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**Re.: Your descriptive use of ROCK WOOL**

Dear Sir or Madam,

It has come to our attention that you have used ROCK WOOL as a descriptive term on your website: [http://inspectapedia.com/insulation/Rock\\_Wool\\_Insulation.php](http://inspectapedia.com/insulation/Rock_Wool_Insulation.php) ; cf. the attached copy.

The ROCKWOOL Group owns the ROCKWOOL trademark, which is registered in a large number of jurisdictions.

Thus, it shall only be used to identify products marketed by the ROCKWOOL Group and not used to describe insulation materials or any other products.

Use of ROCK WOOL to describe insulation material seriously damages our ROCKWOOL trademark, and therefore we kindly ask you correct your website. If appropriate, we suggest that you replace the term ROCK WOOL with the term mineral wool or stone wool insulation products when referring to insulation products not marketed by our company.

We look forward to hearing from you.

Yours sincerely



F  
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Senior Risk and Trademark Manager  
Group Legal Affairs

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## Rock Wool, Mineral Wool, & Slag Wool Building Insulation Identification

### MINERAL WOOL - ROCK WOOL INSULATION

**- CONTENTS:** Characteristics of mineral wool, rock wool, slag wool used for building insulation.

Photo guide to identification of different building insulation materials. List of current suppliers of rock wool or mineral wool insulation product. Properties of Johns-Manville Spintex® and other mineral wool products.

- [POST a QUESTION or READ FAQs](#) about Rock Wool mineral fiber insulation
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Advokatfirmaet Tommy V. Christiansen  
bliver til TVC Advokatfirma

**tvc.**  
ADVOKATFIRMA

Rock wool or mineral wool insulation:

This rock wool insulation article illustrates and describes mineral wool or rock wool and slag wool insulation materials. Rock wool insulation is also called mineral wool and slag wool though there can be differences among the components of these insulations.

This document assists building buyers, owners or inspectors who need to identify various insulation materials in buildings by simple visual inspection. We provide photographs and descriptive text of various types of mineral wool insulation and describe its properties, how it is made, health and maintenance concerns, and its insulating values.

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## MINERAL WOOL or ROCK WOOL - Mineral wool or "rock wool" or "slag wool" building insulation is not asbestos



Mineral wool insulation, developed in the 1850's, patented in 1875 in the U.S. and this material, also called rock wool insulation remained in popular use in the U.S. up to the 1950's, and is still in use today (2008) in some new construction, in manufactured housing, and in special applications such as the insulation of low-slope roofed cathedral ceilings and scissors-truss roofs.

### What is Rock Wool Insulation?



Just to add to the confusion about what to call this insulation, the insulation industry calls a range of products "mineral wool" and includes under that name: fiberglass, slag wool, and rock wool.

Rock wool is a naturally-occurring mineral fiber that looks like chopped white cottony material. (It may have originally been formed by wind blowing across streams of lava from erupting volcanoes.)

Rockwool is currently produced in the U.S. in Indiana, North Carolina, Texas, and Washington State. We list some current producers of rock wool or mineral wool insulation at [Reviewers](#), below.

As you can see in our photo at below left, mineral wool insulation is not necessarily stark white. In an attic rockwool is typically about 1 1/2 pounds per cubic foot in density. In building walls this material is installed in more dense sprays of four to five pounds of material per cubic foot.



At roughly 1.2 pounds per cubic foot, rockwool or mineral wool has an R-value of R-30 (heavier than fiberglass).

Rock wool as a building insulating material remains in active use in the U.S. and has been reported in application in the Southern U.S. in the mid 1980's and continuing at least into the mid 1990's. [*Home Energy Magazine Online*, July/August 1997]

Modern rock wool is a manufactured product comprised of a mix of limestone, slag waste from steel blast furnaces, and basalt or diabase. Rockwool is about 3/4 steel slag and 25% basalt rock. Some rockwool producers use nearly pure recycled steel slag.

Similar to the production of fiberglass, rock wool is manufactured by heating these materials and spinning them into fine fibers that are then often applied in a sprayed-on chopped fiber form.

