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product into a children's product. However, if the product is packaged in such a manner that either expressly states or implies with graphics, themes, labeling, or instructions that the product is designed or intended primarily for children 12 years of age or younger, then it may be considered a children's product if the required consideration of all four statutory factors supports that determination.

PART 1201—SAFETY STANDARD FOR ARCHITECTURAL GLAZING MATERIALS

Subpart A—The Standard

Sec.

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 ${\footnotesize 1201.40 \ \ Interpretation \ \ concerning \ \ bathtub} \\ {\footnotesize and \ shower \ doors \ and \ enclosures.}$

AUTHORITY: Secs. 2, 3, 7, 9, 14, 19, Pub. L. 92–573, 86 Stat. 1212–17; (15 U.S.C. 2051, 2052, 2056, 2058, 2063, 2068).

Source: 42 FR 1441, Jan. 6, 1977, unless otherwise noted.

Subpart A—The Standard

§ 1201.1 Scope, application and findings.

- (a) *Scope*. This part 1201, a consumer product safety standard, prescribes the safety requirements for glazing materials used or intended for use in any of the following architectural products:
- (1) Storm doors or combination doors.
- (2) Doors.
- (3) Bathtub doors and enclosures.
- (4) Shower doors and enclosures.

- (5) [Reserved]
- (6) Sliding glass doors (patio-type).

It also requires that these architectural products which incorporate glazing materials be constructed with glazing materials that meet the requirements of this part. The safety requirements are designed to reduce or eliminate unreasonable risks of death or serious injury to consumers when glazing material is broken by human contact.

(b) Application. This part 1201 shall apply to glazing materials, as that term is defined in §1201.2(a)(11), for use in the architectural products listed in paragraph (a) of this section; and to those architectural products listed in paragraph (a) of this section if they are made with, or incorporate glazing materials as that term is defined in §1201.2(a)(11). The standard applies to glazing materials and architectural products incorporating glazing materials that are produced or distributed for sale to or for the personal use, consumption or enjoyment of consumers in or around a permanent or temporary household or residence or in recreational, school, public, or other buildings or parts thereof. This part 1201 applies only to those glazing materials manufactured after the effective date of the standard; and to those architectural products identified in paragraph (a) of this section that are manufactured after the effective date of the standard. Thus, architectural products identified in paragraph (a) of this section manufactured after the effective date of the standard must incorporate glazing materials that comply with the standard. For purposes of this standard, fabricators are considered to be manufacturers of the architectural products listed in paragraph (a) of this section. Architectural glazing materials used in the products listed in paragraph (a) of this section and used in mobile homes are not subject to the provisions of this part 1201. While this part 1201 prescribes a test method to determine whether glazing materials subject to this part 1201 standard meet the requirements of the standard, the standard itself does not require that a manufacturer test any glazing materials or products subject to the standard. All obligations of manufacturers

to perform testing are imposed by section 14 of the Consumer Product Safety Act and certification regulations which will be established by a separate rule-making proceeding. However, the Commission intends to use the test procedures set forth in this part 1201 to determine whether materials and products subject to the standard meet the requirements of the standard.

- (c) *Exemptions*. The following products, materials and uses are exempt from this part 1201:
- (1) Wired glass used in doors or other assemblies to retard the passage of fire, where such door or assembly is required by a federal, state, local, or municipal fire ordinance.
 - (2) Louvers of jalousie doors;
- (3) Openings in doors through which a 3 inch diameter sphere is unable to pass;
- (4) Carved glass (as defined in §1201.2(a)(36)), dalle glass (as defined in §1201.2(a)(37)), or leaded glass (as defined in §1201.2(a)(14)), which is used in doors and glazed panels (as defined in §\$1201.2(a)(7) and (a)(10)) if the glazing material meets all of the following criteria:
- (i) The coloring, texturing, or other design qualities or components of the glazing material cannot be removed without destroying the material; and
- (ii) The primary purpose of such glazing is decorative or artistic; and
- (iii) The glazing material is conspicuously colored or textured so as to be plainly visible and plainly identifiable as aesthetic or decorative rather than functional (other than for the purpose of admitting or controlling admission of light components or heat and cold); and
- (iv) The glazing material, or assembly into which it is incorporated, is divided into segments by conspicuous and plainly visible lines.
- (5) Glazing materials used as curved glazed panels in revolving doors;
- (6) Commercial refrigerated cabinet glazed doors.
- (d) Findings 1—(1) The degree and nature of the risk of injury the rule is de-

- signed to eliminate or reduce. The Commission finds that the nature of the risks of injury this standard is designed to eliminate or reduce are as follows:
- (i) Lacerations, contusions, abrasions, and other injury or death resulting from walking or running into glazed doors or sliding glass doors believed to be open or glazed panels mistaken as a means of ingress or egress, or pushing against glazing material in doors or glazed panels in an attempt to open a door.
- (ii) Lacerations, contusions, abrasions, and other injury or death resulting from accidentally falling into or through glazed doors, sliding glass doors, glazed panels, bathtub doors and enclosures and shower doors and enclosures.
- (iii) Lacerations, contusions, abrasions, and other injury or death resulting from the act of installing, replacing, storing or otherwise manipulating glazing material in doors, sliding glass doors, glazed panels, bathtub doors and enclosures and shower doors and enclosures, or from broken glazing material in doors, sliding glass doors, glazed panels, bathtub doors and enclosures and shower doors and enclosures. The Commission estimates that 73,000 injuries associated with architectural glazing materials in the architectural products within the scope of this standard were treated in hospital emergency rooms during 1975, and that about 2,400 of these injuries required the patients to be hospitalized. Extrapolating to total injuries in the United States the Commission further estimates that approximately 190,000 injuries were associated with architectural glazing products covered by this standard. Although injuries occur at any age, children aged 14 and under appear to be at particular risk of injury since as a

¹The Commission's findings apply to the architectural glazing standard as issued at 42 FR 1426, on January 6, 1977. Since that date, the Commission has revoked portions of the standard which prescribed requirements for

[&]quot;glazed panels" (45 FR 57383, August 28, 1980); an accelerated environmental durability test for plastic glazing materials intended for outdoor exposure (45 FR 66002, October 6, 1980); and a modulus of elasticity test, a hardness test, and an indoor aging test applicable to plastic glazing materials (47 FR 27856, June 28, 1982). However, the findings have not been revised and they are therefore, not fully applicable to the remaining requirements of the standard.

