

Commercial Building Insulation

Submittal Form

Submitted to:		
Submitted by:	Da	ate
Job Reference:		
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This form is provided to aid in the selection and specification of the proper Fiber Glass Building Insulation. Also included, are basic performance data and specification compliances.

For more information or technical assistance, contact your local sales representative.

For information on other Johns Manville products, contact the Product Information Center at 1-800-654-3103.

Submittal Form

Materials Provided	Product Description	R-value/Size (thickness, nominal)	RSI value/Size (thickness, nominal)	Location	Specification Compliance
☐ Thermal-SHIELD™ Unfaced	Fiber glass insulation for thermal and acoustical applications with no facing. When vapor control is required, a separate vapor retarder such as 4 mil (0.1 mm) or thicker polyethylene may be installed.	R-38/12½" and 13" R-30/10¼" R-19/6½" R-13/3½" R-11/3½" and 35%"	RSI-6.7/318mm and 330mm RSI-5.3/260mm RSI-3.3/165mm RSI-2.3/89mm RSI-1.9/89mm and 92mm		ASTM Standard C 665 Type I
□ Thermal-SHIELD™ Kraft-Faced	Fiber glass batts faced with a flanged, kraft paper vapor retarder with a maximum perm rating of 1.0 Grains/hr • ft² • in. Hg(57 ng/s • m² • Pa). The kraft facing is flammable and must not be left exposed.	R-38/12½" and 13" R-30/10¼" R-19/6½" R-13/3½" R-11/3½" and 3½"	RSI-6.7/318mm and 330mm RSI-5.3/260mm RSI-3.3/165mm RSI-2.3/89mm RSI-1.9/89mm and 92mm		ASTM Standard C 665 Type II, Class C, Category 1
□ Thermal-SHIELD™ Foil-Faced	Fiber glass batts with a foil/kraft laminate facing. The facing provides a maximum perm rating of 0.05 Grains/hr • ft² • in. Hg (2.9 ng/s • m² • Pa). The foil facing meets ASTM E 84 flame/smoke rating of 75/150 or less. It is not intended for exposed applications.	R-30/10¼" R-19/6½" R-11/3¾"	RSI-5.3/260mm RSI-3.3/165mm RSI-1.9/92mm		ASTM Standard C 665 Type III, Class B, Category 1
☐ Thermal-SHIELD™ Flame Resistant FSK-25	Fiber glass batts faced with a flame-resistant, foil-scrim-kraft laminate. Meets ASTM E 84 flame/smoke rating of 25/50 or less. The reflective foil facing has a maximum perm rating of 0.05 Grains/hr • ft² • in. Hg (2.9 ng/s • m² • Pa).	R-30/10½" R-19/6½" R-13/3½" R-11/3½" and 35%"	RSI-5.3/260mm RSI-3.3/165mm RSI-2.3/89mm RSI-1.9/89mm and 92mm		ASTM Standard C 665 Type III, Class A, Category 1
Grid-Shield® Thermal-Acoustical Batts	Fiber glass batts designed to resist heat transfer and absorb sound when installed above panels or tiles in suspended ceilings. Available unfaced or kraft-faced.	□ R-19/6½" R-11/4"	RSI- 3.3/165mm RSI- 1.9/102mm		ASTM Standard C 665 Type I or Type II Class C, Category 1
☐ Thermal-Shield™ Panel-Deck FSK Thermal Insulation	Fiber glass batts faced with extended tab flame-resistant, foil-scrim-kraft facing laminate.	□ R-19/6½"	RSI- 3.3/165mm		ASTM Standard C 665 Type III Class A, Category 1
☐ Thermal-SHIELD™ Panel-Deck PSK Thermal Insulation	Fiber glass batts faced with extended tab flame-resistant white polypropylene-scrim-kraft facing laminate.	□ R-19/6½"	RSI-3.3/165mm		ASTM Standard C 665 Type II, Class A Category 1

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Materials Provided Product Description Location

☐ Insul-SHIELD® Insulation

A series of flexible, semi-rigid or rigid fiber glass boards available unfaced or with FSK (Foil Scrim Kraft), white PSK (Polypropylene Scrim Kraft), black mat facings, or black coating in the density/thermal ranges listed below. Because of its rigidity, the insulation can often be used where framing is not present.