### Airborne particle characteristics of Rock Wool Insulation



Our photo (left) shows the original branding of Gold Bond™ Rock Wool, insulation observed in a 1920's home built in Poughkeepsie, NY.

Because it is more dense (about 1.2 pounds /cubic foot) than some other insulating materials such as fiberglass (about 1/2 pound per cubic foot), some writers point out that rockwool is less likely to become airborne.

This is a confusing view unless supported by more specific data. Most air movement in buildings is upwards and outwards through the building attic.

We have identified some conditions in which air moves down from building attics into the occupied space, such as when a whole house fan is inadequately vented to the outdoors (and the attic is both pressurized and its dust stirred up by the fan).

A fiberglass batt provides less total volume of small particles to be stirred by an attic fan than does granular insulation such as vermiculite, rockwool, blown-in cellulose, or even chopped fiberglass (used in blown-in installations).

We'd also need to consider the average particle size and weight when evaluating the ease with which a material becomes airborne.

So particle density or density of an insulation material per cubic foot is not the whole story.

### What is Slag Wool Insulation?

Slag wool is a manmade vitreous fiber made by spinning slag into insulating fibers. Some rockwool producers use nearly pure recycled steel slag.

### **Do Rock Wool, Slag Wool, or Mineral Wool Insulation contain asbestos fibers?**

Mineral wool insulation, slag wool insulation, and "rock wool" insulation would not be expected to contain asbestos fibers - We have been unable to find reports indicating otherwise.

### **How to Avoid Moisture & Settling Problems when Spray Applying Mineral Wool, Rock Wool, Slag Wool Insulation**

Because these mineral fiber insulation products are often applied by spraying as a wet slurry onto building surfaces or into building cavities, they should not be covered by a vapor retarder barrier until the insulation has dried.

We recommend using a long-probe moisture meter such as models made by Delmhorst™ to assure that the rock wool sprayed into building cavities has dried to ambient indoor humidity before the wall or ceiling is covered with a vapor retarder or enclosed.

Mineral wool insulation is used by some manufactured home and possibly some mobile home manufacturers. Because these structures are later transported to their ultimate building site the insulation is exposed to vibration that can cause settling of the insulation within building cavities.

**Wet-process blown-in mineral wool insulation thickness can decrease by up to 16%** in this case, according to Graves and Yarborough. What the study did not examine, and which may be still more important, would be the development of gaps at the tops or sides of vertical wall sections if settlement moves the wall cavity insulation. ["An Evaluation of the Settling of Loose-Fill Rock Wool Insulation in the Attics of Two Manufactured Home Units", ASTM, Graves RS, Yarborough DW, January 1990. ]

### **What is the insulating value of mineral wool?**

This is a good insulating material and has a better "R" value and more sound-reduction ability per inch than some fiberglass. Rock Wool insulating Batts have an R value of about 3.14 to 4.00 per inch. Blown-in rock wool or mineral wool insulation such as that shown in our attic photo above, has an R value of about 3.10-4.00 per inch.

Other sources we researched indicated that slag wool loose-fill insulation had an R value of about R-2 to R 3.3 and one source claimed an R value of 4.1 per inch for rock wool. [*Home Energy Magazine Online*, July/August 1997]

A safe rough estimate is to assume mineral wool made of rock or slag has an R value of about 3.35 per inch in batt form and an R value of about 2.25 in loose fill installations.

To compare insulating material R-values see our [Table of Properties of Insulating Materials](#)

### **Slag Used in Rock Wool Insulation Products: Health Effects?**

Reader Question: Are there any companies that produce slag based insulation in the USA?

12 Feb 2015 Anonymous (a slag recycler) said:

Are there any companies that produce slag based insulation in the USA? I cant believe this country. Here is a recycled product that from everything i have read is fire proof, better r-value, and doesn't make you itch like fiberglass but we won't make it. Why? Are there no business minded people left in this country? You would think even the tree huggers and the government would think a recycled, fireproof insulation would meet there approval.