group they represent approximately half the injuries while comprising less than 30 percent of the population. Lacerations are the most common injuries associated with architectural glazing materials and account for 72 percent to 93 percent of the injuries associated with the architectural products identified in paragraph (a) of this section. These lacerative injuries span a broad spectrum of severity and extent of body part affected. During 1975, an estimated 200 injuries were treated in emergency rooms for lacerations over 25 to 50 percent of the victims' bodies and over 7,000 persons were treated for lacerations to the head or face. On the basis of all injury information available to the Commission, it is apparent that the severity of the injuries associated with architectural glazing materials ranges from minor cuts to damage to tendons, nerves, muscles, and blood vessels resulting in extensive surgery. Peripheral nerve injuries result in varying degres of loss in sensation and motion which may never be restored completely. Tendon and muscle injuries may involve loss of movement. Some victims of architectural glazing material incidents are disfigured, and sustain emotional trauma as well. Severing of arteries and veins has led to death. One way of quantifying the extent of the public health problem relating to injuries associated with products is to estimate the total number of disability days resulting from the injuries. Using average days of restricted activity by age for specific injuries and body parts (Vital and Health Statistics, Series 10, Number 57, National Center for Health Statistics, U.S. Department of Health, Education, and Welfare), it is estimated that about 230,000 days of restricted activity resulted from injuries associated with architectural products which were treated in emergency rooms alone.

(2) The approximate number of consumer products, or types or classes thereof, subject to the standard. The types of glazing materials affected by or subject to the standard are laminated glass, tempered glass, wired glass, organic-coated glass, annealed glass, and plastics. Architectural products that incorporate the aforementioned glazing materials that are also affected by or sub-

ject to the standard are: storm doors or combination doors, doors, bathtub doors, and enclosures, shower doors and enclosures, glazed panels and sliding glass doors (patio-type) (see paragraph (a) of this section). The Commission has estimated that 13 to 16 percent of the total market for glazing material incorporated in products within the scope of the standard will be affected by the standard. Most of the glazing subject to the standard is currently covered by state safety glazing legislation. To date, more than 30 states have enacted safety glazing legislation, but this legislation is neither consistent nor completely uniform among states. Annual markets for the architectural products which incorporate glazing material and that are within the scope of the standard have been estimated by the Commission in terms of square feet of glazed area and number of units. The market for glazing material incorporated in products within the scope of the standard was estimated to be 234.8 million square feet in 1975. These figures are discussed in the Economic Impact Statement, pp. 3-7, and appendix A to the Economic Impact Statement, pp. 18-30, which are available for review in the Office of the Secretary of the Commission, Washington, D.C. 20207.

(3) The need of the public for the architectural glazing material and products incorporating that glazing material subject to the standard, and the probable effect of the standard upon the utility, cost or availability of those products to meet the need of the public—(i) The need of the public for the architectural glazing materials and products incorporating that alazing material. The need of the public for architectural products within the scope of the standard incorporating glazing material is substantial since these products serve such functions as transmission of light, visual communication, protection from weather, ventilation, and indoor climate control, and since reasonable substitutes for these products do not exist as a group. Each of the types of glazing material subject to the standard has individual properties which meet public needs, although one type of glazing material is often an acceptable substitute for another.

- (ii) Probable effect of the standard upon the cost of architectural glazing materials and architectural products incorporating the glazing material to meet the need of the public for the products. The probable cost effects of the standard for architectural glazing materials are listed below.
- (A) The cost impact of the standard on consumers will be concentrated in those states with no present state safety glazing legislation. In those states, the average increase in cost per housing start resulting from the standard is estimated to range from \$30 to \$50, or approximately one-tenth of one percent of the price of a typical new house; and the cost for residential remodeling and replacement is expected to be in the range of \$0.25 to \$0.30 per household annually.
- (B) The increased cost of glazing material for nonresidential uses will be paid ultimately by consumers through higher prices of goods and services. Generally, the increased cost of glazing is not passed to consumers immediately, but is spread over the life of the nonresidential structure. Therefore, the increased cost to consumers for glazing material in nonresidential structures will probably rise slowly over time to an annual level of approximately \$1.10 per household in states with no safety glazing legislation and \$0.20 to \$0.50 per household in the other states. In many of the states with state regulations, the impact of the standard on residential construction and new housing prices will be near zero, since most of the glazing is currently covered by the state glazing legislation.
- (C) The probable effect of the standard on the various glazing materials within the scope of the standard will differ. The retail price of laminated glass used in some Category II applications will probably increase by 10 to 15 percent per square foot. The incremental cost to consumers for ungraded laminated glass is estimated to be approximately \$0.14 per household, annually. The cost to consumers for tempered glass, organic-coated glass, and plastics is not expected to increase because of the standard. Information available to the Commission indicates that the technology needed for producing wired glass which can comply

- with the standard is not readily available. See appendix A of the Economic Impact Statement, pp. 45–56, for the incremental cost calculation by product category and application.
- (iii) Probable effect of the standard upon the utility of architectural glazing materials and architectural products incorporating the glazing materials to meet the need of the public for the products. The probable effect of the standard in regard to the utility of architectural glazing materials and the architectural products incorporating glazing material should be to increase the utility of the products. The basic effect of the standard would be the substitution of certain safer glazing materials for annealed glass in certain architectural products. The Commission believes that such a substitution would increase utility for most consumers because of the usually increased durability of the glazing material that complies with the Commission's standard, and the knowledge that the product incorporating the glazing material is safer. There will be disutility for those consumers who prefer non-complying wired glass and organic-coated glass when these materials become unavailable for certain applications due to their likely inability to comply with the standard. However, the share of the glazing material market claimed by organic-coated and wired glass is small.
- (iv) Probable effect of the standard upon the availability of architectural alazina materials and architectural products incorporating the glazing materials to meet the need of the public for the products. The Commission finds that the proposed standard should not have impacts of significant magnitude on the availability of architectural products within the scope of the standard, since domestic production capacity appears to be sufficient to handle any increased demand for glazing material to be used in those products. In addition, an increased demand for raw materials necessary to manufacture glazing materials that comply with the standard will be small in comparison to the volume of raw materials currently used for glazing for the products that will be subject to the standard. Furthermore, no major change in demand for the architectural products subject to the

standard incorporating glazing materials which would affect production is expected. The Commission finds that, in the absence of technological advances, certain glazing materials will no longer be available for particular applications. Unless technological advances are made, wired glass will be unavailable for use in the architectural products within the scope of the standard with the exception of fire door applications where special provisions of the standard apply. Similarly, organiccoated glass which has the film applied to annealed glass at the factory may no longer be available for Category II products due to an inability to pass those impact test provisions of the standard. The availability of glass replacement glazing in residential applications may be reduced, since plastic glazing often will be the only economical material available to consumers when immediate replacement is need-

