sq. Ft.	Test No.
						125 cps	250 cps	500 cps	1000 cps	2000 cps	4000 cps			
<b>SOLITUDE GRID PANELS</b> Textured Micro-Perf. Pattern	1/2"	A	I	Textured, Perforated <sup>26</sup> , painted	7	.09	.30	.56	.72	.60	.41	24"x48"	.95	A0103
	5/8"	A	I	Same as above	7	.10	.34	.70	.70	.59	.43	24"x48"	1.2	A0104
Needlepoint Pattern	1/2"	A	I	Perforated <sup>2</sup> , painted <sup>4</sup>	7	.33	.35	.60	.88	.77	.55	24"x48"	.95	A9290
	5/8"	A	I	Same as above	7	.36	.31	.65	.99	.78	.51	24"x48"	1.2	A9291
Fissured Pattern	1/2"	A	I	Fissured, painted <sup>4</sup>	7	.29	.25	.57	.74	.74	.77	24"x48"	.95	A0429
	5/8"	A	I	Same as above	7	.54	.41	.65	.86	.84	.84	24"x48"	1.2	A9472
<b>FIRE-SHIELD SOLITUDE GRID PANELS</b> (Note 16)														
Needlepoint Pattern	1/2"	A	I	Perforated <sup>2</sup> , painted <sup>4</sup>	7	.33	.28	.62	.90	.77	.55	24"x48"	1.1	A9294
Fissured Pattern	1/2"	A	I	Fissured, painted <sup>4</sup>	7	.32	.26	.59	.76	.77	.76	24"x48"	1.1	A0428
Textured Micro-Perf. Pattern	1/2"	A	I	Textured, per- forated <sup>26</sup> , painted	7	.25	.28	.59	.72	.59	.44	24"x48"	1.3	A0105
(Note 17) Needlepoint Pattern	5/8"	A	I	Perforated <sup>2</sup> , painted <sup>4</sup>	7	.34	.36	.71	.95	.74	.65	24"x48"	1.3	A9295
Fissured Pattern	5/8"	A	I	Fissured, painted <sup>4</sup>	7	.58	.46	.59	.85	.87	.84	24"x48"	1.3	A9471
Textured Micro-Perf. Pattern	5/8"	A	I	Textured, perforated <sup>26</sup> , painted	7	.22	.29	.69	.68	.54	.42	24"x48"	1.3	A0106
(Note 18) Needlepoint Pattern	3/4"	A	I	Perforated <sup>2</sup> , painted <sup>4</sup>	7	.31	.30	.72	.90	.71	.55	24"x48"	1.6	A0338
Fissured Pattern	3/4"	A	I	Fissured, painted <sup>4</sup>	7	.35	.33	.80	.75	.70	.66	24"x48"	1.6	A0337
<b>ECONACOUSTIC GRID PANELS</b>	1"		II	Textured, painted	7	.29	.33	.56	.77	.79	.78	24"x48"	1.0	A7423
<b>FIRE-SHIELD SOLITUDE GRID PANELS VENTILATING</b> (Notes 19 & 21) 50% Ventilating and 50% Nonventilating Needlepoint Pattern	5/8"	A	I	Perforated <sup>2</sup> , painted <sup>4</sup>	7	.40	.36	.59	.72	.55	.31	24"x48"	1.3	A9298
Fissured Pattern	5/8"	A	I	Fissured, painted <sup>4</sup>	7	.54	.43	.60	.79	.64	.50	24"x48"	1.3	A9299
<b>SOLITUDE GRID PANELS VENTILATING</b> (Note 21) 50% Ventilating and 50% Nonventilating Needlepoint Pattern	5/8"	A	I	Perforated <sup>2</sup> , painted <sup>4</sup>	7	.50	.40	.60	.74	.55	.37	24"x48"	1.2	A9300
Fissured Pattern	5/8"	A	I	Fissured, painted <sup>4</sup>	7	.39	.43	.59	.77	.63	.49	24"x48"	1.2	A9301
<b>FIRE-SHIELD ACOUSTIROC VENTILATING TILE</b> (Notes 20 & 21) 50% Ventilating and 50% Nonventilating Full Random Pattern	3/4"	A	I	Perforated <sup>3</sup> , painted	7	.58	.52	.60	.90	.89	.75	12"x12"	1.0	A0346
Needlepoint Pattern	3/4"	A	I	Perforated <sup>2</sup> , painted	7	.60	.60	.67	.88	.83	.70	12"x12"	1.1	A0347

See pages following for continuation of table and footnotes



MATERIAL	Thickness	Flame Resistance SS-A-118b See Page 5	Flame Spread Index E84-61 See Page 5	SURFACE Superscript numbers refer to footnotes	Mounting See Page 5	COEFFICIENTS						Unit Size Tested	Weight Lbs. per Sq. Ft.	Test No.
						125 cps	250 cps	500 cps	1000 cps	2000 cps	4000 cps			
ACOUSTIROC VENTILATING TILE (Note 21) 50% Ventilating and 50% Nonventilating Full Random Pattern	3/4"	A	I	Perforated <sup>3</sup> , painted	7	.66	.60	.72	.99	.93	.75	12"x12"	1.2	A9251
Needlepoint Pattern	3/4"	A	I	Perforated <sup>2</sup> , painted	7	.70	.60	.69	.94	.91	.71	12"x12"	1.2	A9252
FIRE-SHIELD TRAVACOUSTIC (Note 22)	3/4"	A	I	Fissured, painted	7	.66	.51	.62	.83	.92	.86	12"x12"	1.3	A0344
GOLD BOND TECTUM GRID PANELS	1"	A	I	Textured, painted	7	.44	.49	.44	.62	.67	.83	24"x48"	1.9	A9276
TRAVACOUSTIC VENTILATING TILE (Note 21) 50% Ventilating and 50% Nonventilating Fissured	3/4"	A	I	Fissured, painted	7	.59	.49	.60	.83	.96	.89	12"x12"	1.3	A0343
FIRE SHIELD TRAVACOUSTIC VENTILATING TILE (Notes 21 & 25) 50% Ventilating and 50% Nonventilating Fissured	3/4"	A	I	Fissured, painted	7	.61	.50	.60	.83	.94	.84	12"x12"	1.3	A0345
TRAVACOUSTIC GRID PANELS Fissured	3/4"	A	I	Fissured, painted	7	.45	.39	.56	.79	.89	.83	24"x24"	1.3	A0424

See pages following for continuation of table and footnotes

MATERIAL	Thickness	Surface	Standard Mounting See Page 8	ATTENUATION FACTORS—Decibels*										Ceiling Sound Transmission Class	Unit Size Tested	Weight Lbs. per Sq. Ft.	Test No.	
				125 cps	175 cps	250 cps	350 cps	500 cps	700 cps	1000 cps	1400 cps	2000 cps	2800 cps					4000 cps
ACOUSTIROC Striated Pattern	¾"	See preceding table	ICF	23	27	25	29	33	35	37	43	48	50	54	35	12"x12"	1.2	T05NA
Needlepoint Pattern	¾"		ICF	33	32	27	30	31	32	33	40	48	56	52	35	12"x12"	1.2	T75NA
Textured Pattern	¾"		ICF	29	35	28	29	30	31	32	38	42	48	50	34	12"x12"	1.2	T66NA
SOLITUDE Needlepoint Pattern	⅝"		CCF	33	35	31	38	39	42	47	56	59	59	54	43	12"x12"	1.2	T155NA
Textured Pattern	⅝"		CCF	31	37	32	40	41	43	49	52	55	58	54	45	12"x12"	1.2	T173NA
TRAVACOUSTIC	¾"		CCF	30	34	30	28	32	30	33	39	43	53	54	33	12"x12"	1.3	T102NA
TRAVACOUSTIC FOIL BACKED	¾"		CCF	36	37	32	39	40	43	47	54	58	59	60	44	12"x12"	1.3	T136NA
FIRE-SHIELD ACOUSTIROC Needlepoint Pattern	¾"		ICF	26	33	28	26	28	28	31	36	43	55	56	31	12"x12"	1.2	T54NA
Fissured Pattern	¾"		ICF	27	30	30	30	31	34	35	44	49	56	57	36	12"x12"	1.2	T25NA
FIRE-SHIELD SOLITUDE Full Random Pattern	¾"		CCF	27	39	34	37	43	46	51	56	55	57	54	43	12"x12"	1.5	T52NA
Needlepoint Pattern	½"		CCF	32	36	31	37	37	41	45	51	55	60	52	41	12"x12"	1.2	T175NA
	⅝"		CCF	31	35	32	36	38	40	45	51	57	61	57	42	12"x12"	1.3	T164NA
	¾"		CCF	27	38	35	39	44	48	54	58	56	58	56	45	12"x12"	1.5	T55NA
Fissured Pattern	½"		CCF	32	37	32	40	39	44	47	51	55	58	54	43	12"x12"	1.2	T162NA
	⅝"		CCF	33	41	34	39	41	42	49	53	57	54	54	45	12"x12"	1.3	T194NA
	¾"		CCF	25	35	35	38	42	43	48	51	51	55	54	44	12"x12"	1.5	T46NA
Textured Pattern	⅝"		CCF	34	39	34	41	44	45	50	54	58	60	56	47	12"x12"	1.3	T169NA
ACOUSTIMETAL Diagonal Pattern *1105 with ½" Gypsum Board	2⅛"		ICX	30	38	35	39	44	43	43	49	51	57	54	44	12"x24"	Note 24	T153NA
SOLITUDE GRID PANELS Needlepoint Pattern	½"		CE	32	38	32	34	36	39	44	48	56	58	56	40	24"x48"	.95	T200NA
	⅝"		CE	34	41	32	33	35	38	42	47	54	59	56	39	24"x48"	1.2	T205NA
Fissured Pattern	½"		CE	33	37	31	35	37	39	44	48	51	55	49	42	24"x48"	.95	T196NA
	⅝"		CE	34	39	31	34	34	38	43	47	53	58	56	38	24"x48"	1.2	T204NA
FIRE-SHIELD SOLITUDE GRID PANELS Needlepoint Pattern	½"		CE	33	37	31	33	34	37	41	47	53	58	58	38	24"x48"	1.1	T201NA
	⅝"		CE	35	40	33	33	37	40	44	48	56	60	56	39	24"x48"	1.3	T207NA
Fissured Pattern	½"		CE	34	40	32	36	38	40	46	49	54	57	56	42	24"x48"	1.1	T197NA
	⅝"		CE	35	40	32	35	36	41	46	50	54	59	58	40	24"x48"	1.3	T206NA
ECONACOUSTIC GRID PANELS	1"		CE	25	31	31	33	37	38	42	47	49	54	42	39	24"x48"	1.0	T39NA
FIRE-SHIELD TRAVACOUSTIC	¾"		ICF	32	38	27	30	31	30	34	38	44	53	57	33	12"x12"	1.3	T191NA