I recycle slag and can't understand why I am having such a hard time selling a recycled product even after I take out all the metals, screen and produce a quality product that even passes penn dot specks. It compacts better, in most cases is harder and you didn't have to rape mother earth to get it. Not forgetting the stone quarries can still make concrete with there stone so we won't have to import other countries concrete

.What's that worth? Less going into landfills, less imports ,less holes dug in mother earth and better ,safer insulation. the fuel savings not having to ship insulation and concrete across oceans and dig unnecessary holes should pay for the fuel needed to make the rock wool insulation. I don't know but i think we could use the jobs here and maybe export a product ourselves. What a concept. No one cleans the air from smokestacks like the usa and last I looked there isn't a wall to stop the smoke between here and china, so lets get real. Please tell me your opinion and let me know if anyone knows of a company that is or might be interested in producing slag wool in the usa.

#### **Reply:**

Slag products are still in active discussion regarding their use in insulating products both in the U.S. and in other countries as you can read at

- Al-Homoud, Mohammad S. "Performance characteristics and practical applications of common building thermal insulation materials." *Building and environment* 40, no. 3 (2005): 353-366.
- Depending on the actual slab you are suggesting be used to produce insulation (which certainly has been done elsewhere)\_ perhaps these references shed some light on the present situation:

- McConnell, E. E., O. Kamstrup, R. Musselman, T. W. Hesterberg, J. Chevalier, W. C. Miller, and P. Thevenaz. "Chronic inhalation study of size-separated rock and slag wool insulation fibers in Fischer 344/N rats." *Inhalation toxicology* 6, no. 6 (1994): 571-614.
- Somlai, J., V. Jobbágy, Cs Németh, Z. Gorjánác, N. Kávási, and T. Kovács. "Radiation dose from coal slag used as building material in the Transdanubian region of Hungary." *Radiation protection dosimetry* 118, no. 1 (2006): 82-87.
- Somlai, J., Cs Németh, Z. Lendvai, and R. Bodnár. "Dose contribution from school buildings containing coal slag insulation with elevated concentrations of natural radionuclides." *Journal of radioanalytical and nuclear chemistry* 218, no. 1 (1997): 61-63.
- In the U.S. slag was used in insulation products such as described in this patent "Insulation." U.S. Patent 2,330,941, issued October 5, 1943.
- Back in 1932 this patent disclosure described paper insulation using both slag and asbestos Weber, Louis. "Insulating paper." U.S. Patent 1,887,726, issued November 15, 1932. "Per cent Slag wool fibre 80 Asbestos fibre, 15 Colloidal clay L 5 In making the paper, the foregoing ingredients are mixed together. Sufficient water is added to the mixture to form a slush"

## Properties & Contents of Johns Manville Spintex® Insulating Batts



### Reader Question: Is there Asbestos in Johns Manville Spintex Batt Insulation? History & Properties of Johns Manville Spintex® Insulation

05/03/2015 Dan said:

Does John Manville Aluminum Wrapped Spintex batt Insulation (with aluminum foil on one side and [brown kraft] paper on the other side) contain asbestos and what would be the R value. The insulation is from the 1950's. There's a number on the aluminum side HI-131B



This question was originally posted at [INSULATION INSPECTION & IMPROVEMENT](#)



**Reply: most rock wool does not contain asbestos but there is at least one known exception from an Alabama manufacturer**



The short answer is that all research we've made to date indicates that Johns Manville Spintex® batt insulation was a rock wool or "mineral wool" foil faced insulating batt product. Spintex™ foil faced insulating batts produced by Manville were sold in thicknesses up to 6 inches. Rock wool is not an asbestos material.

**Watch out:** however historical research cited below claims that asbestos was added to rock wool by at least one manufacturer, Rock Wool Manufacturing Company, in Leeds, Alabama. Asbestos was added to the company's "rock wool" insulation for insulating value or as a binder according to sources cited below. Also if mineral wool or rock wool was produced at a facility that also handled asbestos there is a possibility of some cross-contamination between the materials. So without a lab test one cannot absolutely guarantee that mineral wool or "rock wool" is asbestos free.