(4) Any means of achieving the objectives of the standard while minimizing adverse effects on competition or disruption or dislocation of manufacturing and other commercial practices consistent with the public health and safety. The Commission has considered other means of achieving the objective of the standard, but has found none that it believes would have fewer adverse effects on competition or that would cause less disruption or dislocation of manufacturing and other commercial practices, consistent with the public health and safety. For the glazing industry in general, the disruptions and dislocations of existing manufacturing and commercial practices due to the standard are expected to be minor. However, it is possible that individual segments of the glazing materials industry are likely to be adversely affected by the standard. Specifically, there is likely to be disruption to the wired glass market, the organic-coated glass market and, to a lesser extent, to the laminated glass market. Manufacturers of wired glass will face a serious problem because technological improvements in the product will need to be made before wired glass can be used in Category I applications and because it probably will not be usable at all in Category II applications (see §1201.2(a) (3) and (4) of

the standard), since there appears to be little prospect at this time of developing a wired glass product capable of withstanding the Category II, 400 foot pound impact test prescribed in §1201.4 of the standard. Laminated glass currently used for Category I applications can meet the 150 foot pound impact test requirements, but not all laminated glass currently used for Category II applications can meet the 400 foot pound impact test requirements. The price increase for technologically upgrading laminated glass will be borne by consumers. The Commission believes, however, that the competitive impact of the proposed changes would not severely weaken the position of laminated glass in the market place. The wired glass, organic-coated glass, and laminated glass markets affected by the standard are small in relation to the entire industry. The standard is not expected to have an appreciable impact on foreign or domestic competition. Increased competition is expected between primary glass temperers and regional temperers, with primary temperers taking an increased share of the original storm door, sliding door, bathtub enclosure and shower door markets. Sales of nonresidential glazing for major nonresidential buildings will remain with the primary glass companies. The regional temperers are expected to handle almost all the tempering of glazing for smaller nonresidential buildings. Thus, they will gain some of this market at the expense of local dealers and distributors. However, the distributors and dealers probably will operate as order takers for the smallest jobs. It is expected that glazing distributors and dealers will experience reduced market shares in both the residential and nonresidential new glazing markets. This will occur as a result of the transfer of business to the primary glass manufacturers and regional temperers, since tempered glass must be produced to size and it is not feasible to keep in inventory all sizes which might be needed.

(5) Summary finding. The Commission finds that there are unreasonable risks of injury associated with architectural glazing materials used in the architectural products listed in paragraph (a)

of this section. In assessing the question of whether unreasonable risks of injury or injury potential are associated with architectural glazing materials, the Commission has balanced the degree, nature and frequency of injury against the potential effect of the standard on the ability of architectural glazing materials to meet the need of the public and the effect of the standard on the cost, utility, and availability of architectural glazing materials to meet that need. The Commission finds that this standard, including its effective date, is reasonably necessary to eliminate or reduce the unreasonable risks of injury associated with architectural glazing materials and that promulgation of the standard is in the public interest.

(Sec. 9(e), Pub. L. 92–573, 86 Stat. 1215 (15 U.S.C. 2058(e)) (5 U.S.C. 553)

[42 FR 1441, Jan. 6, 1977, as amended at 43 FR 57246 Dec. 7, 1978; 45 FR 57389, Aug. 28, 1980; 47 FR 27856, June 28, 1982; 49 FR 7107, Feb. 27, 19841

§ 1201.2 Definitions.

- (a) As used in this part 1201:
- (1) Annealed glass means glass that has been subjected to a slow, controlled cooling process during manufacture to control residual stresses so that it can be cut or subjected to other fabrication. Regular polished plate, float, sheet, rolled, and some patterned surface glasses are examples of annealed glass.
- (2) Bathtub doors and enclosures means assemblies of panels and/or doors that are installed on the lip of or immediately surrounding a bathtub.
- (3) Category I products means any of the following architectural products:
- (i) Storm doors or combination doors that contain no single piece of glazing material greater than 9 square feet (0.83 square meters) in surface area of one side of the piece of glazing material.
- (ii) Doors that contain no single piece of glazing material greater than 9 square feet (0.83 square meters) in surface area of one side of the piece of glazing material.
- (4) Category II products means any of the following architectural products:
- (i) Shower doors and enclosures.
- (ii) Bathtub doors and enclosures.

- (iii) Sliding glass doors (patio type).
- (iv) Storm doors or combination doors that contain any piece of glazing material greater than 9 square feet (0.83 square meters) in surface area of one side of the piece of glazing material.
- (v) Doors that contain any piece of glazing material greater than 9 square feet (0.83 square meters) in surface area of one side of the piece of glazing material.
- (5) Distributor means a person to whom a consumer product is delivered or sold for purposes of distribution in commerce, including persons cutting glazing material to size, except that such term does not include a manufacturer or retailer of such product.
- (6) Distribution in commerce means to sell in commerce, to introduce or deliver for introduction into commerce, or to hold for sale or distribution after introduction into commerce.
- (7) Door means an assembly that is installed in an interior or exterior wall; that is movable in a sliding, pivoting, hinged, or revolving manner of movement; and that is used by consumers to produce or close off an opening for use as a means of human passage
- (8) Fabricator means any person who assembles or otherwise incorporates glazing materials into an architectural product listed in §1201.1(a). A fabricator is considered a manufacturer as defined in paragraph (a)(16) of this section.
- (9) Glass means a hard, brittle, amorphous substance produced by fusion, usually consisting of mutually dissolved silica and silicates that also contains sods and lime. It may be transparent, translucent, or opaque.
 - (10) [Reserved]
- (11) Glazing material means glass, including annealed glass, organic coated glass, tempered glass, laminated glass, wired glass; or combinations thereof where these are used:
- (i) In openings through the architectural products listed in §1201.1(a), or
- (ii) As the architectural products themselves, e.g. unframed doors.
- (12) Jalousie door means a door (as "door" is defined in paragraph (a)(7) of this section) having an opening glazed with operable, overlapping louvers.

Each louver is one of a series of overlapping pieces of glazing material designed to admit ventilation and light but exclude rain and is typically operated by a crank and gear mechanism.