\*Normalized to 126 sabins—see page 7

See page following for footnotes



- NOTE 1. Perforated 333 holes per sq. ft., 249 of  $\frac{3}{16}$ " and 84 of  $\frac{1}{4}$ " diameters, randomly spaced.
- NOTE 2. Full random needle perforated holes, 0.040" and 0.093" diameters.
- NOTE 3. Perforated 342 holes per sq. ft., 243 of  $\frac{3}{16}$ " and 99 of  $\frac{1}{4}$ " diameters, randomly spaced.
- NOTE 4. Standard or P/C (Plasticrylic) paint finish.
- NOTE 5. Perforated, enameled metal pan backed with sound-absorbing mineral wool pad. Metal pan perforated 1024 holes per sq. ft., 0.109" diameter, .360" o.c., open area 6.7%. Thickness includes tee bar.
- NOTE 6. Perforated, enameled metal pan backed with sound-absorbing mineral wool pad. Metal pan perforated 884 holes per sq. ft., 571 of 0.125" and 313 of 0.063" diameters, open area 5.5%, randomly spaced. Thickness includes tee bar.
- NOTE 7. Perforated, enameled metal pan backed with sound-absorbing mineral wool pad. Pan perforated 1740 holes per sq. ft., 0.109" diameter, .20" o.c., open area 11.3%. Thickness includes tee bar.
- NOTE 8. Perforated, enameled metal pan backed with sound-absorbing mineral wool pad. Pan perforated 1105 holes per sq. ft., 0.109" diameter, 0.25" o.c., open area 7.16%. Thickness includes tee bar.
- NOTE 9.  $\frac{3}{16}$ " thick autoclaved asbestos cement board perforated 550 holes per sq. ft.,  $\frac{3}{16}$ " diameter,  $\frac{1}{2}$ " o.c., pad thickness 1".
- NOTE 10. Same as Note 9 except pad thickness 2".
- NOTE 11.  $\frac{3}{16}$ " thick autoclaved asbestos cement panel backed with flame resistant membrane, perforated 550 holes per sq. ft.,  $\frac{3}{16}$ " diameter,  $\frac{1}{2}$ " o.c.
- NOTE 12. Acoustical Ceiling Constructions Classified by Underwriters' Laboratories, Incorporated  
 No. R4337-5— $\frac{3}{4}$ " Fire-Shield Acoustiroc—Design 27—2 Hours  
 No. R4337-5A— $\frac{3}{4}$ " Fire-Shield Acoustiroc—Design 84—3 Hours  
 No. R4337-7— $\frac{3}{4}$ " Fire-Shield Acoustiroc—Design 16—1 Hour  
 No. R4337-9— $\frac{3}{4}$ " Fire-Shield Acoustiroc—Design 38—3 Hours  
 No. R4337-20— $\frac{3}{4}$ " Fire-Shield Acoustiroc—Design 79—2 Hours  
 No. R4337-21— $\frac{3}{4}$ " Fire-Shield Acoustiroc—Design 79—2 Hours
- NOTE 13. Acoustical Ceiling Constructions Classified by Underwriters' Laboratories, Incorporated  
 No. R4337- $\frac{1}{2}$ " Fire-Shield Solitude—Design 26—1 Hour
- NOTE 14. Acoustical Ceiling Constructions Classified by Underwriters' Laboratories, Incorporated  
 No. R4337-4— $\frac{5}{8}$ " Fire-Shield Solitude—Design 16—2 Hours  
 No. R4337-18— $\frac{5}{8}$ " Fire-Shield Solitude—Design 81—2 Hours  
 No. R4337-20— $\frac{5}{8}$ " Fire-Shield Solitude—Design 79—2 Hours
- NOTE 15. Acoustical Ceiling Constructions Classified by Underwriters' Laboratories, Incorporated  
 No. R4337-1— $\frac{3}{4}$ " Fire-Shield Solitude—Design 16—2 Hours  
 No. R4337-2— $\frac{3}{4}$ " Fire-Shield Solitude—Design 25—3 Hours
- NOTE 16. Acoustical Ceiling Constructions Classified by Underwriters' Laboratories, Incorporated  
 No. R4337-16— $\frac{1}{2}$ " Fire-Shield Solitude Lay-In Units—Design 12—1½ Hours  
 No. R4337-16A— $\frac{1}{2}$ " Fire-Shield Solitude Lay-In Units—Design 64—2 Hours  
 No. R4337-33— $\frac{1}{2}$ " Fire-Shield Solitude Lay-In Units—Design 39—1 Hour
- NOTE 17. Acoustical Ceiling Constructions Classified by Underwriters' Laboratories, Incorporated  
 No. R4337-6— $\frac{5}{8}$ " Fire-Shield Solitude Lay-In Units—Design 31—2 Hours  
 No. R4337-8— $\frac{5}{8}$ " Fire-Shield Solitude Lay-In Units—Design 39—2 Hours  
 No. R4337-11— $\frac{5}{8}$ " Fire-Shield Solitude Lay-In Units—Design 47—2 Hours  
 No. R4337-14— $\frac{5}{8}$ " Fire-Shield Solitude Lay-In Units—Design 58—2 Hours  
 No. R4337-15— $\frac{5}{8}$ " Fire-Shield Solitude Lay-In Units—Design 17—1 Hour  
 No. R4337-17— $\frac{5}{8}$ " Fire-Shield Solitude Lay-In Units—Design 73—2 Hours  
 No. R4337-19— $\frac{5}{8}$ " Fire-Shield Solitude Lay-In Units—Design 78—2 Hours
- NOTE 18. Acoustical Ceiling Constructions Classified by Underwriters' Laboratories, Incorporated  
 No. R4337-24— $\frac{3}{4}$ " Fire-Shield Solitude Lay-In Units—Design 74—3 Hours
- NOTE 19. Acoustical Ceiling Constructions Classified by Underwriters' Laboratories, Incorporated  
 No. R4337-17— $\frac{5}{8}$ " Fire-Shield Solitude Ventilating Lay-In Units—Design 73—2 Hours  
 No. R4337-19— $\frac{5}{8}$ " Fire-Shield Solitude Ventilating Lay-In Units—Design 78—2 Hours  
 All units with through perforations.
- NOTE 20. Acoustical Ceiling Constructions Classified by Underwriters' Laboratories, Incorporated  
 No. R4337-20— $\frac{3}{4}$ " Fire-Shield Acoustiroc Ventilating—Design 79—2 Hours  
 No. R4337-21— $\frac{3}{4}$ " Fire-Shield Acoustiroc Ventilating—Design 79—2 Hours  
 All units with through perforations.
- NOTE 21. 50% ventilating and 50% nonventilating units (checkerboard pattern) for NRC ratings.
- NOTE 22. Acoustical Ceiling Construction Classified by Underwriters' Laboratories, Incorporated  
 No. R4337-28— $\frac{3}{4}$ " Fire-Shield Travacoustic—Design 98—2 Hours  
 No. R4337-29— $\frac{3}{4}$ " Fire-Shield Travacoustic—Design 212—2 Hours  
 No. R4337-34— $\frac{3}{4}$ " Fire-Shield Travacoustic—Design 218—2 Hours
- NOTE 23. Available for Acoustical Ceiling Constructions Classified by Underwriters' Laboratories, Incorporated  
 No. R4337-22—Fire-Shield Acoustimetal—Design 87—2 Hours  
 No. R4337-27—Fire-Shield Acoustimetal—Design 216—2 Hours  
 No. R4337-26—Fire-Shield Acoustimetal—Design 234—2 Hours
- NOTE 24.  $\frac{1}{2}$ " gypsum wallboard installed on top of pans and pads. Pad, pan and gypsum board weight is 3.5 lb./sq. ft.
- NOTE 25. Acoustical Ceiling Construction Classified by Underwriters' Laboratories, Incorporated  
 No. R4337-29— $\frac{3}{4}$ " Fire-Shield Travacoustic Ventilating—Design 212—2 Hours  
 No. R4337-34— $\frac{3}{4}$ " Fire-Shield Travacoustic Ventilating—Design 218—2 Hours  
 All units with through perforations.
- NOTE 26. Perforated 1300 - 1325 holes per sq. ft., .051" diameter.

# OWENS-CORNING FIBERGLAS CORPORATION

MATERIAL	Thickness	Flame Resistance SS-A-118b See Page 5	Flame Spread Index E84-61 See Page 5	SURFACE Superscript numbers refer to footnotes	Mounting See Page 5	COEFFICIENTS						Unit Size Tested	Weight Lbs. per Sq. Ft.	Test No.
						125 cps	250 cps	500 cps	1000 cps	2000 cps	4000 cps			
FIBERGLAS ACOUSTICAL TILE Textured	5/8"	A	I	Textured, painted	1 7	.09 .72	.27 .69	.76 .69	.95 .84	.78 .76	.53 .63	12"x12" 12"x12"	.65 .65	A9377 A9376
	3/4"	A	I	Same as above	1	.13	.33	.78	.86	.78	.69	12"x12"	.80	A2083
	Textured-TL	3/4"	A	Same as above	7	.70	.54	.68	.81	.81	.59	12"x12"	.90	A7095
FIBERGLAS ACOUSTICAL TILE Random Perforated	5/8"	A	I	Perforated <sup>1</sup> , painted	1 7	.03 .73	.19 .81	.56 .76	.99 .97	.83 .81	.41 .54	12"x12" 12"x12"	.70 .70	A9381 A9380
	3/4"	A	I	Same as above	1	.12	.23	.85	.99	.72	.75	12"x12"	.85	A2093
	Random Perforated-TL	3/4"	A	Same as above	7	.66	.62	.77	.99	.85	.47	12"x12"	.95	A7005
FIBERGLAS ACOUSTICAL TILE Frescor	3/4"	A	I	Stippled <sup>2</sup> , painted	1	.17	.29	.76	.91	.92	.76	12"x12"	.80	A2100
	Frescor-TL	3/4"	A	Same as above	7	.60	.49	.72	.89	.85	.63	12"x12"	.90	A7006
FIBERGLAS ACOUSTICAL TILE Fissured	5/8"	A	I	Fissured pin-perforated, painted	1 7	.05 .73	.14 .73	.58 .70	.99 .87	.87 .83	.49 .72	12"x12" 12"x12"	.75 .75	A0293 A0292
	3/4"	A	I	Same as above	7	.90	.75	.72	.90	.87	.77	24"x24"	.85	A0302
	Fissured—Vinyl Finish	5/8"	A	Fissured	1 7	.03 .70	.16 .76	.60 .68	.99 .87	.86 .77	.47 .55	12"x12" 12"x12"	.75 .75	A0303 A0304
		3/4"	A	Same as above	7	.81	.73	.74	.93	.93	.76	24"x24"	.85	A0305
FIBERGLAS ACOUSTICAL TILE Pin-Perforated	5/8"	A	I	Perforated <sup>3</sup> , painted	1 7	.12 .78	.28 .61	.87 .68	.85 .68	.58 .63	.30 .33	12"x12" 12"x12"	.70 .70	A8004 A8003
	3/4"	A	I	Same as above	1 7	.12 .80	.34 .75	.83 .78	.99 .93	.79 .86	.55 .64	12"x12" 12"x12"	.85 .85	A7307 A7306
	Pin-Perforated-TL	3/4"	A	Same as above	7	.62	.56	.67	.75	.64	.31	12"x12"	.95	A9378
FIBERGLAS ACOUSTICAL TILE Sonofaced	3/4"	A	I	Membrane faced <sup>4</sup>	1	.25	.32	.63	.92	.86	.58	12"x12"	.65	A5423
	Sonofaced-TL	3/4"	A	Same as above	7	.27	.30	.45	.75	.82	.66	12"x12"	.80	A7007
FIBERGLAS FILM FACED TILE	Textured	3/4"	A	Membrane faced <sup>5</sup>	1 7	.14 .93	.30 .71	.94 .72	.88 .80	.62 .70	.41 .51	12"x12" 12"x12"	.80 .80	A7105 A7104
		3/4"	A	Same as above	1 7	.15 .80	.39 .66	.94 .66	.83 .75	.57 .60	.34 .35	12"x12" 12"x12"	.80 .80	A7225 A7224
	Stria	3/4"	A	Same as above	7	.67	.52	.71	.79	.73	.50	12"x12"	.90	A9037
	Stria-TL	3/4"	A	Same as above	7	.64	.59	.61	.69	.62	.42	24"x24"	.80	A1307
	Fissured	3/4"	A	Same as above	7									

See pages following for continuation of table and footnotes



MATERIAL	Thickness	Flame Resistance SS-A-118b See Page 5	Flame Spread Index E84-61 See Page 5	SURFACE Superscript numbers refer to footnotes	Mounting See Page 5	COEFFICIENTS						Unit Size Tested	Weight Lbs. per Sq. Ft.	Test No.
						125 cps	250 cps	500 cps	1000 cps	2000 cps	4000 cps			
FIBERGLAS PAINTED CEILING BOARD														
Textured	5/8"	A	I	Textured, painted	7	.81	.86	.75	.95	.90	.83	24"x48"	.50	A8033
Textured-TL	3/4"	A	I	Same as above	7	.51	.53	.75	.95	.97	.80	24"x48"	.70	A7008
Textured Pin-Perforated	3/4"	A	I	Textured, painted <sup>3</sup>	7	.91	.81	.78	.99	.92	.81	24"x48"	.60	A7156
Textured Pin-Perforated-TL	3/4"	A	I	Same as above	7	.50	.39	.72	.99	.99	.93	24"x48"	.70	A9379
Textured-R-TWO (Note 6)	5/8"	A	I	Textured, painted	7	.52	.31	.56	.95	.97	.80	24"x48"	1.1	A9389
Fissured	5/8"	A	I	Fissured, pin-perforated, painted	7	.59	.78	.72	.90	.90	.84	24"x48"	.70	A0294
Fissured-R-TWO (Note 7)	5/8"	A	I	Same as above	7	.29	.37	.63	.97	.94	.64	24"x48"	1.2	A9388
FIBERGLAS VINYL FINISH CEILING BOARD														
Textured-TLH	5/8"			Textured, vinyl finish	7	.16	.31	.43	.55	.60	.46	24"x48"	1.3	A0169
Fissured	5/8"	A	I	Fissured, vinyl finish	7	.88	.77	.70	.88	.84	.64	24"x48"	.70	A0306
FIBERGLAS GLASS CLOTH FACED CEILING BOARD														
Linear	3/4"	A	I	Ribbed, painted	7	.85	.84	.79	.91	.93	.87	24"x48"	.70	A6177
Linear-TL	3/4"	A	I	Same as above	7	.50	.35	.72	.98	.99	.88	24"x48"	.85	A7011
Textured	3/4"	A	I	Finely textured, painted	7	.76	.93	.83	.99	.99	.94	24"x48"	.70	A9280
Textured-TL	3/4"	A	I	Same as above	7	.43	.47	.72	.99	.99	.75	24"x48"	.80	A9498
Nubby	3/4"	A	I	Rough textured, painted	7	.89	.78	.83	.97	.99	.91	24"x48"	.80	A0042
Nubby-TL	3/4"	A	I	Same as above	7	.39	.34	.65	.94	.99	.81	24"x48"	.85	A0043
FIBERGLAS SONOFACED CEILING BOARD-TL	3/4"	A	I	Membrane faced <sup>4</sup>	7	.30	.44	.69	.98	.86	.61	24"x48"	.80	A7010
FIBERGLAS SONOBOARD Pebbled	3/4"	A	I	Membrane faced <sup>9</sup>	7	.94	.75	.78	.89	.80	.70	24"x48"	.55	A7013
Pebbled-TL	3/4"	A	I	Same as above	7	.32	.43	.82	.85	.79	.42	24"x48"	.65	A8031
FIBERGLAS SONOFLEX CEILING BOARD														
	1"	A	I	Membrane faced <sup>10</sup>	7	.74	.72	.79	.94	.62	.49	24"x48"	.20	A7407
	2"	A	I	Same as above	7	.94	.85	.93	.95	.56	.37	24"x48"	.30	A7405
	3"	A	I	Same as above	7	.91	.84	.95	.87	.56	.34	24"x48"	.45	A7403
FIBERGLAS SONOCOR CEILING BOARD														
	1"	C		Membrane faced <sup>10</sup>	7	.77	.57	.84	.93	.75	.51	24"x48"	.20	A6178
	2"			Same as above	7	.53	.86	.94	.91	.63	.39	48"x48"	.30	A6070
	3"			Same as above	7	.84	.87	.99	.85	.58	.30	48"x48"	.45	A6072