[Click to enlarge any image]

Spintex® was described as well as a "blown home insulation" in the form of Spintex batts and blankets. - Johns-Manville Corp., "[Asbestos the Magic Mineral](#)", [8 MB PDF] Johns Manville on the occasion of its 100th Anniversary, when in 1958 the company described its use of mineral slag (obtained as a byproduct from metal refining) beginning as early as 1928 and producing mineral wool. Quoting from that document,

*The mineral wool is formed into small nodules and blown into the walls of older, uninsulated houses by special blowing machines. J-M mineral fibre products for home insulation include Spintex® Blown Home Insulation and Spintex batts and blankets.*

*These fibres are also used to produce insulations widely used in industry by manufacturers of home freezers, refrigerators, kitchen ranges, air-conditioning ducts, and many types of industrial products.*

*Johns-Manville plants manufacturing mineral wool products are located at Alexandria, Ind., Manville, N.J., Richmond, Inc., Watson, Calif., Waukegan, Ill, and Toronto Ontario. - [est. 1958]- retrieved 3 May 2015 original source <http://www.scribd.com/doc/36151062/Johns-Manville-Documents#scribd>*

The R-Value for Mansville Spintex was about 4.8 per inch before allowing for the effects of insulation gaps or material inconsistencies.

See the illustration of this product from an October 1958 Life Magazine advertisement shown at above left.

**Watch out:** while Spintex® is a mineral wool or "rock wool" non-asbestos product, if it was produced at a location where asbestos products were also manufactured one cannot presume that there cannot possibly be any asbestos particles found in the material. However the lab test reports that we have reviewed have not confirmed asbestos in any rock wool or mineral wool samples.

Following are some research citations that explain the derivation of the "Spintex" term and how it was used to produce fibers and insulating products. I think the origin of spintex was a German invention (see Bechler (1947) and Eugen (1959) and earlier US Patents citing Rollenlager-Spindelfabrik Spintex GmbH, Stuttgart-Bad Cannstatt, Germany Application July 8, 1954 or earlier)

The term "spintex" described a process used to produce a spun fiber. See these citations describing Spintex Insulation and the spintex process as well as its applications. Adding to confusion about the term, Spintex Inc. continues as a Illinois corporate name in the U.S. as well as in Canada and in India. Currently In the U.S. Spintex is an injection molding company with offices in the U.S. and Japan. In Canada Spintex is currently a furniture manufacturer in Alberta. In Bangladesh Spintex is a textile manufacturer. And there are of course more users of the Spintex name.

- "Asbestos in Alabama", Mesothelioma Center ( a website supporting litigation and health claims concerning asbestos exposure), Website: <http://www.asbestos.com>, retrieves: 2015/12/06, original source: <http://www.asbestos.com/states/alabama/>, Excerpts:

*... Alabama has no history of mining asbestos, use of the fibrous mineral spanned multiple industries before it was recognized as a human carcinogen in the 1980s...*

*.In 2004, the Birmingham News printed a series of reports on the severity of asbestos problems in Alabama. One story detailed how Rock Wool Manufacturing, a cement*

*manufacturer in Leeds, added asbestos to its products as a bonding agent. When unprotected workers handled the cement, they were exposed to the toxic substance. ... A July, 2010 report in the Huntsville Times showed that workers also found asbestos during a renovation of the Von Braun Center. ... in four sections of the building. Crews reported finding asbestos in the ductwork, in the floor tiles and in some exterior panels.*