- (13) Laminated glass means glazing material composed of two or more pieces of glass, each piece being either tempered glass, heat strengthened glass, annealed glass or wired glass, bonded to an intervening layer or layers of resilient plastic material.
- (14) Leaded glass means a decorative composite glazing material made of individual pieces of glass whose perimeter is enclosed by lengths of durable metal such as lead or zinc and the pieces of glass are completely held together and supported by such metal. Such pieces of glass can be clear, colored, beveled, painted, or flashed and etched.
- (15) Manufacture means to manufacture, produce or assemble.
- (16) Manufacturer means any person who manufactures, fabricates or imports a glazing material or architectural product listed in §1201.1(a) that incorporates glazing material.
- (17) *Mirror* means a treated, polished or smooth glazing material that forms images by the reflection of light.
- (18) Mobile home means a structure transportable in one or more sections, which is eight body feet (2.4 body meters) or more in width and is thirty-two body feet (9.7 body meters) or more in length, and which is built on a permanent chassis and designed to be used as a dwelling with or without a permanent foundation when connected to the required utilities.
- (19) Other buildings or parts thereof means buildings or parts thereof (other than residential, school, public, or recreational buildings) in which all or part of the building is open to the public with or without specific invitation. Included are buildings or parts thereof such as banks and recreational or retail facilities in a building and multiuse buildings that contain residential units.
- (20) Organic-coated glass means a glazing material consisting of a piece of glass, coated and bonded on one or both sides with an applied polymeric coating, sheeting, or film.

- (21) Patio door (See "sliding glass doors (patio-type)" in paragraph (a)(31) of this section).
- (22) Permanent label means a label that will remain permanently legible and visible after installation of the glazing material and that would be destroyed in attempts to remove it from the glazing material and includes (but is not limited to) sandblast, acid etch, hot-stamp, and destructible polyester labels.
 - (23) [Reserved]
- (24) Private labeler means an owner of a brand or trademark on the label of a consumer product which bears a private label, and includes any fabricator, distributor, or installer who cuts certified and permanently labeled glazing materials into smaller pieces.
- (25) Public building means a building of public assembly or meeting including (but not limited to) a museum, place of worship, or restaurant.
- (26) Recreational building means a building used for recreational purposes including (but not limited to) a theater, stadium, gymnasium, amusement park building or library.
- (27) Residential building means a building, permanent or temporary, such as a single or multifamily residence, including (but not limited to) a house, apartment building, lodging home, dormitory, hotel, motel, hospital, sanitarium, and nursing home, used as a dwelling for one or more persons or families and any structure which is attached to, a part of, or appurtenant to such a building. Public areas of all residential buildings, such as lobbies and other common facilities, are included within the definition of "other buildings or parts thereof" in paragraph (a)(19) of this section. For purposes of this part 1201, a mobile home as defined in paragraph (a)(18) of this section is not considered to be a residential building.
- (28) Retailer means a person to whom a consumer product is delivered or sold for purposes of sale or distribution by such person to a consumer; the term retailer includes a person who cuts glazing material to size for consumers.
- (29) School building means a building designed primarily for the conduct of educational instruction and includes

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the classrooms, libraries, administrative offices, auditoriums, eating and sanitary facilities, stadiums, gymnasiums and all other structures associated with such buildings.

- (30) Shower door and enclosure means an assembly of one or more panels installed to form all or part of the wall and or door of a shower stall.
- (31) Sliding glass door (patio-type) means an assembly of one or more panels, at least one of which is suitably movable for use as a means of human ingress or egress. The term includes the nonmovable and movable panels of such assembly.
- (32) Storm door (or combination door) means a movable assembly, used in tandem with an exterior door to protect the exterior door against weather elements and/or to improve indoor climate control.
- (33) Tempered glass means a piece of specially heat treated or chemically treated glass that cannot be cut, drilled, ground, or polished after treatment without fracture. When fractured at any point, if highly tempered, the entire piece breaks into small particles.
- (34) Wired glass means a single piece of annealed glass that contains wire embedded in the body of the glass.
- (35) Commission means the Consumer Product Safety Commission.
- (36) Carved glass means a decoration glazing material in which a permanent visible design has been produced by polishing, grinding, or otherwise removing portions of the surface.
- (37) Dalle glass or dalle de verre (including faceted glass) means a decorative composite glazing material made of individual pieces of glass which are imbedded in a cast matrix of concrete or epoxy.
- (b) Definitions given in the Consumer Product Safety Act, and not repeated in this section, are applicable to this part.
- (c) Test methods and recommended practices published by the American Society for Testing and Materials (ASTM)¹, and referred to in this part

1201, are hereby incorporated by reference into this part.

(d) Test methods and recommended practices published by the American National Standards Institute (ANSI) and referred to in this part 1201, are hereby incorporated by reference into this part.

(Sec. 9(e), Pub. L. 92–573, 86 Stat. 1215; (15 U.S.C. 2058(e); (5 U.S.C. 553))

[42 FR 1441, Jan. 6, 1977, as amended at 42 FR 61860, Dec. 7, 1977; 43 FR 50422, Oct. 30, 1978; 43 FR 57247, Dec. 7, 1978; 45 FR 57389, Aug. 28, 1980; 47 FR 27856, June 28, 1982]

§1201.3 General requirements.

- (a) All glazing materials to which this standard applies, as described in §1201.1, shall meet the impact and environmental test requirements in §1201.4, and shall be labeled by manufacturers in accordance with §1201.5.
- (b) Glazing materials used in architectural products not listed in §1201.1(a) are not subject to this part. Any material not listed in the definition of "glazing material" in §1201.2(a)(11) is not subject to this part 1201.

[42 FR 1441, Jan. 6, 1977, as amended at 47 FR 27856, June 28, 1982]

§ 1201.4 Test procedures.

- (a) Types of tests—(1) Impact test. Specimens shall be struck as prescribed by paragraph (d)(1) of this section using equipment specified by paragraphs (b) (1) and (2) of this section. Results of the impact test are to be interpreted in accordance with paragraph (e)(1) of this section. The test specimens shall be selected in accordance with paragraphs (c) (1) and (2) of this section.
- (2) Accelerated environmental durability tests. Each specimen of glazing material subject to this part 1201 shall be tested in accordance with the accelerated tests referenced in table 1, "Accelerated Tests" of this section. However, tempered glass, wired glass, and annealed glass are not required to be subjected to the accelerated environmental durability tests.

Society for Testing and Materials, 1916 Race Street, Philadelphia, Pennsylvania 19103.