See page following for continuation of table and footnotes

MATERIAL	Thickness	Surface	Standard Mounting See Page 8	ATTENUATION FACTORS—Decibels*											Ceiling Sound Transmission Class	Unit Size Tested	Weight Lbs. per Sq. Ft.	Test No.
				125 cps	175 cps	250 cps	350 cps	500 cps	700 cps	1000 cps	1400 cps	2000 cps	2800 cps	4000 cps				
FIBERGLAS ACOUSTICAL TILE—Textured-TL	¾"	See preceding table	ICF	30	31	26	31	34	37	38	37	33	46	48	37	12"x12"	.90	T210W
FIBERGLAS ACOUSTICAL TILE—Random Perforated-TL	¾"		ICF	27	31	24	28	33	35	34	28	34	46	52	28	12"x12"	.95	T250W
FIBERGLAS ACOUSTICAL TILE—Frescor-TL	¾"		ICF	30	29	23	28	31	34	36	34	33	44	47	34	12"x12"	.90	T220W
FIBERGLAS ACOUSTICAL TILE—Pin-Perforated-TL	¾"		ICF	31	36	28	31	33	34	37	34	35	50	52	34	12"x12"	.95	T1420W
FIBERGLAS ACOUSTICAL TILE—Sonofaced-TL	¾"		ICF	33	32	27	33	36	40	41	41	37	51	52	39	12"x12"	.80	T190W
FIBERGLAS FILM FACED TILE—Stria-TL	¾"		ICF	29	33	29	27	31	34	37	38	32	44	45	33	12"x12"	.90	T680W
FIBERGLAS PAINTED CEILING BOARD—Textured-TL	¾"		IE	26	27	23	28	31	36	37	29	31	45	49	29	24"x48"	.70	T080W
FIBERGLAS PAINTED CEILING BOARD—Textured Pin-Perforated-TL	¾"		IE	31	35	28	32	35	37	37	32	32	45	48	32	24"x48"	.70	T1410W
FIBERGLAS VINYL FINISH CEILING BOARD Textured-TLH	⅝"		IE	31	34	31	37	37	40	43	46	49	52	59	41	24"x48"	1.3	T1570W
FIBERGLAS GLASS CLOTH FACED CEILING BOARD Linear-TL	¾"		IE	25	26	29	29	32	35	30	28	37	45	45	28	24"x48"	.85	T470W
FIBERGLAS GLASS CLOTH FACED CEILING BOARD—Textured-TL	¾"		IE(H)	32	38	29	35	35	36	36	33	31	46	48	33	24"x48"	.80	T1400W
FIBERGLAS GLASS CLOTH FACED CEILING BOARD Nubby-TL	¾"		IE	26	34	26	28	30	32	36	33	31	42	41	33	24"x48"	.85	T1450W
FIBERGLAS SONOFACED CEILING BOARD-TL	¾"		IE	29	28	25	32	36	42	45	35	35	53	48	35	24"x48"	.80	T110W
FIBERGLAS SONOBOARD Pebbled-TL	¾"		IE	25	30	22	27	30	30	34	28	21	36	34	24	24"x48"	.55	T1100W
Pebbled-TL with 6" thick Sonobatts	¾"		IE	27	35	30	40	47	52	56	52	45	62	61	43	24"x48"	.65 Pad .35	T1140W

\*Normalized to 126 sabins—see page 7

- NOTE 1. Perforated 223 holes per sq. ft., 143 of 3/16" and 80 of 1/4" diameter, randomly spaced.
- NOTE 2. Stippled paint, random white on white.
- NOTE 3. Hundreds of pin perforations randomly arranged.
- NOTE 4. Thin plastic membrane facing cemented only to tile edges.
- NOTE 5. Thin, pin-perforated plastic membrane cemented to tile face and edges.
- NOTE 6. Acoustical Ceiling Constructions Classified by Underwriters' Laboratories, Incorporated No. 3583-13 — 5/8" Fiberglas Textured R-TWO Ceiling Board — Design No. 205 — 2 Hours
- NOTE 7. Acoustical Ceiling Constructions Classified by Underwriters' Laboratories, Incorporated No. 3583-14 — 5/8" Fiberglas Fissured R-TWO Ceiling Board — Design No. 205 — 2 Hours
- NOTE 8. Thin, embossed plastic membrane cemented to board face.



MATERIAL	Thickness	Flame Resistance SS-A-118b See Page 5	Flame Spread Index E84-61 See Page 5	SURFACE Superscript numbers refer to footnotes	Mounting See Page 5	COEFFICIENTS						Unit Size Tested	Weight Lbs. per Sq. Ft.	Test No.		
						125 cps	250 cps	500 cps	1000 cps	2000 cps	4000 cps					
PyROTECT TILE Standard Drilled	1/2"		I	Perforated <sup>1</sup> , painted	1	.05	.20	.56	.95	.93	.74	12"x12"	.80	A7263		
					2	.12	.57	.54	.85	.95	.79	12"x12"	.80	A7262		
					7	.41	.38	.54	.83	.92	.75	12"x12"	.80	A8016		
	3/4"		I	Same as above	1	.09	.26	.81	.99	.81	.51	12"x12"	1.0	A7266		
					2	.15	.67	.68	.99	.86	.55	12"x12"	1.0	A7265		
					7	.25	.47	.67	.99	.82	.54	12"x12"	1.0	A7264		
PyROTECT TILE Full Random	1/2"		I	Perforated <sup>2</sup> , painted	1	.06	.19	.61	.81	.80	.67	12"x12"	.80	A0266		
					7	.34	.33	.47	.71	.82	.78	12"x12"	.80	A0265		
					3/4"	I	Same as above	1	.12	.28	.72	.89	.75	.61	12"x12"	1.0
	7		.49	.34				.57	.81	.87	.68	12"x12"	1.0	A0267		
	PyROTECT TILE Micro Drilled Petite		1/2"					I	Finely perforated <sup>3</sup> , painted	1	.03	.18	.59	.91	.71	.56
					7	.44	.32			.50	.80	.75	.65	12"x12"	.80	A0269
3/4"		I			Same as above	1	.06			.27	.81	.91	.68	.48	12"x12"	1.0
			7			.49	.42	.65	.84	.71	.55	12"x12"	1.0	A0271		
			PyROTECT TILE Frosted 060			1/2"		I	Perforated <sup>4</sup> , painted	1	.08	.20	.67	.84	.66	.45
7		.47			.31					.50	.72	.68	.51	12"x12"	.80	A0275
PyROTECT TILE Fissured	9/16"		I	Fissured, painted	1	.12	.29	.64	.58	.54	.57	12"x12"	.80	A7279		
					2	.16	.73	.43	.51	.60	.63	12"x12"	.80	A7278		
					7	.46	.30	.44	.47	.57	.66	12"x12"	.80	A8019		
	3/4"		I	Same as above	1	.20	.38	.64	.58	.60	.66	12"x12"	1.0	A7282		
					2	.27	.72	.45	.53	.62	.71	12"x12"	1.0	A7281		
					7	.55	.37	.43	.56	.69	.79	12"x12"	1.0	A7280		
PyROTECT LINEAR TILE Standard Drilled	1/2"		I	Perforated <sup>1</sup> , painted	7	.18	.21	.47	.84	.91	.91	24"x48"	.80	A9150		
PyROTECT LINEAR TILE Micro Drilled Petite	1/2"		I	Finely perforated, painted	7	.44	.33	.49	.78	.81	.61	12"x48"	.80	A0259		
	3/4"		I	Same as above	7	.36	.36	.66	.82	.73	.49	12"x48"	1.0	A0260		
PyROTECT LINEAR TILE Fissured	3/4"		I	Fissured, painted	7	.46	.35	.46	.53	.69	.80	12"x48"	1.0	A8079		
PyROTECT CEILING BOARD Full Random	5/8"		I	Perforated, painted	7	.19	.28	.50	.85	.90	.75	24"x48"	.90	A0255		
	3/4"		I	Same as above	7	.37	.33	.62	.89	.90	.59	24"x48"	1.0	A0257		
PyROTECT CEILING BOARD Micro Drilled Petite	5/8"		I	Finely perforated, painted	7	.22	.25	.55	.89	.79	.57	24"x48"	.90	A0256		
	3/4"		I	Same as above	7	.35	.33	.69	.80	.68	.49	24"x48"	1.0	A0258		
PyROTECT CEILING BOARD Frosted 060	1/2"		I	Perforated, painted	7	.27	.33	.59	.82	.64	.14	24"x48"	.80	A0279		
PyROTECT CEILING BOARD Fissured	9/16"		I	Fissured, painted	7	.40	.32	.42	.63	.74	.79	24"x48"	.75	A9282		
	3/4"		I	Same as above	7	.38	.32	.48	.62	.69	.78	24"x48"	1.1	A9323		
FORESTONE TILE Random	1/2"	C	II	Perforated <sup>5</sup> , painted	1	.21	.30	.68	.72	.67	.59	12"x12"	.75	A5287		
					2	.17	.58	.57	.66	.68	.68	12"x12"	.75	A5286		
					7	.35	.33	.47	.57	.67	.67	12"x12"	.75	A8013		
	3/4"				II	Same as above	1	.23	.32	.71	.75	.72	.65	12"x12"	1.1	A4049
2		.27	.69	.58			.71	.73	.64	12"x12"	1.1	A4046				

See pages following for continuation of table and footnotes

MATERIAL	Thickness	Flame Resistance SS-A-118h See Page 5	Flame Spread Index E84-61 See Page 5	SURFACE Superscript numbers refer to footnotes	Mounting See Page 5	COEFFICIENTS						Unit Size Tested	Weight Lbs. per Sq. Ft.	Test No.
						125 cps	250 cps	500 cps	1000 cps	2000 cps	4000 cps			
FORESTONE TILE Petite	½"	C	II	Finely perforated <sup>6</sup> , painted	1	.15	.27	.47	.48	.33	.31	12"x12"	.80	A7305
					2	.21	.60	.35	.34	.30	.33	12"x12"	.80	A7304
					7	.39	.28	.36	.33	.36	.42	12"x12"	.80	A8014
	¾"	C	II	Same as above	1	.20	.35	.58	.54	.43	.53	12"x12"	1.1	A7302
					2	.33	.65	.39	.44	.53	.54	12"x12"	1.1	A7301
					7	.37	.27	.36	.43	.61	.65	12"x12"	1.1	A7300
FORESTONE TILE Fissured	⅞"	C	II	Fissured, painted	1	.13	.28	.62	.54	.60	.75	12"x12"	.70	A5444
					2	.21	.63	.42	.55	.60	.77	12"x12"	.70	A5443
					7	.40	.32	.39	.42	.49	.61	12"x12"	.70	A8015
	¾"	C	II	Same as above	1	.21	.49	.73	.61	.69	.64	12"x12"	.90	A4264
					2	.19	.63	.62	.70	.81	.84	12"x12"	.90	A4405
CLASSÉ TILE Random MQ	½"	A	I	Perforated <sup>7</sup> , painted	1	.05	.16	.48	.99	.86	.58	12"x12"	.85	A5826
					2	.10	.40	.68	.97	.86	.62	12"x12"	.85	A5825
	⅝"	A	I	Same as above	1	.06	.17	.61	.99	.78	.47	12"x24"	1.0	A5829
					2	.11	.36	.84	.99	.85	.56	12"x24"	1.0	A5828
					7	.61	.57	.69	.99	.83	.51	12"x12"	1.0	A6765
	¾"	A	I	Same as above	1	.08	.21	.70	.99	.77	.52	12"x12"	1.2	A5867
7					.70	.69	.80	.99	.82	.56	12"x12"	1.2	A6766	
CLASSÉ TILE Petite MQ	½"	A	I	Perforated <sup>8</sup> , painted	1	.05	.13	.50	.99	.84	.58	12"x12"	.90	A5833
	⅝"	A	I	Same as above	1	.03	.16	.71	.99	.85	.74	12"x24"	1.1	A5835
					7	.63	.52	.69	.92	.82	.65	12"x12"	1.1	A6767
	¾"	A	I	Same as above	1	.10	.21	.90	.99	.85	.61	12"x12"	1.3	A5869
CLASSÉ TILE Fissured MQ	½"	A	I	Fissured, per- forated, painted	1	.05	.16	.67	.93	.77	.68	12"x12"	1.0	A8883
					2	.12	.52	.61	.89	.81	.74	12"x12"	1.0	A8878
	¾"	A	I	Same as above	1	.03	.29	.96	.94	.83	.77	12"x12"	1.6	A8847
					7	.58	.54	.68	.87	.89	.72	12"x12"	1.6	A8846
CLASSÉ TILE Travertine	¾"	A	I	Fissured, painted	1	.07	.23	.74	.90	.92	.86	12"x12"	1.2	A4808
					7	.53	.62	.60	.83	.95	.98	12"x12"	1.2	A9892
	¾"	A	I	Same as above	7	.47	.50	.51	.77	.89	.90	12"x12"	1.2	A9891
	¾"	A	I	Same as above	7	.55	.61	.57	.81	.98	.95	12"x12"	1.2	A9893
CLASSÉ TILE AF Travertine	¾"	A	I	Fissured, painted	7	.51	.58	.61	.84	.92	.90	12"x12"	1.4	A0781
CLASSÉ TILE AF Petite MQ	⅝"	A	I	Perforated <sup>8</sup> , painted	7	.37	.39	.75	.89	.82	.60	12"x12"	1.1	A7991
CLASSÉ TILE AF Fissured MQ	¾"	A	I	Fissured, per- forated, painted	7	.41	.47	.78	.87	.89	.84	12"x12"	1.6	A8848
CLASSÉ CEILING BOARD Petite MQ	½"	A	I	Perforated <sup>8</sup> , painted	7	.24	.37	.52	.87	.71	.51	24"x48"	1.0	A8876
	⅝"	A	I	Same as above	7	.56	.51	.69	.89	.76	.52	24"x48"	1.0	A6770