- Alabama: Birmingham News, "The Business of Death - Rock Wool, a Bad Decision", retrieved 2015/12/06, original source: <http://www.al.com/birminghamnews/asbestos/> [Note: The Birmingham News does not provide the actual article text online - Ed.] Quoting: *The business of death: Rock Wool Manufacturing's decision to add asbestos to cement cost the company 140,000 lawsuits.*
- "Rock Wool Manufacturing Company Asbestos Trust Agreement", retrieved 2015/12/06, original source: <http://www.resasb.org/Pdf%20Docs/trustagr.pdf>  
Excerpt:  
*Rock Wool filed a voluntary petition for relief under Title 11 of Chapter 11 of the United States Code (the "Bankruptcy Code") on November 18, 1996*
- TANSIL v. RAYMARK INDUSTRIES, INC. et al Defendant: KEENE CORPORATION, ROCK WOOL MANUFACTURING CO., RAYMARK INDUSTRIES, INC. Plaintiff: LESLIE SEATON TANSIL
- Bakhshi, Shiv K., Steven H. Williams, James W. Scott, Randall M. Haines, and Ralph D. McGrath. "Method for manufacturing a mineral fiber product." U.S. Patent 5,490,961, issued February 13, 1996.
- Bakhshi, Shiv K., Steven H. Williams, James W. Scott, Randall M. Haines, and Ralph D. McGrath. "Multicomponent filaments comprising glass fibers and synthetic fibers joining with melted synthetic fiber particles; uniform distribution, flexibility, impact strength." U.S. Patent 5,736,475, issued April 7, 1998.
- Bakhshi, Shiv K., Steven H. Williams, James W. Scott, Randall M. Haines, and Ralph D. McGrath. "Method for manufacturing a mineral fiber product." U.S. Patent 5,490,961, issued February 13, 1996.
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- Bechler, Andre. "Bearing adjusting device." U.S. Patent 2,424,013, issued July 15, 1947.
- Eugen, Maurer. "Top rolls for drawing systems of ring spinning frames." U.S. Patent 2,873,484, issued February 17, 1959.
- Eugen, Maurer. "Drawing top rolls for ring spinning frames." U.S. Patent 2,927,349, issued March 8, 1960.
- Mossbeck, Niels S. "Reinforced pocketed spring assembly." U.S. Patent 6,295,673, issued October 2, 2001.
- Udayakumar, T. "Insulation Materials for Solar Heating Systems and Their Application." In Solar Water Heating Systems, pp. 129-132. Springer Netherlands, 1986.
- Patel, Mayur M., and Timothy A. Walsh. "Blower for lifting insulation pack." U.S. Patent 6,244,075, issued June 12, 2001.
- Rice, Richard E. "Heat-storage breather system." U.S. Patent 3,320,724, issued May 23, 1967.
- Labate, Samuel. "Porous Materials for Noise Control." Noise Control 2, no. 1 (1956): 15-72.
- Rutledge, Richard A. "Acoustical panel." U.S. Patent 3,948,347, issued April 6, 1976.
- Wegener, Ing Walther, and Dilp-Ing Willi Zahn. "Vergleich der Gesamt- und der Querstreuung verschiedener Spinnverfahren." In Vergleich des normalen mit verschiedenen abgekürzten Baumwollspinnverfahren in Bezug auf Gleichmäßigkeit und Sortierungsstreuung der Garne, pp. 20-42. VS Verlag für Sozialwissenschaften, 1956.

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### Comments

(Jan 24, 2016) [danjoefriedman \(mod\)](#) said:

John,

The Johns Manville patent you cite is described as follows:

This invention relates to an improved heat insulating product and with regard to certain other features to an improved felted and/or laminated product composed of rock or mineral wool.

That's mineral wool, not asbestos.

See

Powell, Edward R. "Heat insulating product and method of forming same." U.S. Patent 1,928,264, issued September 26, 1933.

(Jan 14, 2016) [John Khalil](#) said:

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I have some Johns Manville insulation in my basement that has patent #1928264 on the facing material. I believe it is mineral or rock wool. I want to make sure it does not contain asbestos.

(June 25, 2015) [P. Merrill](#) said:

In reference to original question---line 3---"below a bold straight..in Spanish". It should have read, "below a bold straight LINE in Spanish language. ( I don't know what year manufacturers were required to include instructions in Spanish)



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(June 25, 2015) **Paula Merrill** said:

Think we bought maybe at a Hugh M. Woods or Home Base, possibly more recently 10-15 yrs ago at Home Depot. The backing looks like light colored brown paper bag material and the insulation itself is light butter color. "gold fiber glass building insulation" in lower case lettering that is dark tan in color with the same info appearing below a bold straight.. in Spanish. We are guessing it's fiberglass which is itchy but would like assurance there is no asbestos. We need to move (1) batt to get at a leak in a black waste water pipe from upstairs kitchen drain. The water is leaking onto top on foundation sill then down across a stretch of basement wall causing a big puddle. We are original owners of a "Woods Bros." tract home bought in 1973 for 25,000.00 in Aurora, Co. Any insights into asbestos question would be very appreciated.

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(May 3, 2015) **DanJoeFriedman (mod)** said:

3 

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