Thermal Properties (per ASTM C 518)

ame		nsity	"k" va	iues	Inici	(ness	R-value	RSI
JIIIC	lb/ft³	kg/m³	Btu•in (hr•ft²•°F)	W _{m•K}	inches	mm	(hr •ft.²•°F) Btu	m²•K/W
S 100	1.0	16.0	0.27	0.039	1½	38	5.6	0.99
S 150	1.50	24.0	0.24	0.035	*1	25	4.2	0.74
					* 1½	38	6.3	1.11
					* 2	51	8.3	1.46
					* 2½	64	10.4	1.83
					3	76	12.5	2.20
					3½	89	14.6	2.57
					4	102	16.7	2.94
S 225	2.25	36.0	0.23	0.033	*1	25	4.3	0.76
					* 1½	38	6.5	1.14
					* 2	51	8.7	1.53
					* 2½	64	10.9	1.92
					*3	76	13.0	2.29
					3½	89	15.2	2.68
					4	102	17.4	3.06
S 300	3.0	48.1	0.23	0.033	*1	25	4.3	0.76
					* 1½	38	6.5	1.14
					* 2	51	8.7	1.53
					* 2½	64	10.9	1.92
					*3	76	13.0	2.29
					3½	89	15.2	2.68
					4	102	17.4	3.06
S 600	6.0	96.1	0.22	0.032	*1	25	4.5	0.79
					* 1½	38	6.8	1.20
					* 2	51	9.1	1.60
					2½	64	11.4	2.01
					3	76	13.6	2.40
pated			0.25	0.036	1	25	4.0	0.70
S Black					2	51	8.0	1.41

^{*} Also available in Insul-SHIELD® Black Mat faced for these thicknesses only. Other thicknesses available by special order and subject to minimums.

Specification Compliance*

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	I/S	I/S	I/S	I/S	I/S	I/S 150	I/S 225	I/S 300	I/S 600	Coated I/S	
Туре	100	150	225	300	600	Black	Black	Black	Black	Black	
ASTM C 612, Type IA, Category 1**	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	
ASTM C 612, Type IB, Category 1**		Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ		
ASTM C 612, Type IB, Category 2**				Χ	Χ			Χ	Χ		
ASTM C 553, Type I and II**	Χ	Χ				Χ					
ASTM C 665, Type I**	Χ	Χ				Χ					
ASTM C 665, Type III, Class A, Category 1**		Χ									
ASTM E 136 (Noncombustible)	Χ	Χ	Χ	Χ		Χ	Χ	Χ		Χ	
ASTM F 84 (Flame/Smoke 25/50 or less)	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	X	

^{*} When ordering material under a government specification that requires specific lot testing and certification of compliance prior to shipment, this must be requested on the purchase order.

There may be additional charges for specification compliance testing.

^{**} Exceptions to ASTM standards: Not tested for use at elevated temperatures. Corrosiveness is tested on galvanized steel instead of plain low-carbon steel. Type 100 has k value of 0.27 Btu•in/(hr•ft²•°F) at 75° F mean temperature.