See pages following for continuation of table and footnotes



MATERIAL	Thickness	Flame Resistance SS-A-118b See Page 5	Flame Spread Index E84-61 See Page 5	SURFACE Superscript numbers refer to footnotes	Mounting See Page 5	COEFFICIENTS						Unit Size Tested	Weight Lbs. per Sq. Ft.	Test No.
						125 cps	250 cps	500 cps	1000 cps	2000 cps	4000 cps			
CLASSÉ CEILING BOARD Cashmere Petite MQ	5/8"	A	I	Perforated <sup>8</sup> , painted <sup>9</sup>	7	.56	.51	.69	.89	.76	.52	24"x48"	1.0	A6770
CLASSÉ CEILING BOARD Fissured MQ	1/2"	A	I	Fissured, per- forated, painted	7	.36	.36	.53	.80	.74	.71	24"x48"	1.0	A9745
	5/8"	A	I	Same as above	7	.31	.37	.63	.88	.87	.87	24"x48"	1.0	A8748
CLASSÉ CEILING BOARD Arctic	5/8"	A	I	Granular textured <sup>10</sup> , painted	7	.40	.45	.63	.83	.60	.38	24"x48"	1.0	A91079
CLASSÉ CEILING BOARD Seafoam	1/2"	A	I	Perforated	7	.31	.25	.51	.76	.68	.53	24"x48"	1.0	A0986
	5/8"	A	I	Perforated	7	.30	.28	.64	.79	.71	.31	24"x48"	1.0	A0985
CLASSÉ CEILING BOARD Sanstone	5/8"	A	I	Textured, painted	7	.28	.31	.58	.76	.75	.71	24"x48"	1.2	A8325
FIRERATE TILE (Note 12) Random MQ	5/8"	A	I	Perforated <sup>7</sup> , painted	7	.48	.41	.57	.96	.89	.59	12"x12"	1.2	A6768
FIRERATE TILE (Note 12) Petite MQ	5/8"	A	I	Perforated <sup>8</sup> , painted	7	.41	.38	.66	.89	.77	.60	12"x12"	1.3	A6769
FIRERATE TILE (Note 12) Fissured MQ	5/8"	A	I	Fissured, perforated, painted	7	.42	.48	.54	.81	.82	.78	12"x12"	1.3	A8896
FIRERATE TILE (Note 13) Travertine SFR-1	3/4"	A	I	Fissured, painted	7	.53	.56	.59	.83	.98	.86	12"x12"	1.4	A8845
FIRERATE TILE (Note 14) Travertine SFR-3	3/4"	A	I	Fissured, painted	7	.47	.49	.55	.80	.90	.81	12"x12"	1.4	A8847
FIRERATE CEILING BOARD Petite MQ (Note 15)	1/2"	A	I	Perforated <sup>8</sup> , painted	7	.21	.36	.68	.94	.74	.59	24"x48"	1.1	A8843
	(Note 16) 5/8"	A	I	Same as above	7	.68	.50	.64	.98	.75	.54	24"x48"	1.1	A7956
FIRERATE CEILING BOARD Fissured MQ (Note 15)	1/2"	A	I	Fissured, perforated, painted	7	.42	.38	.61	.85	.84	.85	24"x48"	1.1	A8749
	(Note 16) 5/8"	A	I	Same as above	7	.39	.40	.66	.84	.84	.69	24"x48"	1.1	A8750
FIRERATE CEILING BOARD Arctic (Note 16)	5/8"	A	I	Granular textured <sup>10</sup> , painted	7	.35	.40	.68	.93	.64	.43	24"x48"	1.1	A91080
FIRERATE CEILING BOARD Seafoam (Note 15)	1/2"	A	I	Perforated	7	.31	.31	.63	.78	.63	.50	24"x48"	1.1	A0988
	(Note 16) 5/8"	A	I	Perforated	7	.27	.29	.61	.76	.62	.49	24"x48"	1.1	A0987
CLASSÉ VINYL-COATED TILE Petite MQ	5/8"	A	I	Perforated <sup>8</sup> , painted <sup>11</sup>	1 7	.03 .63	.16 .52	.71 .69	.99 .92	.85 .82	.74 .65	12"x24" 12"x12"	1.1 1.1	A5835 A6767
CLASSÉ VINYL-COATED CEILING BOARD Petite MQ	5/8"	A	I	Perforated <sup>8</sup> , painted <sup>11</sup>	7	.56	.51	.69	.89	.76	.52	24"x48"	1.0	A6770
CLASSÉ VINYL-COATED CEILING BOARD Fissured MQ	5/8"	A	I	Fissured, perforated, painted <sup>11</sup>	7	.16	.32	.59	.85	.83	.85	24"x48"	1.0	A8875
SIMPSON METAL PAN Diagonal Pattern with PyROTECT pad	19/16"	A	I	Perforated, enameled metal <sup>14</sup>	7	.48	.37	.66	.99	.98	.78	12"x24"	Pad .90	A8104

See pages following for continuation of table and footnotes

MATERIAL	Thickness	Surface	Standard Mounting See Page 8	ATTENUATION FACTORS—Decibels*										Ceiling Sound Transmission Class	Unit Size Tested	Weight Lbs. per Sq. Ft.	Test No.	
				125 cps	175 cps	250 cps	350 cps	500 cps	700 cps	1000 cps	1400 cps	2000 cps	2800 cps					4000 cps
PyROTECT TILE Full Random	½"	See preceding table	ICF	30	29	25	32	34	38	41	47	50	56	37	38	12"x12"	.80	T82SI
	¾"		ICF	29	31	27	34	36	39	43	47	51	58	39	40	12"x12"	1.0	T83SI
PyROTECT TILE Micro-Drilled Petite	½"		ICF	32	32	27	33	33	37	39	46	49	56	33	36	12"x12"	.80	T84SI
	¾"		ICF	31	31	28	35	36	39	43	51	57	59	52	40	12"x12"	1.0	T85SI
PyROTECT TILE Frosted 060	½"		ICF	30	31	27	35	34	37	42	48	57	57	55	38	12"x12"	.80	T87SI
PyROTECT TILE Fissured	⅞"		ICF	28	32	31	36	39	44	48	53	54	57	56	42	12"x12"	.80	T35SI
	¾"		ICF	26	33	32	37	42	47	50	53	54	57	55	43	12"x12"	1.0	T36SI
PyROTECT LINEAR TILE Micro Drilled Petite	½"		ICX	31	35	31	34	37	39	43	47	52	59	39	40	12"x48"	.80	T111SI
	¾"		ICX	33	39	31	38	42	45	50	53	58	61	47	44	12"x48"	1.0	T110SI
PyROTECT LINEAR TILE Fissured	¾"		ICX	28	37	34	36	41	46	48	50	52	54	54	42	12"x48"	1.0	T40SI
PyROTECT CEILING BOARD Full Random	⅝"		IE	33	31	30	35	37	41	45	52	57	54	45	41	24"x48"	.90	T91SI
	¾"		IE	31	35	32	39	43	45	49	54	59	61	43	45	24"x48"	1.0	T89SI
PyROTECT CEILING BOARD Micro-Drilled Petite	⅝"		IE	31	33	30	36	38	41	45	52	60	59	56	42	24"x48"	.90	T90SI
	¾"		IE	32	35	33	40	42	47	51	54	60	59	43	46	24"x48"	1.0	T88SI
PyROTECT CEILING BOARD Frosted 060	½"		IE	27	30	26	30	32	34	38	43	53	55	49	36	24"x48"	.80	T92SI
PyROTECT CEILING BOARD Fissured	⅞"		IE	28	32	27	32	34	38	42	47	52	55	50	38	24"x48"	.75	T77SI
	¾"		IE	30	31	29	35	39	44	49	52	56	58	37	40	24"x48"	1.1	T79SI
FORESTONE TILE Random	½"		ICF	29	32	30	35	36	41	44	45	48	52	28	33	12"x12"	.75	T03SI
	½"		ICN	32	30	28	36	38	43	45	49	51	52	30	33	12"x24"	.75	T10SI
FORESTONE TILE Petite	½"		ICF	28	34	32	37	40	45	47	50	50	54	46	43	12"x12"	.80	T37SI
FORESTONE TILE Fissured	⅞"		ICF	27	31	29	33	37	41	44	51	51	57	54	39	12"x12"	.70	T05SI
	⅞"		ICN	32	30	29	35	37	43	46	52	53	57	55	41	12"x24"	.70	T12SI
CLASSÉ TILE Random MQ	⅝"		ICT	27	36	28	29	31	31	32	37	43	53	57	34	12"x12"	1.0	T16WO
CLASSÉ TILE Petite MQ	⅝"		ICT	26	35	28	28	30	32	35	44	51	60	58	34	12"x12"	1.1	T17WO
CLASSÉ TILE Fissured MQ	¾"		ICF	34	39	31	35	38	40	45	54	57	64	61	41	12"x12"	1.6	T40WO
CLASSÉ TILE Travertine	¾"		ICF	33	31	28	30	32	34	36	42	47	56	57	36	12"x12"	1.2	T07SI

\*Normalized to 126 sabins—see page 7

See pages following for continuation of table and footnotes



MATERIAL	Thickness	Surface	Standard Mounting See Page 8	ATTENUATION FACTORS—Decibels*										Ceiling Sound Transmission Class	Unit Size Tested	Weight Lbs. per Sq. Ft.	Test No.	
				125 cps	175 cps	250 cps	350 cps	500 cps	700 cps	1000 cps	1400 cps	2000 cps	2800 cps					4000 cps
CLASSÉ TILE AF Petite MQ	5⁄8"	See preceding table	ICT	33	34	33	37	41	45	48	55	56	60	55	43	12"x12"	1.4	T13WO
CLASSÉ TILE AF Fissured MQ	3⁄4"		ICF	35	39	35	41	44	46	49	56	56	64	61	47	12"x12"	1.6	T39WO
CLASSÉ TILE AF Travertine	3⁄4"		ICF	34	39	35	42	45	48	56	61	67	68	63	48	12"x12"	1.4	T80SI
CLASSÉ CEILING BOARD Petite MQ	1⁄2"		IE	33	38	30	32	36	37	42	49	54	60	60	38	24"x48"	1.0	T33WO
	5⁄8"		IE	27	31	31	30	31	34	36	45	50	59	60	35	24"x48"	1.0	T07WO
CLASSÉ CEILING BOARD Fissured MQ	1⁄2"		IE	28	32	26	29	30	31	32	38	44	52	57	33	24"x48"	1.0	T45WO
	5⁄8"		IE	30	32	33	37	38	42	45	49	52	57	57	42	24"x48"	1.0	T28WO
CLASSÉ CEILING BOARD Seafoam	1⁄2"		IE	32	36	31	31	34	36	38	45	53	59	62	37	24"x48"	1.0	T48WO
	5⁄8"		IE	32	38	30	33	35	38	43	50	58	62	61	39	24"x48"	1.0	T47WO
CLASSÉ CEILING BOARD Sanstone	5⁄8"		IE	32	37	33	32	36	40	45	51	53	58	57	39	24"x48"	1.2	T53SI
FIRERATE TILE Random MQ	5⁄8"		ICF	28	35	31	32	36	37	39	46	49	58	59	38	12"x12"	1.2	T06WO
FIRERATE TILE Petite MQ	5⁄8"		ICF	29	37	32	33	38	39	42	51	54	63	56	39	12"x12"	1.3	T05WO
FIRERATE TILE Fissured MQ	5⁄8"		ICN	35	37	34	35	39	42	48	56	57	66	64	41	12"x12"	1.3	T42WO
FIRERATE TILE Travertine	3⁄4"		ICF	34	39	35	42	45	48	56	61	67	68	63	48	12"x12"	1.4	T80SI
FIRERATE CEILING BOARD Petite MQ	1⁄2"		IE	31	36	30	31	33	33	37	45	52	64	63	36	24"x48"	1.1	T34WO
	5⁄8"		IE	28	34	31	31	35	37	41	47	54	57	53	37	24"x48"	1.1	T22WO
FIRERATE CEILING BOARD Fissured MQ	1⁄2"		IE	29	31	33	36	38	41	45	49	51	57	57	42	24"x48"	1.1	T29WO
	5⁄8"		IE	27	32	33	36	38	42	46	49	52	57	57	42	24"x48"	1.1	T30WO
FIRERATE CEILING BOARD Seafoam	1⁄2"		IE(H)	34	40	33	34	38	40	45	52	59	62	61	40	24"x48"	1.1	T50WO
	5⁄8"		IE(H)	33	40	33	35	38	40	45	50	59	61	60	41	24"x48"	1.1	T49WO
SIMPSON METAL PAN Pyroprotect Pad	1 9⁄16"		ICF	33	32	28	34	37	38	44	51	52	57	53	40	12"x24"	Pad .90	T43SI

\*Normalized to 126 sabins—see page 7

See page following for footnotes

- NOTE 1. Perforated 484 holes per sq. ft.,  $\frac{3}{16}$ " diameter.
- NOTE 2. Randomly perforated 427 holes per sq. ft., 60 of  $\frac{1}{4}$ " and 367 of  $\frac{3}{16}$ " diameters.
- NOTE 3. Perforated 1695 holes per sq. ft., 425 of .096", 130 of .078", and 1140 of .060" diameters.
- NOTE 4. Perforated 1695 holes per sq. ft., .060" diameter.
- NOTE 5. Randomly drilled 155 holes per sq. ft., 63 of  $\frac{13}{64}$ " and 92 of  $\frac{11}{64}$ " diameters, and punch perforated 302 holes per sq. ft., approximately  $\frac{5}{64}$ " diameter.
- NOTE 6. Perforated 1446 holes per sq. ft., 581 of 0.040", 534 of 0.070", and 331 of 0.100 diameters.
- NOTE 7. Perforated 320 holes per sq. ft., 111 of  $\frac{1}{4}$ " and 209 of  $\frac{3}{16}$ " diameters, randomly spaced.
- NOTE 8. Perforated 1596 holes per sq. ft.,  $\frac{3}{32}$ ",  $\frac{5}{64}$ ",  $\frac{1}{16}$ " and  $\frac{3}{64}$ " diameters, randomly spaced.
- NOTE 9. Factory painted with painted gold overlay.
- NOTE 10. Surface with sand finish over perforated pattern, factory painted.
- NOTE 11. Factory applied finish of two paint coatings and one vinyl coating.
- NOTE 12. Acoustical Ceiling Tile Constructions Classified by Underwriters' Laboratories, Incorporated  
No. 4355-8— $\frac{5}{8}$ " FireRate—Design 18—2 Hours  
No. 4355-3— $\frac{5}{8}$ " FireRate—Design 24—2 Hours
- NOTE 13. Acoustical Ceiling Tile Constructions Classified by Underwriters' Laboratories, Incorporated  
No. 4647-1— $\frac{3}{4}$ " FireRate Tile SFR-1 Travertine Texture—Design 18—1 Hour
- NOTE 14. Acoustical Ceiling Tile Constructions Classified by Underwriters' Laboratories, Incorporated  
No. 4647-2— $\frac{3}{4}$ " FireRate Tile SFR-3 Travertine Texture—Design 40—3 Hours
- NOTE 15. Acoustical Ceiling Board Constructions Classified by Underwriters' Laboratories, Incorporated  
No. 4355-11— $\frac{1}{2}$ " FireRate—Design 24—1 Hour  
No. 4355-15— $\frac{1}{2}$ " FireRate—Design 45—1 Hour
- NOTE 16. Acoustical Ceiling Board Constructions Classified by Underwriters' Laboratories, Incorporated  
No. 4355-5— $\frac{5}{8}$ " FireRate—Design 43—2 Hours  
No. 4355-6— $\frac{5}{8}$ " FireRate—Design 11—1½ Hours  
No. 4355-10— $\frac{5}{8}$ " FireRate—Design 32—2 Hours  
No. 4355-12— $\frac{5}{8}$ " FireRate—Design 206—2 Hours  
No. 4355-13— $\frac{5}{8}$ " FireRate—Design 211—2 Hours  
No. 4355-14— $\frac{5}{8}$ " FireRate—Design 233—2 Hours
- NOTE 17. Perforated, enameled metal pan with sound absorbing pad. Pan perforated 1013 holes per sq. ft., 0.109" diameter. Thickness includes tee bar.