¹ASTM test methods and recommended practices are approved by, published by, and available for purchase from the American

TABLE 1—ACCELERATED TEST (APPLICABLE PARAGRAPHS)

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Glazing materials	Specimen	Test equipment	Exposure	Criteria for passing
Laminated glass Organic coated glass Tempered glass Wired glass Annealed glass	§ 1201.4(c)(1) and (c)(3)(i) § 1201.4(c)(1) and (c)(3)(ii)(B) Exempt Exempt Exempt	§ 1201.4(b)(3)(i) § 1201.4(b)(3)(ii)	§ 1201.4(d)(2)(i) § 1201.4(d)(2)(ii)(B)	§ 1201.4(e)(2)(i) § 1201.4(e)(2)(ii)(B)

- (3) Separate testing is required for different glazing materials or for differences within a type of glazing material that could noticeably affect performance in the impact or environmental durability tests. Such differences could include (but are not limited to): Nominal thickness or thicknesses, method of manufacture (in appropriate cases), types and amounts of additives, and composition of base materials and adhesives.
- (b) Test equipment—(1) Impact test frame and subframe. (See figures 1, 2, 3, and 4.) (i) The impact test frame shall be constructed to minimize movement and deflection of its members during testing. For this purpose, the structural framing and bracing members shall be steel angles 3 inches by 5 inches by ½ inch (7.7 centimeters by 12.7 centimeters by 0.7 centimeters) or other sections and materials of equal or greater rigidity.
- (ii) The structural framing shall be welded or securely bolted at the corners and braced by one of the alternate methods shown in figure 1 and shall be securely bolted to the floor.
- (iii) The inner subframe (see figures 2, 3, and 4) for securing the test specimen on all four edges shall be reinforced at each corner. The material is shown as wood in figure 3, but other materials may be used: *Provided*, The test specimen will contact only the neoprene strips, which shall have a shore A durometer hardness of 30 to 50.
- (iv) Any reasonable means may be used to secure the subframe to the test frame so long as the mounting is secure and the pressure on the glazing in the subframe is not significantly altered when the subframe is removed.
- (v) Pressures on the test specimen shall be controlled, and the compression of the neoprene strips shall be between 10 and 15 percent of the original thickness of the neoprene. Securing methods such as wing bolts and clamps

- shall be uniformly spaced no greater than 18 inches (45 centimeters) apart with no fewer than two on any edge. To limit the compression of the neoprene and prevent distortion of the subframe, metal shims of an appropriate thickness shall be used as shown in figures 3 and 4
- (2) Impactor. (i) The impactor shall be a leather punching bag as shown in figure 5 on this section. The bag shall be filled with No. 71/2 chilled lead shot to a total weight of completed assembly as shown in figure 5, of 100 pounds ±4 ounces (45.36±0.11 kilograms). The rubber bladder shall be left in place and filled through a hole cut into the upper part. After filling the rubber bladder, the top should be either twisted around the threaded metal rod below the metal sleeve or pulled over the metal sleeve and tied with a cord or leather thong. Note that the hanging strap must be removed. The bag should be laced in the normal manner. The exterior of the bag shall be completely covered by ½ inch (1.3 centimeters) wide glass filament reinforced pressure sensitive tape. (Figure 5.)
- (ii) Provisions shall be made for raising the impactor or to drop heights of up to 48 inches (1.22 meters). At its release it shall have been supported so that the rod going through its center was in line with the steel support cable in a manner designed to minimize wobble or oscillation after its release.
- (3) Environmental durability test equipment—(i) Boil test. Two containers of water shall be provided with means to maintain one at $150^{\circ} \pm 5^{\circ} \Gamma$ ($66^{\circ} \pm 2^{\circ} C$) and the second at a slow boil at atmospheric pressure. The containers shall be large enough to accept a rack holding three specimens, each 12 inches (30 centimeters) square, of the glazing material in a vertical position. The rack shall be positioned so that each specimen is surrounded by at least one inch (2.5 centimeters) of water.

- (ii) Simulated weathering test. The equipment shall be a xenon arc (watercooled) Weather-Ometer employing a lamp rated at 6500 watts and automatic light monitoring and control systems. Borosilicate inner and outer filters shall be used. An appropriate water spray cycle shall be used. Operating procedures shall be in accordance with ASTM G 26-70, "Standard Recommended Practice for Operating Light—and Water-Exposure Apparatus (Xenon-Arc Type) for Exposure of Nonmetallic Materials," April 13, 1970, as augmented for plastics by ASTM D 2565-70, "Standard Recommended Practice for Operating Xenon-Arc Type (Water-Cooled) Light- and Water-Exposure Apparatus for Exposure of Plastics," Procedure B, June 12, 1970, which are incorporated by reference. Copies of both documents are available from the American Society for Testing and Materials, 1916 Race Street, Philadelphia, Pennsylvania 19103. They are also available for inspection at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: http:// www.archives.gov/federal register/ $code_of_federal_regula\overline{ti}ons/$
- ibr_locations.html. This incorporation by reference was approved by the Director of the Federal Register. These materials are incorporated as they exist in the edition which has been approved by the Director of the Federal Register and which has been filed with the Office of the Federal Register.
- (c) Test specimens—(1) Condition of specimens. All specimens shall be tested as supplied by the manufacturer, following removal of any temporary protective masking materials. No tests shall be commenced before the specimens have been stored in the laboratory for 4 hours. Specimens shall be arranged to permit free circulation of air to all surfaces during this period.
- (2) Impact specimens. Impact specimens shall be of the largest size manufactured up to a maximum width of 34 inches (86 centimeters) and a maximum height of 76 inches (1.9 meters). Specimens shall be tested for each nominal thickness offered by the manufacturer.
- (3) Environmental durability specimens—(i) Boil test. Three pieces 12

- inches by 12 inches (30 centimeters by 30 centimeters) with nominal thickness identical to those submitted for the impact test shall be used.
 - (ii) Weathering tests—(A) [Reserved]
- (B) Organic-coated glass—(1) Orientation specified. Six organic-coated glass specimens 2 inches by 6 inches (5 centimeters by 15 centimeters) by nominal thickness identical to those submitted for the impact test shall be used.
- (2) Orientation unspecified. Nine organic-coated glass specimens, 2 inches by 6 inches (5 centimeters by 15 centimeters) by nominal thickness identical to those submitted for the impact test shall be used except that when the glazing material is symmetric across its thickness, six specimens may be used
- (iii) *Indoor service*. Four additional samples identical to those submitted for the impact test.
- (d) Test procedures—(1) Impact test procedure. Each specimen shall be struck within 2 inches (5 centimeters) of its geometric center with the impactor dropped from a single height, designated according to the product category. Specimens for Category I shall be impacted one time from a drop height of 18 to 18½ inches (458 to 470 millimeters). Specimens for Category II shall be impacted one time from drop height of 48 to 48½ inches (1.22 to 1.23 meters). For all specimens that are not symmetric from surface to surface, an equal number of specimens shall be impacted on each side. For glazing materials which will be evaluated by paragraph (e)(1)(iii) of this section, this impact test procedure is not required.
- (2) Environmental durability test procedures—(i) Boil test. The specimens shall be immersed in the 150 F (66 °C) water for 3 minutes. They shall then be quickly removed and immersed in the boiling water and left there for 2 hours. The specimens shall then be removed, cooled, and dried for examination as specified in paragraph (e)(2)(i) of this section.
- (ii) Accelerated weathering test. The specimens shall be retained in the Weather-Ometer (paragraph (b)(3)(ii) of this section) for a period of 1200±1 hours, and exposed to a radiant flux of 50 microwatts per square centimeter

(12 calories per second per square centimeter) while monitoring at a wavelength of 340 nanometers.