Submittal Form

Ma	terials Provided	Product Description	(th	/alue/Size ickness, minal)	RSI value/Size (thickness, nominal)	Location	Specification Compliance
	Sound-SHIELD® Sound Control Batts	Unfaced fiber glass insulation designed to provide effective sound control by completely filling wall cavities between standard-spaced steel studs.		6½" 35%" 2¾"	165mm 92mm 70mm		ASTM Standard C 665 Type I
	ComfortTherm® Poly-Encapsulated Thermal/Acoustical Batts	Poly-encapsulated fiber glass batts designed for concealed metal and wood framed wall and ceiling applications and directly above suspended ceiling systems. Poly-encapsulation provides for a cleaner installation both during initial and retrofit applications. These batts resist heat transfer.		R-11/35/6" R-13/33/2" R-19/63/2" R-25/83/4" R-30/103/4"	RSI-1.9/92mm RSI-2.3/89mm RSI-3.3/165mm RSI-4.4/210mm RSI-5.3/260mm		C 665 Type II, Class A Category 1
	Thermal-SHIELD™ Free Formaldehyde-Free, Unfaced Batts	Formaldehyde-free insulation designed for standard metal framing thermal applications. Can be cut to fit standard wood framing. No facing. When vapor control is required, a separate vapor retarder may be used.		R-19/6½"	RSI-3.3/159mm		ASTM Standard C 665 Type I
	Sound-SHIELD® Free Formaldehyde-Free Sound Control Batts	Formaldehyde-free insulation designed for standard metal framing sound control applications. Can be cut to fit standard wood framing. Provides maximum sound control effectiveness by completely filling the 2" x 4" wall cavity.		3%"	92mm		ASTM Standard C 665 Type I
	Grid-SHIELD Rx™ Poly-Encapsulated, Formaldehyde-Free Thermal/Acoustical Ceiling Batts	Formaldehyde-free poly-encapsulated batts designed for installation directly above the panels in suspended ceiling systems. These batts resist heat transfer and absorb sound. Poly-encapsulation provides for a cleaner installation both during initial and retrofit applications.		R-19/ 6½"	RSI-3.3/159mm		ASTM Standard C 665 Type II, Class A Category 2
	Theatre-SHIELD™ Plus	Theatre-SHIELD™ Plus is designed for acoustical control in theatre and studio applications. Provides exceptional sound absorption with a dark non-reflective appearance.		Rolls R-3.8/1" R-7.7/2" Boards R-4.3/1"	RSI-0.7/25mm RSI-1.4/51mm RSI-0.8/25mm		ASTM Standard C 612 Type 1A
	ITP Concrete Wall Insulation™ Fiber Glass Insulation System	White WMP-10 faced fiber glass insulation used to increase thermal performance of concrete walls.		R-7.7/2"	RSI-1.35/51mm RSI-1.76/57mm		ASTM Standard C 612 Type IA

Fire Safety

Johns Manville Fiber Glass Building Insulation, without facing, has been tested in accordance with ASTM E 84 and has a flame spread rating of less than 25 and a smoke developed rating of less than 50. UL Label File R-3711 available upon request, documenting a Fire Hazard Classification rating of 25/50 or less. Fiber glass insulation has passed the ASTM E 136 test and is, therefore, considered noncombustible by the major building codes.

When provided with a standard vapor retarder, the composite product cannot be classified as "noncombustible" as defined in most building codes. Vapor retarders (unless Class A rated) will burn and must not be left exposed.

They must be covered with gypsum board or other code-approved materials and installed in compliance with all building codes. To prevent a fire, keep open flames and other sources of heat away from the facing.

Faced insulations listed as ASTM C 665, Class A have achieved a flame spread rating of 25 or less, and a smoke developed rating of 50 or less per ASTM E 84 test method. (See additional information in "Guide Specifications" section of this form.)

Notes

Added insulating value may be obtained when FSK–25 faced insulation is installed with an air space adjacent to the facing. Consult the ASHRAE Handbook of Fundamentals.

The indicated thermal resistances have been determined by accepted ASTM test procedures conducted at a mean temperature of 75°F (24°C).

All products are produced to meet their labeled R-value even though labeled product thickness may differ from the thickness shown herein.

"R" means resistance to heat flow. The higher the R-value, the greater the insulating power.

If insulation is compressed or used at less than its labeled thickness, its R-value will be reduced.

Guide Specifications for Johns Manville Fiber Glass Thermal and Acoustical Insulations

Note to the specifier: Delete sections not used; fill in correct selections where indicated and/or add other information as required.

Specifications apply to wall, ceiling and/or floor insulation, both thermal and acoustical, except where noted.

Insulation materials meet the Insulation Quality Standards of the State of California, and the Minnesota Thermal Insulation Standards.

I. Scope

A. The general conditions in Division 1 of this specification form an integral part of the contract for the work specified in this section and all conditions contained therein shall be binding upon the contractor and shall govern the work.

B. No substitution will be permitted for materials and methods covered in this section.

II. Work Included

A. The work under this section of the specifications shall include furnishing all supervision, labor, materials, tools and equipment, and performing all operations necessary for the complete insulation system as described in the drawings and specifications in a first-class workman like manner.