MATERIAL	Thickness	Flame Resistance SS-A-118h See Page 5	Flame Spread Index E84-61 See Page 5	SURFACE Superscript numbers refer to footnotes	Mounting See Page 5	COEFFICIENTS						Unit Size Tested	Weight Lbs. per Sq. Ft.	Test No.
						125 cps	250 cps	500 cps	1000 cps	2000 cps	4000 cps			
ACOUSTONE "F"	3/4"	A	I	Fissured, painted	1 7	.03 .68	.27 .67	.83 .65	.99 .84	.82 .87	.71 .74	12"x12" 12"x12"	1.3 1.3	A4194 A6141
ACOUSTONE "db"	3/4"	A	I	Fissured, painted	7 7	.49 .58	.41 .48	.69 .67	.99 .99	.90 .92	.83 .85	12"x12" 12"x24"	1.3 1.3	A7257 A6143
ACOUSTONE "90" (Note 1)	3/4"	A	I	Fissured, painted	7	.83	.73	.68	.87	.93	.78	12"x12"	1.3	A6142
ACOUSTONE "120" (Note 2)	3/4"	A	I	Fissured, painted	7	.45	.46	.72	.97	.87	.90	12"x12"	1.3	A7256
ACOUSTONE "Glacier" Texture	Note 3	A		Deeply fissured, painted	1 7	.04 .60	.20 .73	.73 .73	.99 .93	.88 .88	.89 .90	12"x12" 12"x12"	1.4 1.4	A7022 A7021
ACOUSTONE "Glacier" Texture Foil-Backed	Note 3	A		Deeply fissured, painted	7	.30	.46	.77	.99	.89	.90	12"x12"	1.6	A7023
ACOUSTONE "Finesse" Texture	3/4"	A	I	Finely fissured, painted	7	.78	.57	.59	.73	.70	.60	12"x12"	1.3	A7355
MOTIF'D ACOUSTONE "Striated" Design No. 19	3/4"	A	I	Textured, painted	1 7	.03 .80	.26 .69	.77 .66	.93 .86	.83 .90	.78 .87	12"x12" 12"x12"	1.3 1.3	A4196 A6140
MOTIF'D ACOUSTONE "db" "Galaxy" Design No. 33	3/4"	A	I	Textured, painted	7	.58	.46	.69	.91	.80	.76	12"x12"	1.3	A7258
AIRSON ACOUSTONE "A-2"	3/4"	A	I	Fissured, painted, slotted <sup>4</sup>	7	.85	.49	.68	.98	.92	.88	12"x12"	1.3	A7260
AIRSON ACOUSTONE "A-5"	3/4"	A	I	Fissured, painted, slotted <sup>5</sup>	7	.81	.48	.65	.94	.93	.84	12"x12"	1.3	A7255
AURATONE CEILING PANEL "Fissured" Pattern	5/8"	A	I	Fissured, painted	7	.62	.43	.69	.78	.67	.58	24"x48"	1.0	A9039
AURATONE CEILING PANEL "Star" Pattern	1/2"	A	I	Perforated <sup>6</sup> , painted	7	.35	.39	.67	.80	.56	.41	24"x48"	.90	A9040
	5/8"	A	I	Same as above	7	.50	.47	.77	.82	.64	.50	24"x48"	1.0	A9037
AURATONE CEILING PANEL "Trace" Pattern	5/8"	A	I	Perforated <sup>7</sup> , painted	7	.31	.45	.84	.85	.66	.47	24"x48"	1.0	A9031
AURATONE CEILING PANEL "Random" Pattern	5/8"	A	I	Perforated <sup>9</sup> , painted	7	.40	.46	.60	.99	.87	.58	24"x48"	1.0	A9081
AURATONE CEILING PANEL "Striated" Pattern	5/8"	A	I	Striated, painted	7	.58	.47	.63	.75	.79	.86	24"x48"	1.0	A9038
AURATONE CEILING PANEL "Pin Perf" Pattern	5/8"	A	I	Perforated <sup>8</sup> , painted	7	.44	.42	.77	.75	.57	.25	24"x48"	1.0	A9063
AURATONE FIRECODE CEILING PANEL "Random" Pattern (Note 10)	5/8"	A	I	Perforated <sup>9</sup> , painted	7	.22	.31	.54	.97	.87	.49	24"x48"	1.3	A9119
AURATONE FIRECODE CEILING PANEL "Striated" Pattern (Note 10)	5/8"	A	I	Striated, painted	7	.21	.34	.57	.74	.66	.58	24"x48"	1.3	A9122
AUDITONE RANDOM PERFORATED	1/2"	C, D		Perforated <sup>11</sup> , painted <sup>12</sup>	1 2	.25 .15	.28 .67	.62 .46	.58 .52	.66 .66	.68 .71	12"x12" 12"x12"	.80 .80	A4285 A4284
	Same as above			1 2	.19 .25	.38 .65	.68 .51	.67 .73	.78 .76	.73 .78	12"x12" 12"x12"	1.0 1.0	A4288 A4287	
				7	.48 .43	.57 .57	.76 .76	.81 .81	.69 .69	12"x24"	1.0	A6144		

See pages following for continuation of table and footnotes

MATERIAL	Thickness	Flame Resistance SS-A-118b See Page 5	Flame Spread Index E84-61 See Page 5	SURFACE Superscript numbers refer to footnotes	Mounting See Page 5	COEFFICIENTS						Unit Size Tested	Weight Lbs. per Sq. Ft.	Test No.
						125 cps	250 cps	500 cps	1000 cps	2000 cps	4000 cps			
AUDITONE PIN PERFORATED	1/2"	C, D		Perforated <sup>8</sup> , painted <sup>12</sup>	1	.14	.25	.68	.73	.55	.35	12"x12"	.80	A6283
					2	.17	.50	.63	.58	.56	.34	12"x12"	.80	A6275
	3/4"	C, D		Same as above	1	.17	.38	.78	.71	.55	.46	12"x24"	.95	A6065
					2	.15	.65	.66	.65	.51	.40	12"x12"	.95	A7115
					7	.31	.40	.64	.72	.57	.62	12"x24"	.95	A6064
PERFATONE	1 9/16"	A	I	Perforated <sup>14</sup> , enameled metal	7	.90	.77	.86	.99	.75	.60	12"x24"	Pad .40	A7107
FIRE-RATED PERFATONE DIAGONAL PERFORATED with 1 1/4" blanket (Note 13)	2 13/16"		I	Perforated <sup>14</sup> , enameled metal	7	.66	.72	.96	.99	.83	.67	12"x24"	Pad Blk t. .65	A7077

MATERIAL	Thickness	Surface	Standard Mounting See Page 8	ATTENUATION FACTORS—Decibels*											Ceiling Sound Transmission Class	Unit Size Tested	Weight Lbs. per Sq. Ft.	Test No.
				125 cps	175 cps	250 cps	350 cps	500 cps	700 cps	1000 cps	1400 cps	2000 cps	2800 cps	4000 cps				
ACOUSTONE "F"	¾"	See preceding table	ICF	23	27	25	23	26	27	28	32	37	43	50	29	12"x24"	1.3	T01UN
			ICX Note 15	31	36	38	41	46	48	52	59	58	62	59	47	12"x12"	1.3	T02UN
ACOUSTONE "db"	¾"		ICF	28	33	33	34	38	41	44	49	54	61	56	40	12"x12"	1.3	T42UN
			ICF	33	37	34	35	41	43	48	53	55	62	56	41	12"x24"	1.3	T04UN
			IE Note 16	29	37	33	33	37	39	41	49	52	59	56	39	12"x24"	1.3	T07UN
ACOUSTONE "120"	¾"		ICF	28	31	34	33	38	41	43	49	53	59	56	39	12"x12"	1.3	T35UN
ACOUSTONE "Glacier" Texture Foil-backed	Note 3		ICF	27	31	31	30	34	37	39	44	49	56	51	36	12"x12"	1.6	T26UN
ACOUSTONE "Finesse" Texture	¾"		ICF	26	29	29	28	31	33	35	41	47	57	58	34	12"x12"	1.3	T39UN
MOTIF'D ACOUSTONE "db" "Galaxy" Design No. 33	¾"		ICF	27	35	33	33	38	41	44	50	53	60	57	39	12"x12"	1.3	T37UN
AIRSON ACOUSTONE "A-2" 50% Slotted and 50% Unslotted	¾"		ICF-V -50	24	30	30	30	34	36	38	45	49	57	56	36	12"x12"	1.3	T38UN
AIRSON ACOUSTONE "A-5" 50% Slotted and 50% Unslotted	¾"		ICF-V -50 ICF-V -50 Note 17	23	31	27	30	34	37	39	47	52	56	53	36	12"x12"	1.3	T24UN
				21	27	24	25	30	30	33	40	44	52	52	31	12"x12"	1.3	T41UN
AURATONE CEILING PANEL "Fissured" Pattern	⅝"		IE	33	36	32	35	38	43	48	53	55	58	58	41	24"x48"	1.0	T66UN
AURATONE CEILING PANEL "Star" Pattern	½"		IE	32	36	31	32	35	39	45	52	56	60	59	38	24"x48"	.90	T71UN
	⅝"		IE	34	36	32	36	39	43	48	53	55	59	58	42	24"x48"	1.0	T68UN
AURATONE CEILING PANEL "Trace" Pattern	⅝"		IE	32	36	30	34	37	41	47	53	55	59	58	40	24"x48"	1.0	T69UN

\*Normalized to 126 sabins—see page 7

See page following for continuation of table and footnotes



MATERIAL	Thickness	Surface	Standard Mounting See Page 8	ATTENUATION FACTORS—Decibels*											Ceiling Sound Transmission Class	Unit Size Tested	Weight Lbs. per Sq. Ft.	Test No.
				125 cps	175 cps	250 cps	350 cps	500 cps	700 cps	1000 cps	1400 cps	2000 cps	2800 cps	4000 cps				
AURATONE CEILING PANEL "Random" Pattern	5/8"	See preceding table	IE	33	34	31	35	38	41	46	52	54	60	59	41	24"x48"	1.0	T67UN
AURATONE CEILING PANEL "Striated" Pattern	5/8"		IE	29	34	27	30	33	38	42	47	49	52	51	36	24"x48"	1.0	T70UN
AURATONE CEILING PANEL "Pin Perf" Pattern	5/8"		IE	34	37	33	36	40	43	47	53	54	58	58	42	24"x48"	1.0	T65UN
AURATONE FIRECODE CEILING PANEL "Random" Pattern	5/8"		IE(H)	29	34	34	37	41	43	47	52	53	58	57	43	24"x48"	1.3	T52UN
AURATONE FIRECODE CEILING PANEL "Striated" Pattern	5/8"		IE(H)	32	34	32	35	38	41	44	46	47	48	46	41	24"x48"	1.3	T53UN
AUDITONE RANDOM PERFORATED	3/4"		ICN	27	38	33	36	44	47	50	54	54	60	47	42	12"x24"	.95	T08UN
FIRE-RATED PERFATONE DIAGONAL PERFORATED with 1 1/4" blanket	2 13/16"		ICX	27	33	28	28	33	38	44	50	48	46	34	34	12"x24"	.65 Blkt .65	T02RO

\*Normalized to 126 sabins—see page 7

- NOTE 1. Acoustical Ceiling Constructions Classified by Underwriters' Laboratories, Incorporated  
No. 4351-1 — 3/4" Acoustone "90" — Design 6 — 1 1/2 Hours  
No. 4351-3 — 3/4" Acoustone "90" — Design 15 — 1 Hour
- NOTE 2. Acoustical Ceiling Constructions Classified by Underwriters' Laboratories, Incorporated  
No. 4351-4 — 3/4" Acoustone "120" — Design 41 — 2 Hours  
No. 4351-7A — 3/4" Acoustone "120" — Design 85 — 2 Hours
- NOTE 3. Irregular in thickness but nominally 3/4".
- NOTE 4. Tile penetrated with two slots for Airson Air Distribution System.
- NOTE 5. Tile penetrated with five slots for Airson Air Distribution System.
- NOTE 6. Pin perforated in a random, star-like pattern.
- NOTE 7. Pin perforated in a swirl pattern.
- NOTE 8. Random perforated with hundreds of small perforations.
- NOTE 9. Perforated 437 holes per sq. ft., 98 of 3/16" and 339 of 1/8" diameters.
- NOTE 10. Acoustical Ceiling Constructions Classified by Underwriters' Laboratories, Incorporated  
No. 4351-6 — 5/8" Auratone Firecode Ceiling Panel — Design RC6 — 2 Hours  
No. 4351-9 — 5/8" Auratone Firecode Ceiling Panel — Design 72 — 2 Hours  
No. 4351-10 — 5/8" Auratone Firecode Ceiling Panel — Design 65 — 3 Hours  
No. 4351-13 — 5/8" Auratone Firecode Ceiling Panel — Design 31 — 1 Hour
- NOTE 11. Perforated 323 holes per sq. ft., 188 of 3/16" and 135 of 1/4" diameters.
- NOTE 12. Factory painted face and bevels. Also furnished, factory painted, with special paint finish giving Class "C" flame resistance rating.
- NOTE 13. Acoustical Ceiling Constructions Classified by Underwriters' Laboratories, Incorporated  
No. 4739 — 2 13/16" Fire Rated Perfatone — Design 49 — 3 Hours
- NOTE 14. Perforated, enameled metal pan with sound absorbing pad. Pan perforated 1105 holes per sq. ft., 3/32" diameter. Thickness includes tee bar.
- NOTE 15. Tile cemented to 5/8" Sheetrock Firecode Gypsum Board suspended ceiling.
- NOTE 16. Suspended by USG Exposed Z-Spline System.
- NOTE 17. Suspended by USG Concealed Accessible Z-Spline System.