- (A) [Reserved]
- (B) Organic-coated glass—(1) Orientation specified. Three specimens shall be mounted with the surface that is intended to be oriented indoors faced away from the radiation source; the other three specimens shall be kept in darkness at 73 °F (23 °C) for use as controls. Materials so tested shall be labeled according to §1201.5(c) of this part 1201.
- (2) Orientation unspecified. Three specimens shall be mounted with one of the surfaces toward the radiation; three specimens shall be mounted with the other surface toward the radiation, and three specimens shall be kept in darkness at 73 °F (23 °C) for use as controls. When the glazing material is symmetric across its thickness, three specimens shall be irradiated.
- (e) Interpretation of results—(1) Impact test. A glazing material may be qualified for use in both Category I and Category II products if it meets the impact requirements for Category II. A glazing material shall be judged to pass the impact test if the specimen tested meets any one of the criteria listed in paragraphs (e)(1) (i) through (v) of this section:
- (i) When breakage occurs (numerous cracks and fissures may occur) no opening shall develop in the test sample through which a 3 inch (76 millimeter) diameter solid steel sphere, weighing 4 pounds ±3 oz (1.81±0.08 kilograms), passes when placed (not dropped) in the opening and permitted to remain for a period of one second. For this criterion, the sample after being impacted shall be placed, while remaining in the subframe, in a horizontal, impact side up position with a minimum of one foot (31 centimeters) of free space immediately beneath the specimen.
- (ii) When breakage occurs, what appear to be the 10 largest particles shall be selected within 5 minutes subsequent to the test and shall weigh no more than the equivalent weight of 10 square inches (64 square centimeters) of the original specimen. For the purposes of this section particle means a portion of a broken test specimen

which is determined by identifying the smallest possible perimeter around all points in the portion of the broken test specimen, always passing along cracks or exposed surfaces.

- (iii) [Reserved]
- (iv) The specimen does not remain within the subframe and no breakage is caused by the impactor.
 - (v) The specimen does not break.
- (2) Environmental durability tests— (i) Boil test. The glass itself may crack in this test, but no bubbles or other defects shall develop more than ½ inch (12 millimeters) from the outer edge of the specimen or from any crack that may develop. Any specimen in which the glass cracks to an extent that confuses the interpretation of the results shall be discarded, and another specimen shall be tested in its stead.
- (ii) Accelerated weathering test—(A) [Reserved]
- (B) Organic-coated glass. Specimens shall be judged satisfactory if they pass both the adhesion test and the tensile test described below in paragraph (e)(ii)(B) (1) and (2) of this section.
- (1) Adhesion test (organic-coated glass only)—(i) Specimens. The specimens for this test are the 2 inch by 6 inch (5 centimeters by 15 centimeters) weathered specimens and the control specimens. The specimens shall be conditioned just prior to the performance of the adhesion test at 73° ± 6 °F (23° ± 3 °C) and 50 ± 5 percent relative humidity for 24 hours.
- (ii) Apparatus. The test apparatus shall consist of a constant-rate-of-extension-type (CRE) tensile tester with the moving crosshead set to move at 12 inches per minute (5 millimeters per second) and load range such that the average pull force will fall at 30 to 50 percent of full scale. A cutter shall be used containing new razor blades for cutting 1 inch (25 millimeter) wide specimens of the organic coating on the glass. The razor blades shall be used one time only.
- (iii) Procedure. Using the razor cutter, cut a straight, 1 inch (25 millimeter) wide strip of the organic coating in the lengthwise direction of the glass specimen along and within ¼ inch (6 millimeters) of one edge. Peel back, cleanly

and evenly, about 2 inches (50 millimeters) of one end of the 1 inch (25 millimeters) wide organic strip. Attach a strip of reinforced pressure sensitive tape to the side of the organic strip opposite the adhesive, to extend this free end to about 8 inches (200 millimeters) in length. Place the end of the glass panel from which the organic strip was removed in the lower clamp of the tensile tester and the free end of the tape in the upper clamp. Peel the remainder of the organic strip from the glass mechanically and obtain a record of the pull force value. Determine and record the average pull force value for each specimen from the chart. Weathered and control specimens are to be tested alternately.

- (iv) Interpretation of results. The organic-coated glass adhesion shall be judged satisfactory if the average pull force for the weathered specimens is no less than 90 percent of the average pull force for the control specimens.
- (2) Tensile strength test (organic-coated glass only). (i) The specimens for this test are the same 2 inch by 6 inch (5 centimeter by 15 centimeter) specimens used in the adhesion test.
- (ii) Apparatus. The CRE tensile tester shall be used with the moving crosshead set to move at 2 inches per minute (0.8 millimeter per second) and the load range such that the specimens will break at 30 to 60% of full scale. A cutter shall be used containing new razor blades for cutting ½ inch (12 millimeter) wide specimens of the organic coating on the glass. The razor blades shall be used one time only.
- (iii) Procedure. Using the ½ inch (12 millimeter) razor cutter, cut a straight strip of the organic coating in the lengthwise direction of the glass specimen for the full 6 inch (15 centimeter) length. Carefully peel this strip from the glass panel and test it for breaking strength in the tensile tester.
- (iv) Interpretation of results. The organic coating tensile strength shall be judged satisfactory if the average tensile value of the weathered specimens is no less than 75 percent of the average of the control specimens. Weath-

ered and control specimens are to be tested alternately.

(Sec. 9(e) Pub. L. 92–573, 86 Stat. 1215; (15 U.S.C. 2058(e)); (5 U.S.C. 553); sec. 9(h), Consumer Product Safety Act, as amended by the Consumer Product Safety Amendments of 1981 (Pub. L. 92–673, as amended by Pub. L. 97–35, 15 U.S.C. 2057(h)) and 5 U.S.C. 553)

[42 FR 1441, Jan. 6, 1977, as amended at 43 FR 43708, Sept. 27, 1978; 43 FR 57594, Dec. 8, 1978; 45 FR 66007, Oct. 6, 1980; 46 FR 63250, Dec. 31, 1981; 47 FR 27857, June 28, 1982]

§ 1201.5 Certification and labeling requirements.

- (a) Manufacturers and private labelers of glazing materials covered by this part 1201 shall comply with the requirements of section 14 CPSA (15 U.S.C. 2063) and regulations issued under section 14.
 - (b) [Reserved]
- (c) Organic-coated glass that has been tested for environmental exposure from one side only must bear a permanent label on the coating stating "GLAZE THIS SIDE IN" and shall bear in the central 50 percent of the surface area the following message in letters at least ¼ inch (7 millimeters) high: "SEE PERMANENT LABEL FOR IMPORTANT MOUNTING INSTRUCTION." The latter message shall be attached to either side of the glazing by any means which shall ensure the message will remain in place until installation.