III. General Requirements

A. Receiving and storing materials:

All materials must be delivered in original unopened packages with manufacturer's name and contents legibly indicated, and stored in a safe enclosed area protected from damage until ready for use.

B. All work, by other trades, to be concealed by insulation must be inspected and approved by those having jurisdiction; and execution of the insulation installation shall not proceed until so authorized.

IV. Materials (repeat for each location) Thermal Insulation Only

A. Insulation for (location: ceiling, walls, floors, etc.) shall be Johns Manville's (kraft-faced, poly-encapsulated, foil-faced or unfaced) fiber glass in roll or batt form, (thickness) thick, R-value (specify) or Johns Manville Thermal-SHIELD™ (kraft-faced, foil-faced, FSK-25 flame-resistant foil faced or unfaced).

Thermal-Acoustical Insulation

A. Insulation over suspended ceilings shall be Johns Manville's (kraft-faced, poly-encapsulated, unfaced) Grid-SHIELD® or Grid-SHIELD $\mathbb{R}_X^{\mathsf{TM}}$ Thermal-Acoustical Batts, (thickness) thick, or (specify) R-value.

Sound Control Insulation Only

A. Sound Control Insulation, as shown on drawings, shall be Johns Manville's sound control batts, (thickness) thick or Johns Manville's Sound-SHIELD®, Commercial ComfortTherm®, or Sound-SHIELD® Free.

V. Installation

Note: The following apply to both thermal and acoustical insulations *except* for B and C, which apply to thermal insulations only.

- **A.** Installation of the insulation shall be in accordance with the manufacturer's printed instructions for the specific product.
- **B.** Insulation shall fit all framing spaces, including areas between joists and outside headers, behind electrical outlets and piping and other areas, to form a complete insulating blanket around the heated or cooled areas of the structure.
- **C.** Flanged blankets shall be positioned and recessed as specified by the manufacturer for the particular use, and vapor retarders shall be on the inside (heated side in winter) of the insulation blanket.
- **D.** Standard kraft and standard foil facings are combustible and must not be left exposed. Where exposed application is desirable and permitted by applicable codes, flame-resistant, foil-faced insulation, FSK-25, must be used.*
- E. Insulation should not be installed over or within 3" (76 mm) of fixtures containing lights, fans, or other heat-generating electrical devices. Baffles should be used to maintain these clearances. Failure to do so may result in damage to these devices. To determine insulation clearance requirements, local building code requirements must be followed. IC-rated light fixtures may be covered with insulation.

Metal flues from furnaces, hot water tanks, etc., and some types of chimneys require 1" (25 mm) or more clearance from combustible materials. Some may require clearance from non-combustible materials (per ASTM E 136) like unfaced fiber glass insulation. Equipment and appliance manufacturer's instructions and local building codes shall be consulted for specific insulation clearance requirements.

* Johns Manville fiber glass building insulations, exclusive of facings, have passed the ASTM E 136 test. Products that pass this test are considered non-combustible by the major building codes.



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Properly insulating a structure using Johns Manville commercial building insulation helps preserve our environment by reducing energy consumption for heating and cooling, reducing the pollution resulting from fuel burning, and reducing waste through the utilization of recycled materials. Look for the cross and globe emblem on Johns Manville building products which indicates independent certification by Scientific Certification Systems, Inc. of 25 percent or more recycled glass content.

The physical and chemical properties of the Building Insulations listed herein represent typical, average values obtained in accordance with accepted test methods and are subject to normal manufacturing variations. They are supplied as a technical service and are subject to change without notice. Any references to numerical flame spread or smoke developed ratings are not intended to reflect hazards presented by these or any other materials under actual fire conditions. Check with the Sales Office nearest you for current information. All Johns Manville products are sold subject to Johns Manville's Limited Warranty and Limitation of Remedy, For a copy of the Johns Manville Limited Warranty and Limitation of Remedy, write to the address below. For information on ther Johns Manville International, Inc., Product Information Center, P.O. Box 5108, Denver, CO 80217-5108, or call 800-654-3103.