MATERIAL	Thickness	Flame Resistance SS-A-118b See Page 5	Flame Spread Index E84-61 See Page 5	SURFACE Superscript numbers refer to footnotes	Mounting See Page 5	COEFFICIENTS						Unit Size Tested	Weight Lbs. per Sq. Ft.	Test No.
						125 cps	250 cps	500 cps	1000 cps	2000 cps	4000 cps			
NU-WOOD PRODUCTS	Random Tile	1/2"	C, D	Perforated <sup>1</sup> , painted <sup>2</sup>	1	.08	.24	.63	.66	.72	.75	12"x12"	.70	A4293
					2	.13	.59	.58	.65	.79	.71	12"x12"	.70	A4292
					7	.65	.39	.43	.57	.68	.81	12"x12"	.70	A6297
		3/4"	C, D	Same as above	1	.16	.42	.72	.72	.83	.65	12"x12"	1.0	A4296
					2	.27	.61	.60	.72	.86	.63	12"x12"	1.0	A4295
					7	.51	.36	.57	.73	.80	.67	12"x12"	1.0	A7211
	Constellation Tile	1/2"	C, D	Perforated <sup>3</sup> , painted <sup>2</sup>	1	.11	.28	.67	.65	.71	.59	12"x12"	.75	A5271
					2	.19	.68	.46	.65	.73	.61	12"x12"	.75	A5270
	Fissured Tile	9/16"	C, D	Fissured, perforated, painted <sup>2</sup>	1	.22	.30	.72	.74	.61	.45	12"x12"	.75	A6058
					7	.44	.39	.53	.72	.63	.51	12"x12"	.75	A6056
	Constellation Ceiling Board	1/2"	C	Perforated <sup>4</sup> , painted	7	.39	.33	.41	.54	.49	.30	24"x48"	.75	A7214
LO-TONE PRODUCTS	Random Tile	1/2"	A	I	Perforated <sup>1</sup> , painted	1	.05	.16	.48	.99	.86	12"x12"	.85	A5226
						2	.10	.40	.68	.97	.86	12"x12"	.85	A5225
						7	.61	.57	.69	.99	.83	12"x12"	1.0	A6165
		5/8"	A	I	Same as above	1	.06	.17	.61	.99	.78	12"x24"	1.0	A5229
						2	.11	.36	.84	.99	.85	12"x24"	1.0	A5228
						7	.61	.57	.69	.99	.83	12"x12"	1.0	A6165
		3/4"	A	I	Same as above	1	.08	.21	.70	.99	.77	12"x12"	1.2	A5267
						7	.70	.69	.80	.99	.82	12"x12"	1.2	A6166
						7	.70	.69	.80	.99	.82	12"x12"	1.2	A6166
	Constellation Tile	1/2"	A	I	Perforated <sup>3</sup> , painted	1	.05	.13	.50	.99	.84	12"x12"	.90	A5233
						7	.63	.52	.69	.92	.82	12"x12"	1.1	A6167
						7	.63	.52	.69	.92	.82	12"x12"	1.1	A6167
		5/8"	A	I	Same as above	1	.03	.16	.71	.99	.85	12"x24"	1.1	A5235
						7	.63	.52	.69	.92	.82	12"x12"	1.1	A6167
						7	.63	.52	.69	.92	.82	12"x12"	1.1	A6167
		3/4"	A	I	Same as above	1	.10	.21	.90	.99	.85	12"x12"	1.3	A5269
						7	.58	.54	.68	.87	.89	12"x12"	1.6	A8247
						7	.58	.54	.68	.87	.89	12"x12"	1.6	A8246
	Fissura Tile	1/2"	A	I	Fissured, perforated, painted	1	.05	.16	.67	.93	.77	12"x12"	.90	A8283
						2	.12	.52	.61	.89	.81	12"x12"	.90	A8278
						7	.58	.54	.68	.87	.89	12"x12"	1.6	A8247
		3/4"	A	I	Same as above	1	.03	.29	.96	.94	.83	12"x12"	1.6	A8247
						7	.58	.54	.68	.87	.89	12"x12"	1.6	A8246
						7	.58	.54	.68	.87	.89	12"x12"	1.6	A8246
	Fissured Tile (IMF)	3/4"	A	I	Fissured, painted	1	.07	.32	.87	.98	.84	12"x12"	1.1	A8669
						7	.74	.60	.64	.87	.87	12"x12"	1.1	A8668
						7	.74	.60	.64	.87	.87	12"x12"	1.1	A8668
	Striated Tile (IMF)	3/4"	A	I	Striated, fissured, painted	1	.08	.31	.82	.83	.75	12"x12"	1.1	A3700
	Fissured Tile (Paste Process) Heavily Textured	3/4"	A	I	Fissured, painted	7	.55	.61	.57	.81	.98	12"x12"	1.2	A9993
						7	.55	.61	.57	.81	.98	12"x12"	1.2	A9993
						7	.55	.61	.57	.81	.98	12"x12"	1.2	A9993
	Constellation Ceiling Board	1/2"	A	I	Perforated <sup>3</sup> , painted	7	.24	.37	.52	.87	.71	24"x48"	1.0	A8276
						7	.56	.51	.69	.89	.76	24"x48"	1.0	A6170
						7	.56	.51	.69	.89	.76	24"x48"	1.0	A6170
	Gossamer Ceiling Board	5/8"	A	I	Perforated <sup>3</sup> , painted <sup>5</sup>	7	.56	.51	.69	.89	.76	24"x48"	1.0	A6170
	Fissura Ceiling Board	1/2"	A	I	Fissured, perforated, painted	7	.36	.36	.53	.80	.74	24"x48"	1.0	A9145
						7	.31	.37	.63	.88	.87	24"x48"	1.0	A8148
						7	.31	.37	.63	.88	.87	24"x48"	1.0	A8148
	Sandex Ceiling Board	5/8"	A	I	Granular textured <sup>19</sup> , painted	7	.40	.45	.63	.83	.60	24"x48"	1.0	A9479
	Heritage Ceiling Board	1/2"	A	I	Textured, perforated	7	.31	.25	.51	.76	.68	24"x48"	1.0	A0386
						7	.30	.28	.64	.79	.71	24"x48"	1.0	A0385

See pages following for continuation of table and footnotes



MATERIAL	Thickness	Flame Resistance SS-A-118b See Page 5	Flame Spread Index E84-61 See Page 5	SURFACE Superscript numbers refer to footnotes	Mounting See Page 5	COEFFICIENTS						Unit Size Tested	Weight Lbs. per Sq. Ft.	Test No.
						125 cps	250 cps	500 cps	1000 cps	2000 cps	4000 cps			
LO-TONE FR PRODUCTS														
Random Tile (Note 6)	5/8"	A	I	Perforated <sup>1</sup> , painted	7	.48	.41	.57	.96	.89	.59	12"x12"	1.2	A6168
Constellation Tile (Note 6)	5/8"	A	I	Perforated <sup>3</sup> , painted	7	.41	.38	.66	.89	.77	.60	12"x12"	1.3	A6169
Fissura Tile (Note 6)	5/8"	A	I	Fissured, perforated, painted	7	.42	.48	.65	.81	.82	.78	12"x12"	1.3	A8296
Fissured Tile (IMF) (Note 18)	3/4"	A	I	Fissured, painted	7	.78	.61	.63	.83	.86	.91	12"x12"	1.2	A6663
Constellation Ceiling Board (Note 10)	1/2"	A	I	Perforated <sup>3</sup> , painted	7	.21	.36	.68	.94	.74	.59	24"x48"	1.1	A8243
(Notes 7 & 9)	5/8"	A	I	Same as above	7	.68	.50	.64	.98	.75	.54	24"x48"	1.1	A7356
Fissura Ceiling Board (Note 10)	1/2"	A	I	Fissured, perforated, painted	7	.42	.38	.61	.85	.84	.85	24"x48"	1.1	A8149
(Notes 7 & 9)	5/8"	A	I	Same as above	7	.39	.40	.66	.84	.84	.69	24"x48"	1.1	A8150
Sandex Ceiling Board (Notes 7 & 9)	5/8"	A	I	Granular textured <sup>17</sup> , painted	7	.35	.40	.68	.93	.64	.43	24"x48"	1.1	A9480
Heritage Ceiling Board (Note 10)	1/2"	A	I	Textured, perforated	7	.31	.31	.63	.78	.63	.50	24"x48"	1.1	A0388
(Notes 7 & 9)	5/8"	A	I	Same as above	7	.27	.29	.61	.76	.62	.49	24"x48"	1.1	A0387
LO-TONE VINYL COATED PRODUCTS														
Constellation Tile	5/8"	A	I	Perforated <sup>3</sup> , painted <sup>11</sup>	1 7	.03 .63	.16 .52	.71 .69	.99 .92	.85 .82	.74 .65	12"x24" 12"x12"	1.1 1.1	A5235 A6167
Constellation Ceiling Board	5/8"	A	I	Perforated <sup>3</sup> , painted <sup>11</sup>	7	.56	.51	.69	.89	.76	.52	24"x48"	1.0	A6170
Fissura Ceiling Board	5/8"	A	I	Fissured, perforated, painted <sup>11</sup>	7	.16	.32	.59	.85	.83	.85	24"x48"	1.0	A8275
LO-TONE VENTILATING PRODUCTS														
Constellation Tile 50% Ventilating and 50% Nonventilating	5/8"	A	I	Perforated <sup>3</sup> , painted	7	.51	.35	.74	.90	.79	.62	12"x12"	1.1	A7392
Fissura Tile 50% Ventilating and 50% Nonventilating	3/4"	A	I	Fissured, perforated, painted	7	.40	.40	.80	.85	.88	.84	12"x12"	1.6	A8249
Constellation Ceiling Board 25% Ventilating and 75% Nonventilating	5/8"	A	I	Perforated <sup>3</sup> , painted	7	.25	.33	.68	.94	.72	.51	24"x48"	1.0	A8282
Fissura Ceiling Board 25% Ventilating and 75% Nonventilating	5/8"	A	I	Fissured, perforated, painted	7	.26	.35	.61	.86	.82	.71	24"x48"	1.0	A8280
LO-TONE FR VENTILATING PRODUCTS														
Constellation Tile 50% Ventilating and 50% Nonventilating (Note 8)	5/8"	A	I	Perforated <sup>3</sup> , painted	7	.43	.39	.69	.77	.71	.61	12"x12"	1.3	A8042
Fissura Tile 50% Ventilating and 50% Nonventilating (Note 8)	5/8"	A	I	Fissured, perforated, painted	7	.51	.42	.63	.81	.81	.77	12"x12"	1.3	A8297

See pages following for continuation of table and footnotes

MATERIAL	Thickness	Flame Resistance SS-A-118b See Page 5	Flame Spread Index E84-61 See Page 5	SURFACE Superscript numbers refer to footnotes	Mounting See Page 5	COEFFICIENTS						Unit Size Tested	Weight Lbs. per Sq. Ft.	Test No.
						125 cps	250 cps	500 cps	1000 cps	2000 cps	4000 cps			
<b>LO-TONE FR VENTILATING PRODUCTS</b>														
Constellation Ceiling Board 25% Ventilating and 75% Nonventilating (Note 9)	5/8"	A	I	Perforated <sup>3</sup> , painted	7	.44	.38	.66	.91	.71	.47	24"x48"	1.1	A8281
Fissura Ceiling Board 25% Ventilating and 75% Nonventilating (Note 9)	5/8"	A	I	Fissured, perforated, painted	7	.25	.35	.61	.87	.82	.71	24"x48"	1.1	A8279
<b>LO-TONE AF PRODUCTS</b>														
Constellation Tile	5/8"	A	I	Perforated <sup>3</sup> , painted	7	.37	.39	.75	.89	.82	.60	12"x12"	1.1	A7391
Fissura Tile	3/4"	A	I	Fissured, perforated, painted	7	.41	.47	.78	.87	.89	.84	12"x12"	1.6	A8248
<b>LO-TONE METAL PAN PRODUCTS</b>														
Regular	1 1/16"	A	I	Perforated, enameled metal <sup>12</sup>	7	.81	.89	.93	.99	.77	.80	12"x24"	Pad .40	A6586
Diagonal 1105	1 1/16"	A	I	Perforated, enameled metal <sup>13</sup>	7	.85	.76	.82	.96	.79	.69	12"x24"	Pad .40	A0849
Diagonal 1740	1 1/16"	A	I	Perforated, enameled metal <sup>19</sup>	7	.76	.76	.90	.99	.85	.70	12"x24"	Pad .40	A9809
Constellation	1 1/16"	A	I	Perforated, enameled metal <sup>14</sup>	7	.91	.79	.88	.99	.79	.60	12"x24"	Pad .40	A9808
<b>LO-TONE ASBESTOS BOARD PRODUCTS</b>														
Regularly Perforated	1 3/16"	A	I	Perforated, painted <sup>15</sup>	5 7	.09 .75	.31 .66	.56 .62	.93 .75	.68 .65	.23 .44	24"x24" 24"x24"	Pad .05 .05	A6858 A6855
	2 3/16"	A	I	Perforated, painted <sup>16</sup>	7 8	.93 .18	.81 .55	.86 .98	.96 .98	.65 .58	.45 .44	24"x24" 24"x24"	Pad .10 .10	A6856 A6859