[42 FR 1441, Jan. 6, 1977, as amended at 45 FR 66007, Oct. 6, 1980]

§ 1201.6 Prohibited stockpiling.

- (a) Stockpiling. For the purposes of this section, the term stockpiling means manufacturing or importing the affected products between the date of issuance of this part in the FEDERAL REGISTER and the effective date set out below in §1201.7 at a rate significantly greater (prescribed in paragraph (b) of this section) than the rate at which the affected products were produced or imported during a base period (prescribed in paragraph (c)(2) of this section).
- (b) Prohibited acts. Manufacturers and importers of glazing materials, fabricators, and manufacturers or importers of architectural products specified in §1201.1(a) who incorporate glazing material shall not incorporate glazing materials which do not comply with the

requirements of this part 1201 into such products between the date of issuance of this part in the Federal Register and the effective date set out in §1201.7 below at a rate greater than the rate of production or importation during the base period (defined in paragraph (c)(2) of this section) plus ten percent. For wired glass used in doors or other assemblies subject to this part 1201 and intended to retard the passage of fire, when such doors or other assemblies are required by a Federal, State, local or municipal fire ordinance, the rate of production during the base period may be increased annually by no more than 10 percent.

- (c) *Definitions*. As used in this section:
- (1) Rate of production (or importation) means the total number of affected architectural products incorporating glazing material not complying with this part manufactured or imported during a stated base period.
- (2) Base period means, at the option of the manufacturer or importer, any period of 180 consecutive days prior to January 6, 1977, said period to be selected within an interval which begins July 6, 1975.

§ 1201.7 Effective date.

The effective date of this part 1201 shall be July 6, 1977 except:

- (a) For glazing materials used in doors or other assemblies subject to this part and intended to retard the passage of fire when such doors or other assemblies are required by a Federal, State, or local or municipal fire ordinance, the effective date shall be January 6, 1980.
- (b) Architectural glazing materials manufactured before July 6, 1977 may be incorporated into architectural products listed in §1201.1(a) through July 5, 1978 if:
- (1) The architectural glazing material conforms to ANSI Standard Z97.1–1972 or 1975, "Performance Specifications and Methods of Test for Safety Glazing Material Used in Buildings," 1972 or 1975², which is incorporated by reference, and

- (2) The architectural glazing material is permanently labeled to indicate it conforms to ANSI Z97.1–1972 or 1975 or is accompanied by a certificate certifying conformance to ANSI Z97.1 1972 or 1975.
- (c) Tempered glass manufactured before July 6, 1977 may be incorporated into architectural products listed in §1201.1(a) through July 5, 1981 if:
- (1) The tempered glass conforms to ANSI Z97.1–1972 or 1975; and
- (2) The tempered glass is permanently labeled to indicate it conforms to ANSI Z97.1–1972 or 1975 or is accompanied by a certificate certifying conformance to ANSI Z97.1–1972 or 1975.
- (d) Laminated glass manufactured on or after July 6, 1977 through December 3, 1977 may be incorporated into category II products as defined in §1201.2(a)(4) through July 5, 1978 if:
- (1) The laminated glass conforms to ANSI Z97.1–1972 or 1975; and
- (2) The laminated glass is permanently labeled to indicate that it conforms to ANSI Z97.1–1972 or 1975 or is accompanied by a certificate in accordance with section 14(a) of the CPSA certifying conformance to ANSI Z97.1–1972 or 1975.
- (e) Architectural products manufactured between July 6, 1977 and July 5, 1978 incorporating glazing material in accordance with paragraph (b) of this section, may be distributed and sold without restriction.
- (f) Architectural products manufactured between July 6, 1977 and July 5, 1981 incorporating tempered glass in accordance with paragraph (c) of this section, may be distributed and sold without restriction.
- (g) Architectural products identified in §1201.2(a)(4) manufactured between

ibr locations.html. This incorporation by reference was approved by the Director of the Federal Register. These materials are incorporated as they exist in the editions which have been approved by the Director of the Federal Register and which have been filed with the Office of the Federal Register.

²Copies of ANSI Standard Z97.1–1972 or 1975 are available from the American National Standards Institute, 1430 Broadway, New

York, New York 10018. They are also available for inspection at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: http://www.archives.gov/federal_register/code_of_federal_regulations/

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July 6, 1977 and July 5, 1978 incorporating laminated glass in accordance with $\S1201.7(d)$ may be distributed and sold without restriction.

(h) Patinaed glass manufactured between July 6, 1977 and January 8, 1979, in accordance with the Commission's stay order published in the FEDERAL

REGISTER of August 9, 1977 (42 FR 40188), may be sold without restriction. Architectural products incorporating such glazing may also be sold without restriction.

 $[43\ \mathrm{FR}\ 50422,\ \mathrm{Oct.}\ 30,\ 1978,\ \mathrm{as}\ \mathrm{amended}\ \mathrm{at}\ 43\ \mathrm{FR}\ 57247,\ \mathrm{Dec.}\ 7,\ 1978;\ 46\ \mathrm{FR}\ 63250,\ \mathrm{Dec.}\ 31,\ 1981]$

Pt. 1201, Subpt. A, Fig. 1

Figure 1 to Subpart A of Part 1201—Glass Impact Test Structure

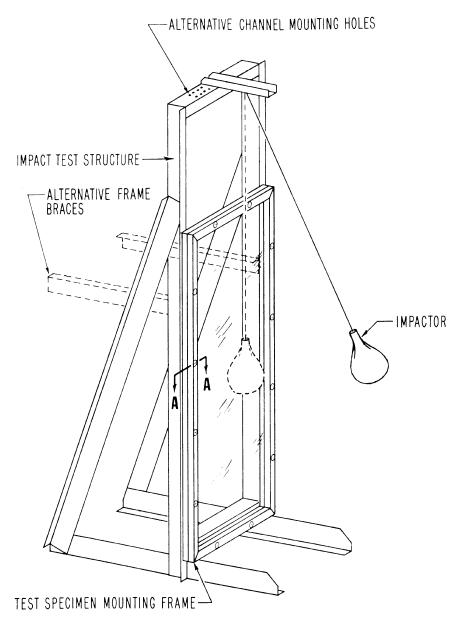
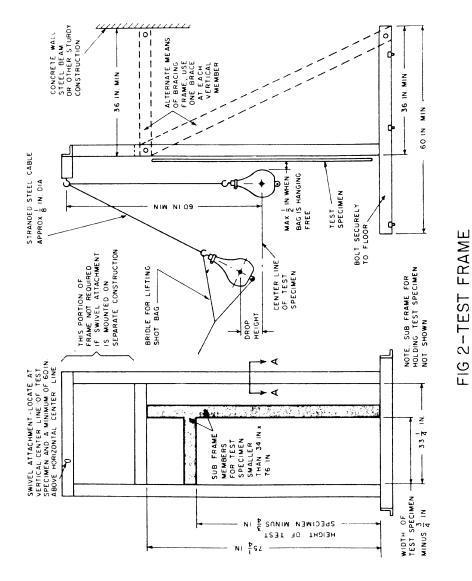