See pages following for continuation of table and footnotes



MATERIAL	Thickness	Surface	Standard Mounting See Page 8	ATTENUATION FACTORS—Decibels*											Ceiling Sound Transmission Class	Unit Size Tested	Weight Lbs. per Sq. Ft.	Test No.
				125 cps	175 cps	250 cps	350 cps	500 cps	700 cps	1000 cps	1400 cps	2000 cps	2800 cps	4000 cps				
NU-WOOD PRODUCTS		See preceding table																
Random Tile	¾"		ICT	26	35	33	36	41	45	47	54	54	57	39	42	12"x12"	1.1	T18WO
Constellation Ceiling Board	½"		IE	25	30	30	33	36	42	44	49	50	54	53	39	24"x48"	.80	T15WO
LO-TONE PRODUCTS																		
Random Tile	⅝"		ICT	27	36	28	29	31	31	32	37	43	53	57	34	12"x12"	1.0	T16WO
Constellation Tile	⅝"		ICT	26	35	28	28	30	32	35	44	51	60	58	34	12"x12"	1.1	T17WO
Fissura Tile	¾"		ICF	34	39	31	35	38	40	45	54	57	64	61	41	12"x12"	1.6	T40WO
Fissured Tile (IMF)	¾"		ICT	23	27	23	24	27	27	30	34	40	47	54	30	12"x12"	1.1	T26CE
Constellation Ceiling Board	½"		IE	33	38	30	32	36	37	42	49	54	60	60	38	24"x48"	1.0	T33WO
	⅝"		IE	27	31	31	30	31	34	36	45	50	59	60	35	24"x48"	1.0	T07WO
Fissura Ceiling Board	½"		IE	28	32	26	29	30	31	32	38	44	52	57	33	24"x48"	1.0	T45WO
	⅝"		IE	30	32	33	37	38	42	45	49	52	57	57	42	24"x48"	1.0	T28WO
Heritage Ceiling Board	½"		IE	32	36	31	31	34	36	38	45	53	59	62	37	24"x48"	1.0	T48WO
	⅝"		IE	32	38	30	33	35	38	43	50	58	62	61	39	24"x48"	1.0	T47WO
LO-TONE FR PRODUCTS																		
Random Tile	⅝"		ICF	28	35	31	32	36	37	39	46	49	58	59	38	12"x12"	1.2	T06WO
Constellation Tile	⅝"		ICF	29	37	32	33	38	39	42	51	54	63	56	39	12"x12"	1.3	T05WO
Fissura Tile	⅝"		ICN	35	37	34	35	39	42	48	56	57	66	64	41	12"x12"	1.3	T42WO
Fissured Tile (IMF)	¾"		ICF	27	31	29	28	30	32	34	42	47	57	56	34	12"x12"	1.2	T38CE
Constellation Ceiling Board	½"		IE	31	36	30	31	33	33	37	45	52	64	63	36	24"x48"	1.1	T34WO
	⅝"		IE	28	34	31	31	35	37	41	47	54	57	53	37	24"x48"	1.1	T22WO
Fissura Ceiling Board	½"		IE	29	31	33	36	38	41	45	49	51	57	57	42	24"x48"	1.1	T29WO
	⅝"		IE	27	32	33	36	38	42	46	49	52	57	57	42	24"x48"	1.1	T30WO
Heritage Ceiling Board	½"		IE(H)	34	40	33	34	38	40	45	52	59	62	61	40	24"x48"	1.1	T50WO
	⅝"		IE(H)	33	40	33	35	38	40	45	50	59	61	60	41	24"x48"	1.1	T49WO
LO-TONE VENTILATING PRODUCTS																		
Constellation Tile	⅝"		ICF-V-50	27	36	33	34	39	42	45	51	53	57	54	40	12"x12"	1.1	T24WO
Fissura Tile	¾"		ICF-V-50	29	35	32	38	40	43	46	53	57	65	61	44	12"x12"	1.6	T46WO
Constellation Ceiling Board	⅝"	IE-V-25	32	35	30	30	32	33	37	45	52	59	60	36	24"x48"	1.0	T38WO	
Fissura Ceiling Board	⅝"	IE-V-25	33	35	31	35	39	41	44	49	51	56	56	41	24"x48"	1.0	T36WO	
LO-TONE FR VENTILATING PRODUCTS																		
Fissura Tile	⅝"	ICF-V-50	29	32	31	34	37	40	45	53	55	63	60	40	12"x12"	1.3	T43WO	
Constellation Ceiling Board	⅝"	IE-V-25	32	35	31	31	34	35	40	48	53	61	62	37	24"x48"	1.1	T37WO	
Fissura Ceiling Board	⅝"	IE-V-25	29	33	30	31	32	33	36	42	49	59	61	36	24"x48"	1.1	T35WO	

\*Normalized to 126 sabins—see page 7

See page following for continuation of table and footnotes

MATERIAL	Thickness	Surface	Standard Mounting See Page 8	ATTENUATION FACTORS—Decibels*										Ceiling Sound Transmission Class	Unit Size Tested	Weight Lbs. per Sq. Ft.	Test No.	
				125 cps	175 cps	250 cps	350 cps	500 cps	700 cps	1000 cps	1400 cps	2000 cps	2800 cps					4000 cps
LO-TONE AF PRODUCTS Constellation Tile	5⁄8"	See preceding table	ICT	33	34	33	37	41	45	48	55	56	60	55	43	12"x12"	1.1	T13WO
Fissura Tile	3⁄4"	See preceding table	ICF	35	39	35	41	44	46	49	56	56	64	61	47	12"x12"	1.6	T39WO

\*Normalized to 126 sabins—see page 7

- NOTE 1. Perforated 320 holes per sq. ft., 111 of  $\frac{1}{4}$ " and 209 of  $\frac{3}{16}$ " diameters, randomly spaced.
- NOTE 2. Factory painted face and bevels. Also available with factory applied paint finish providing Class "C" flame resistance rating.
- NOTE 3. Perforated 1596 holes per sq. ft.,  $\frac{3}{32}$ ",  $\frac{5}{64}$ ",  $\frac{1}{16}$ " and  $\frac{3}{64}$ " diameters, randomly spaced.
- NOTE 4. Perforated 830 holes per sq. ft.,  $\frac{3}{32}$ ",  $\frac{5}{64}$ ",  $\frac{1}{16}$ " and  $\frac{3}{64}$ " diameters, randomly spaced.
- NOTE 5. Factory painted with painted gold overlay.
- NOTE 6. Acoustical Ceiling Tile Constructions Classified by Underwriters' Laboratories, Incorporated  
No. 4355-1 —  $\frac{5}{8}$ " Lo-Tone FR — Design 18 — 2 Hours  
No. 4355-3 —  $\frac{5}{8}$ " Lo-Tone FR — Design 24 — 2 Hours
- NOTE 7. Acoustical Ceiling Board Constructions Classified by Underwriters' Laboratories, Incorporated  
No. 4355-5 —  $\frac{5}{8}$ " Lo-Tone FR — Design 43 — 2 Hours  
No. 4355-6 —  $\frac{5}{8}$ " Lo-Tone FR — Design 11 —  $1\frac{1}{2}$  Hours  
No. 4355-12 —  $\frac{5}{8}$ " Lo-Tone FR — Design 206 — 2 Hours  
No. 4355-13 —  $\frac{5}{8}$ " Lo-Tone FR — Design 211 — 2 Hours  
No. 4355-14 —  $\frac{5}{8}$ " Lo-Tone FR — Design 233 — 2 Hours
- NOTE 8. Acoustical Ceiling Tile Constructions Classified by Underwriters' Laboratories, Incorporated  
No. 4355-8 —  $\frac{5}{8}$ " Lo-Tone FR — Design 18 — 2 Hours
- NOTE 9. Acoustical Ceiling Board Constructions Classified by Underwriters' Laboratories, Incorporated  
No. 4355-10 —  $\frac{5}{8}$ " Lo-Tone FR — Design 32 — 2 Hours  
No. 4355-12 —  $\frac{5}{8}$ " Lo-Tone FR — Design 206 — 2 Hours  
No. 4355-13 —  $\frac{5}{8}$ " Lo-Tone FR — Design 211 — 2 Hours  
No. 4355-14 —  $\frac{5}{8}$ " Lo-Tone FR — Design 233 — 2 Hours
- NOTE 10. Acoustical Ceiling Board Constructions Classified by Underwriters' Laboratories, Incorporated  
No. 4355-11 —  $\frac{1}{2}$ " Lo-Tone FR — Design 24 — 1 Hour  
No. 4355-15 —  $\frac{1}{2}$ " Lo-Tone FR — Design 45 — 1 Hour
- NOTE 11. Factory applied finish of two paint coatings and one vinyl coating.
- NOTE 12. Perforated, enameled metal pan with sound absorbing mineral wool pad. Metal pan perforated 1024 holes per sq. ft., 0.109" diameter, .360" o.c., 6.7% open area. Thickness includes tee bar.
- NOTE 13. Perforated enameled metal pan with sound absorbing mineral wool pad. Metal pan perforated 1105 holes per sq. ft., 0.093" diameter. Thickness includes tee bar.
- NOTE 14. Perforated enameled metal pan with sound absorbing mineral wool pad. Metal pan perforated 571 holes of 0.125" diameter and 313 holes of .063" diameter per sq. ft., randomly spaced, 5.5% open area. Thickness includes tee bar.
- NOTE 15.  $\frac{3}{16}$ " autoclaved asbestos cement panel, 550 perforations per sq. ft.,  $\frac{3}{16}$ " diameter,  $\frac{1}{2}$ " o.c.; pad thickness 1".
- NOTE 16. Same as note 15, except pad thickness 2".
- NOTE 17. Surfaced with sand finish over perforated pattern, factory painted.
- NOTE 18. Acoustical Ceiling Tile Constructions Classified by Underwriters' Laboratories, Incorporated  
No. 4349-2 —  $\frac{3}{4}$ " Lo-Tone FR Fissured (IMF) — Design 22 — 2 Hours  
No. 4349-3 —  $\frac{3}{4}$ " Lo-Tone FR Fissured (IMF) — Design 12 — 1 Hour  
No. 4349-4 —  $\frac{3}{4}$ " Lo-Tone FR Fissured (IMF) — Design 23 — 2 Hours  
No. 4349-5 —  $\frac{3}{4}$ " Lo-Tone FR Fissured (IMF) — Design 36 — 4 Hours  
No. 4349-6 —  $\frac{3}{4}$ " Lo-Tone FR Fissured (IMF) — Design 34 — 2 Hours  
No. 4349-11 —  $\frac{3}{4}$ " Lo-Tone FR Fissured (IMF) — Design 23 — 2 Hours  
No. 4349-14 —  $\frac{3}{4}$ " Lo-Tone FR Fissured (IMF) — Design 80 — 2 Hours  
No. 4349-15 —  $\frac{3}{4}$ " Lo-Tone FR Fissured (IMF) — Design 95 — 2 Hours  
No. 4349-18 —  $\frac{3}{4}$ " Lo-Tone FR Fissured (IMF) — Design 200 — 2 Hours  
No. 4349-19 —  $\frac{3}{4}$ " Lo-Tone FR Fissured (IMF) — Design 77 — 3 Hours  
No. 4349 —  $\frac{3}{4}$ " Lo-Tone FR Fissured (IMF) — Design 69 — 3 Hours
- NOTE 19. Perforated, enameled metal pan with sound absorbing mineral wool pad. Metal pan perforated 1740 holes per sq. ft., 0.109" diameter, 6.7% open area. Thickness includes tee bar.



# ACOUSTICAL MATERIALS ASSOCIATION INSTALLATION RECOMMENDATIONS

With acoustical materials, as with other fine interior finish materials, best performance and appearance can be expected only when installation is made by the correct techniques and under the proper job conditions. The following paragraphs state the conditions and techniques which the industry recognizes as generally ac-

ceptable for the installation of all acoustical materials unless otherwise specified by the manufacturer. In writing specifications to include the following recommendations, the architect should clearly state the responsibilities of the various contractors involved.

## JOB CONDITIONS

Installation of acoustical materials should not be made when the building is excessively cold and damp or hot and dry. Temperature and humidity conditions closely approximating the interior conditions which will exist when the building is occupied should be maintained before, during, and after installation.

All plastering, concrete, and terrazzo work (including grinding) should be complete and dry. All windows and doors should be in place and glazed. The heating system should be installed and operating where necessary to maintain proper conditions before, during, and after the acoustical work is in progress. Poured or precast concrete and gypsum or similar roof decks should be thoroughly dry and the space between such decks

and suspended acoustical ceilings adequately vented to the outside. Where substantial temperature differences between the outside and inside of the building occur at any season, acoustical materials should not be secured by cementing directly to the underside of a concrete, gypsum or similar roof deck unless adequate thermal insulation is provided on the top side of such deck.

Where light from fixtures, cove lights or high windows strikes the surface at a small angle, even slight unevenness of joints may result in unsatisfactory appearance. Under such conditions beveled materials should be used in preference to square edge materials and installed with considerable care.

## PREPARATORY WORK AND INSTALLATION TECHNIQUES

Surfaces to receive acoustical materials, whether concrete, plaster, gypsum board or furring strips, should be level and free from irregularities. The acoustical contractor should be responsible for the examination and acceptance of all surfaces and conditions affecting the proper installation of his materials, and he should not proceed until all surfaces and conditions are satisfactory to him.

### a. *Cement application*

Moisture tests should be made to determine whether new concrete or plaster backing surfaces are adequately dry before starting the installation of acoustical materials. Artificial heat or summer warmth has a greater effect in removing excess moisture than does the passage of time but, under average drying conditions, new concrete should have been in place approximately six months and new plaster approximately four or five weeks before these backing surfaces can generally be considered ready for cement application. If concrete surfaces have oil left from the forms this should be removed by suitable cleaning.

Old concrete, plaster or gypsum board surfaces, if dusty, should be treated with a wall size approved by the acoustical contractor. If the old surface has been painted it should be tested by installation of a single tile before the acoustical work is begun. If softening of the paint is found to have occurred upon removal of the test tile, the paint should be removed before application of the acoustical tile, or supplementary mechanical fastening employed.

Where gypsum board, gypsum lath or gypsum sheathing are to be installed below wood joists and used as a base for cementing, the joists should first be furred with 1" x 3" or larger strips which should be adequately leveled by shimming before application of the gypsum base material. Spacing of the furring strips should be in accordance with the recommendations of the acous-

tical material manufacturer and will depend upon the thickness of the gypsum board to be used. Gypsum board backing materials usually should not be secured directly to wood joists, which are seldom adequately level and are subject to possible twisting. If the backing is to be gypsum sheathing, the sheathing manufacturer should be consulted to determine whether the sheathing has any surface coating which may make it unsuitable for cement application of acoustical materials.

Large units of acoustical materials should not be installed by cement alone. Follow manufacturer's standard recommendations. (usual size limit for cement application is 12" x 24").

### b. *Nailing, screwing, or stapling to wood strips*

Furring strips should be of kiln dried soft wood, not smaller than 1" x 3", and installed on not greater than 12" centers unless otherwise specified by the acoustical material manufacturer. Where joists or other framing members are on greater than 24" centers they should be cross furred with 2" x 3" or 2" x 4" members or the furring strips themselves should be of 2" stock to guard against possible "whipping" and lack of rigidity when the acoustical material is secured.

### c. *Mechanical suspension systems*

The furring channels or other basic suspension members should be adequately leveled by means of a water level or transit before application of the suspension system and acoustical material is begun. The type of suspension system used and the thickness and type of acoustical material used with it should be strictly in accordance with the recommendation of the acoustical material manufacturer. Beveled tile should be used on concealed suspension systems unless the acoustical materials manufacturer specifically approves square edge tile.

# CEILING ATTENUATION FACTOR

## ITS MEANING AND USE

Revised 1966

Many products listed in the AMA Bulletin are designed for use in suspended ceilings. When room partitions extend only to the ceiling, or surmount it only a few inches, the ceiling-plenum path of sound transmission may warrant investigation when analyzing the building for acoustical privacy. The tables of Attenuation Factors provide ceiling performance data which are applicable in such analyses.

The attenuation factors listed in the tables were measured according to the Acoustical Materials Association Tentative Method of Test AMA-1-II, "Ceiling Sound Transmission Test by the Two-Room Method", March 1, 1959 as amended. The method utilizes two rooms having the dimensions shown in Fig. 1.

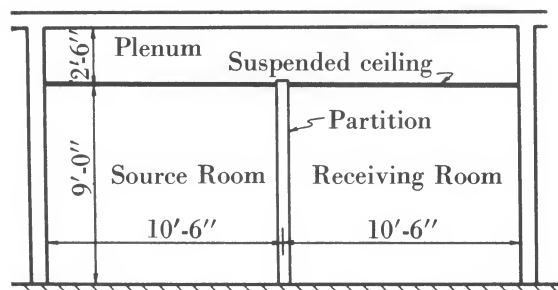


FIGURE 1. Section through two-room test chamber. The facility is 15'-6" wide.

The value given for each frequency is the difference in decibels between the sound level in the room containing the source and the sound level in the receiving room normalized to 126 sabins in the receiving room. For most of the test data given in the tables, the attenuation provided by the ceiling construction is considerably less than that of the dividing partition, so that the listed value of attenuation factor is essentially that of the sound which is transmitted by way of the ceilings and the common plenum. In the case of ceilings having attenuations high enough to be comparable to that of the partition, measured difference in sound level between the rooms may be lower than that which would result from ceiling-

plenum transmission alone. Where this occurs, the listed attenuation factors are shown in italics, indicating that because of flanking transmission through the partition the published values are appreciably lower than the true values of ceiling attenuation. In general the performance level at which this compromise comes into effect is so high that it will have little bearing on commercial requirements.

The difference in average sound level in decibels at a given frequency between any two rooms due to a sound source in one of them is commonly referred to as the "noise reduction" at that frequency. The noise reduction between rooms differing in size or absorption from the test rooms will have different values. Where transmission between rooms is known to occur essentially by the ceiling-plenum path, the noise reduction, NR, may be estimated from the listed attenuation factor data for a given acoustical ceiling material by the following approximate formula:

$$NR = AF_0 + 10 \log \frac{a}{126} \text{ decibels}$$

where  $AF_0$  = attenuation factor at a given frequency normalized to 126 sabins as listed in this Bulletin

$a$  = total sound absorption of the receiving rooms, sabins

The above formula is applicable only where the same ceiling material and construction is used in both rooms. It is also restricted to rooms whose largest floor dimension is not more than about 3 times the ceiling height. The absorption " $a$ " of the receiving room may be computed by the procedures given in "The Use of Architectural Acoustical Materials—Theory and Practice" or in standard texts. It includes the absorption of the acoustical ceiling plus that provided by the walls, floor, and furnishings. The absorption coefficient of the ceiling material may be obtained from the coefficient tables given in this Bulletin for the corresponding product. The coefficients listed for the No. 7 Mounting are considered to be



representative of a suspended ceiling with a typical plenum depth.

In applying ceiling attenuation factors to practical problems of room design, it is usually of interest to compare the sound transmission by the ceiling-plenum path with that taking place directly through the dividing partition which is to be used between two given rooms. Published data on transmission by partitions is customarily stated as "transmission loss", TL, rather than noise reduction or attenuation factor. The noise reduction, NR, due to transmission by the partition alone is determined by the formula:

$$NR = TL + 10 \log \frac{a}{S} \text{ decibels}$$

where  $a$  = total absorption in receiving room, sabins

$S$  = area of partition, square feet

When the receiving room ceiling is acoustically treated and is about equal in area to the dividing partition, the noise reduction, NR, due to partition transmission is approximately equal numerically to the transmission loss, TL, of the partition.

By comparing the above equations, it will be seen that ceiling attenuation factors may be compared *on an approximate basis* with partition transmission loss data in *acoustically treated rooms of about the size and shape of the AMA test rooms*.

Unless the reader has adequate information at hand for arriving at the minimum ceiling performance to specify, he may find it helpful to refer to the performance of partitions with which he is familiar. Figures 2 and 3 show curves of transmission loss vs. frequency of two common types of partitions. These curves represent a fairly wide range of sound insulating performance as required under varying typical field conditions.

In making comparisons of ceiling attenuation factors with partition transmission loss data, the following practical considerations should be observed:

As described in the AMA-1-II test procedure, the test is always performed consistent with full-scale *field conditions of ceiling erection*. Thus

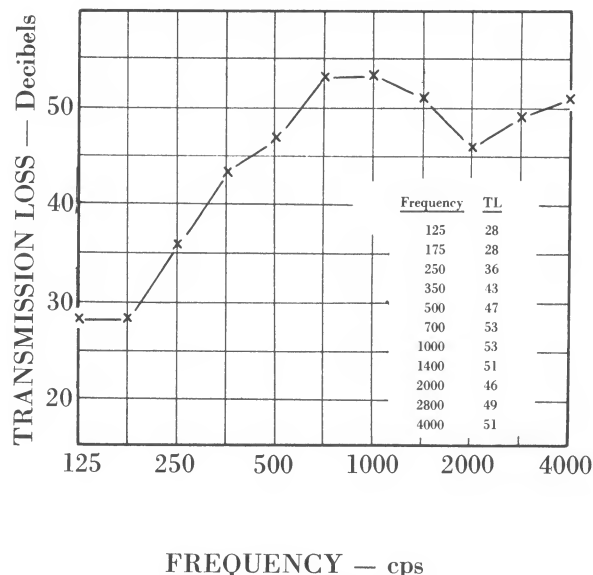


FIGURE 2. Typical performance of partition comprised of 2½" steel studs 16" o.c. faced both sides with ⅜" perforated gypsum lath, ⅛" sanded plaster and ⅛" lime putty finish coat. (A partition with this performance would be rated as STC-46.)

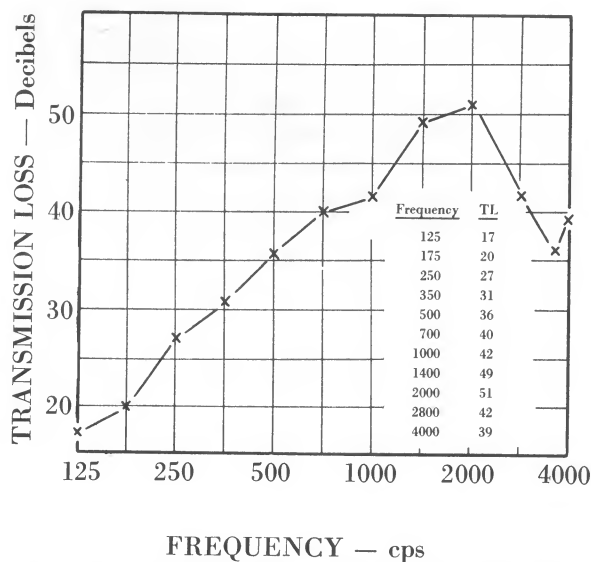


FIGURE 3. Typical performance of drywall partition constructed of 2 x 4's 16" o.c. faced both sides with ½" gypsum board, taped and spackled. (A partition with this performance would be rated as STC-37.)

ceiling attenuation factors report the sound insulation characteristics of ceiling systems as actually installed, either running continuous over a partition or structurally interrupted by a ceiling high partition, depending on the test mounting specified. Further, they reflect the effects of any cracks or penetrations inherent in the main body of the ceiling or at its perimeter. To justify comparison with ceiling performance so derived, partition tests should be similarly scheduled with full scale components under field conditions of erection, a trend in testing used in more or less degree only in the past few years. Otherwise, the field performance may be meaningless if the partition data were derived from tests in which modular wall details and realistic perimeter conditions were not properly incorporated. The cracks inherent between modular wall units, though not necessarily readily visible, can compromise the performance of wall panels as much or more than discontinuities in suspended ceilings may limit ceiling-insulation performance.

While the lighter construction of ceilings often attracts attention to them when sound transmission problems are experienced, most problems, upon investigation, can be traced to details of partition construction which are not contemplated or are not taken into account in partition testing. Often direct air path leakage can be spotted by an observer scanning for any light transmitted from a second room. This will be visible when openings are left where heating or cooling water lines are run in the open or where partitions do not meet uneven floors, walls or ceilings. The same means may not pick up direct airborne leakage where electrical outlets are placed back to back, or

where unit perimeters interlock but do not create an airtight seal, but a sharp ear may do the job. It may be difficult to accept that the crack between a door and its threshold transmits many times more sound than the frame wall in which it is located but this is the case; too, return air grilles in doors (or walls) provide visual privacy but they are open windows to sound.

On the other hand, if the plenum serves as the supply or return path for the room, air ceiling grilles will short circuit the sound insulation of the ceiling if placed too close to the periphery of the room, possibly eight feet or less, depending on plenum conditions.

The sound insulating performance of a given ceiling material or construction under field conditions will depend both on the frequency composition of the noise being transmitted, and on that of the masking noise on the receiving side. It is therefore recommended that, where required, attention be directed to the individual attenuation factor values at each frequency. A single number rating, however, is useful for comparing the performance of constructions under typical conditions. A simple numerical average of the attenuation factors has sometimes been used but it can be severely misleading for certain types of construction. The Ceiling Sound Transmission Class, given in the Producer Tables, is the preferred figure of merit in so far as a single number rating can ever classify performance in diverse applications. This rating is based on the requirement that the attenuation at any of the test frequencies does not fall significantly below a specified contour. See ASTM E90-61T.



## COEFFICIENTS OF GENERAL BUILDING MATERIALS AND FURNISHINGS

Complete tables of coefficients of the various materials that normally constitute the interior finish of rooms may be found in the various books on architectural acoustics. The following short list will be useful in making simple calculations of the reverberation in rooms.

<i>Materials</i>	<i>Coefficients</i>					
	125 cps	250 cps	500 cps	1000 cps	2000 cps	4000 cps
Brick, unglazed	.03	.03	.03	.04	.05	.07
Brick, unglazed, painted	.01	.01	.02	.02	.02	.03
Carpet, heavy, on concrete	.02	.06	.14	.37	.60	.65
Same, on 40 oz. hairfelt or foam rubber	.08	.24	.57	.69	.71	.73
Same, with impermeable latex backing on 40 oz. hairfelt or foam rubber	.08	.27	.39	.34	.48	.63
Concrete Block, coarse	.36	.44	.31	.29	.39	.25
Concrete Block, painted	.10	.05	.06	.07	.09	.08
Fabrics						
Light velour, 10 oz. per sq. yd., hung straight, in contact with wall	.03	.04	.11	.17	.24	.35
Medium velour, 14 oz. per sq. yd., draped to half area	.07	.31	.49	.75	.70	.60
Heavy velour, 18 oz. per sq. yd., draped to half area	.14	.35	.55	.72	.70	.65
Floors						
Concrete or terrazzo	.01	.01	.015	.02	.02	.02
Linoleum, asphalt, rubber or cork tile on concrete	.02	.03	.03	.03	.03	.02
Wood	.15	.11	.10	.07	.06	.07
Wood parquet in asphalt on concrete	.04	.04	.07	.06	.06	.07
Glass						
Large panes of heavy plate glass	.18	.06	.04	.03	.02	.02
Ordinary window glass	.35	.25	.18	.12	.07	.04
Gypsum Board, 1/2" nailed to 2x4's 16" o.c.	.29	.10	.05	.04	.07	.09
Marble or Glazed Tile	.01	.01	.01	.01	.02	.02
Openings						
Stage, depending on furnishings			.25 —	.75		
Deep balcony, upholstered seats			.50 —	1.00		
Grills, ventilating			.15 —	.50		
Plaster, gypsum or lime, smooth finish on tile or brick	.013	.015	.02	.03	.04	.05
Plaster, gypsum or lime, rough finish on lath	.02	.03	.04	.05	.04	.03
Same, with smooth finish	.02	.02	.03	.04	.04	.03
Plywood Paneling, 3/8" thick	.28	.22	.17	.09	.10	.11
Water Surface, as in a swimming pool	.008	.008	.013	.015	.020	.025
Air, Sabins per 1000 cubic feet					2.3	7.2

## ABSORPTION OF SEATS AND AUDIENCE

*Values given are in Sabins per square foot of seating area or per unit*

	125 cps	250 cps	500 cps	1000 cps	2000 cps	4000 cps
Audience, seated in upholstered seats, per sq. ft. of floor area	.60	.74	.88	.96	.93	.85
Unoccupied cloth-covered upholstered seats, per sq. ft. of floor area	.49	.66	.80	.88	.82	.70
Unoccupied leather-covered upholstered seats, per sq. ft. of floor area	.44	.54	.60	.62	.58	.50
Wooden Pews, occupied, per sq. ft. of floor area	.57	.61	.75	.86	.91	.86
Chairs, metal or wood seats, each, unoccupied	.15	.19	.22	.39	.38	.30