FIG I-GLASS IMPACT TEST STRUCTURE

FIGURE 2 TO SUBPART A OF PART 1201—TEST FRAME



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Pt. 1201, Subpt. A, Figs. 3, 4

Figures 3 and 4 to Subpart A of Part 1201—Test Specimens

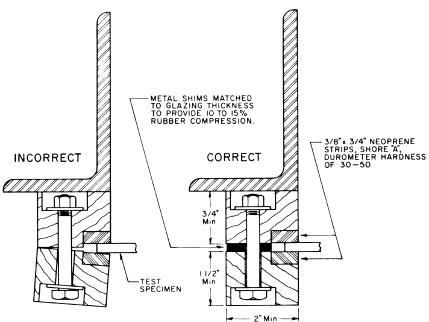


FIG 3-PROPERLY & IMPROPERLY CLAMPED TEST SPECIMEN (>1/8"THICK)

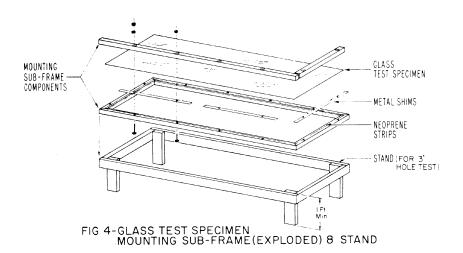


FIGURE 5 TO SUBPART A OF PART 1201—IMPACTOR

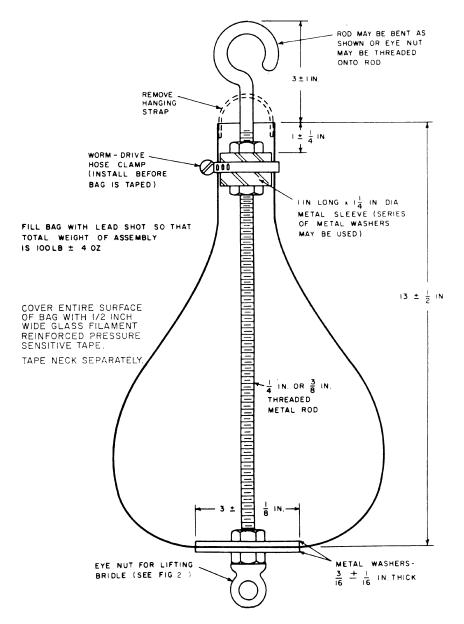


FIG 5-IMPACTOR

Subpart B [Reserved]

Subpart C—Statements of Policy and Interpretation

§ 1201.40 Interpretation concerning bathtub and shower doors and enclosures.

(a) Purpose and background. The purpose of this section is to clarify the scope of the terms "bathtub doors and enclosures" and "shower door and enclosure" as they are used in the Standard in subpart A. The Standard lists the products that are subject to it (§1201.1(a)). This list includes bathtub doors and enclosures, a term defined in the Standard to mean "assemblies of panels and/or doors that are installed on the lip of or immediately surrounding a bathtub" (§1201.2(a)(2)). The list also includes shower doors and enclosures, a term defined to mean "(assemblies) of one or more panels installed to form all or part of the wall and/or door of a shower stall' (§1201.2(a)(30)). Since the Standard became effective on July 6, 1977, the question has arisen whether the definitions of these products include glazing materials in a window that is located over a bathtub or within a shower stall and in the exterior wall of a building. The definitions of the terms "bathtub doors and enclosures" and "shower door and enclosure" contain no specific exemption for glazing materials in such windows. If read literally, the Standard could include glazing materials in an exterior wall window located above a bathtub because that window could be interpreted as being "immediately surrounding" the bathtub. Similarly, the Standard, if read literally, could include glazing materials in an exterior wall window because that window could be interpreted as forming "all or part of the wall * * * of a shower stall.'

(b) Interpretation. When the Consumer Product Safety Commission issued the Standard, it did not intend the standard to apply to any item of glazing material in a window that is located over a bathtub or within a shower stall and in the exterior wall of a building. The Commission clarifies that the Standard does not apply to such items of glazing material or such windows. This inter-

pretation applies only to the term "bathtub doors and enclosure" and "shower door and enclosure" and does not affect the applicability of the Standard to any other product.

[46 FR 45751, Sept. 15, 1981]

PART 1202—SAFETY STANDARD FOR MATCHBOOKS

Sec.

1202.1 Scope and effective date.

1202.2 Findings.

1202.3 Definitions.

1202.4 Matchbook general requirements.

1202.5 Certification.

1202.6 Marking.

1202.7 Prohibited stockpiling.

AUTHORITY: Secs. 2, 3, 7, 9, 14, 16, and 19. Pub. L. 92–573, 86 Stat. 1212–17 (15 U.S.C. 2051, 2052, 2056, 2058, 2063, 2065, and 2068).

SOURCE: 43 FR 53709, Nov. 17, 1978, unless otherwise noted.

§ 1202.1 Scope and effective date.

(a) Scope. This part 1202, a consumer product safety standard, prescribes the safety requirements, including labeling requirements, for the matchbook. This part 1202 applies to all matchbooks manufactured in or imported into the United States after its effective date.

(b) Effective date. The effective date shall be May 4, 1978.

§ 1202.2 Findings. 1

(a) Risk of injury. The Commission finds that unreasonable risks of injury from accidents are associated with matchbooks. These unreasonable risks,

¹The Commission's findings apply to the matchbook standard that it published on May 4, 1977 (42 FR 22656-70). On Mar. 31, 1978, the U.S. Court of Appeals for the First Circuit set aside portions of that standard (D. D. Bean & Sons, Co. v. CPSC, 574 F. 2d 643). On Nov. 17, 1978, the Commission published a revised version of the standard which reflects the court's decision. However, the findings have not been revised and they are therefore not fully applicable to the revised matchbook requirements. For example, the revised standard does not address the unreasonable risk of injury of "[b]urn injuries that have been sustained by persons from fires that have been set by the afterglow of extinguished bookmatches" (§1202.2(a)(6)) because the court set aside the afterglow performance requirement.