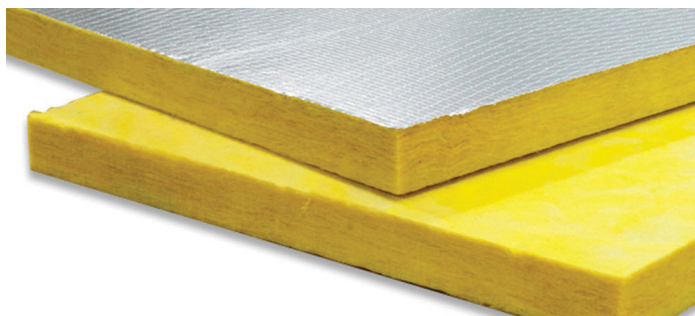




Fiberglas™ 700 Series Board

Type 703 and 705

Fiberglass Insulation



Description

Types 703 and 705 Series Insulation Boards are made of inorganic glass fibers with a thermosetting resin binder and formed into semi-rigid or rigid rectangular boards.

Types 703 and 705 are available with factory-applied FRK or poly encapsulated ASJ Max facings. Both facings are vapor retarders and provide a neat, finished appearance in mechanical applications.

Features

- Save and reduce heat transfer, lowering operating costs
- ASJ Max is an all-service-jacket with a polymer film exterior surface that is smooth, durable, cleanable, wrinkle-resistant, resists water staining and doesn't support mold or mildew growth¹
- The ASJ Max facing can resist short durations of liquid water exposure that can occur during construction
- Resists damage and maintains structural integrity and efficiency
- Efficiently reduces sound transmission
- 703 and 705 are lightweight, resilient, easy to handle and fabricate on the job site

1. ASJ Max jacket does not support mold growth when tested in accordance with ASTM C1338.

Applications

- Type 703—Semi-rigid boards for use on mechanical equipment and air conditioning ductwork, and walls and ceilings
- Type 705—A high strength rigid board for use on chillers, other mechanical equipment, walls and ceilings, and heating and air conditioning ductwork, where high abuse resistance and good finished appearance is important

Physical Properties

Property	Test Method	Value
Density	ASTM C303	Type 703: 3.0 pcf (48 kg/m ³) Type 705: 6.0 pcf (96 kg/m ³)
Equipment Operating Temperature Limitation ²	ASTM C411	0 to 450°F (-18 to 232°C)
Insulation Jacket Temperature Limitation	ASTM C1136	-20 to 150°F (-29 to 66°C)
Jacket Permeance	ASTM E96, Proc. A	0.02 perm
Jacket Burst Strength	ASTM D774	ASJ Max: 100 psi
Compressive Strength (minimum) at 10% deformation at 25% deformation	ASTM C165	703 Board: 25 lb/ft ² (1197 Pa) 705 Board: 200 lb/ft ² (9576 Pa) 90 lb/ft ² (4309 Pa)
Water Vapor Sorption	ASTM C1104	<2% by weight at 120°F (49°C), 95% R.H.
Surface Burning Characteristics ³	UL 723 ASTM E84 or CAN/ULC S102	FACED: Flame Spread Index 25 Smoke Developed Index 50 UNFACED: Flame Spread Index 5 Smoke Developed Index 5

2. Maximum thickness at 450°F (232°C) - 703 and 705: 4" (102mm).

3. The surface burning characteristics of these products have been determined in accordance with UL 723, ASTM E84 or CAN/ULC-S102. Values are reported to the nearest 5 rating.

Standards, Codes Compliance

- ASTM C612, Mineral Fiber Block & Board Thermal Insulation, Types IA, IB – Types 703 and 705
- ASTM C795, Thermal Insulation For Use Over Austenitic Stainless Steel⁴
- ASTM C1136, Flexible Low Permeance Vapor Retarders for Thermal Insulation, Type I: ASJ Max; Type II: FRK
- Nuclear Regulatory Commission Guide 1.36, Non-Metallic Thermal Insulation⁴
- Doesn't contain the fire retardant decabrominated diphenyl ether (decaBDE)
- CAN/CGSB-51.10 – Type I, Class I – Type 703
- NFPA 90A and 90B
- California Insulation Quality Standards CA-T052

4. Preproduction qualification testing complete and on file. Chemical analysis of each production lot required for total conformance. Certification needs to be specified at time of order.

703 Board Transportation

703 Board FRK faced and unfaced; Complies to following Transportation Test:

- ASTM E162, Surface Flammability of Materials Using a Radiant Heat Energy Source
- ASTM E662, Specific Optical Density of Smoke Generated by Solid Materials
- BSS 7238, Test Method for Smoke Generation by Materials on Combustion

Thermal Conductivity

Mean Temperature °F	k		Mean Temperature °C	λ	
	Btu·in/hr·ft ² ·°F	705		W/m·°C	705
50	0.21	0.22	10	0.030	0.032
75	0.23	0.23	25	0.033	0.034
100	0.24	0.25	50	0.036	0.037
150	0.27	0.27	75	0.040	0.041
200	0.30	0.30	100	0.045	0.045
250	0.34	0.33	125	0.050	0.049
300	0.38	0.37	150	0.055	0.053

Thermal Performance

ASTM C680 (Type 703)

Thickness in. (mm)	Operating Temperature, °F (°C)									
	250 (121)		300 (149)		350 (177)		400 (204)		450 (232)	
	HL	ST	HL	ST	HL	ST	HL	ST	HL	ST
1.0 (25)	27	98	42	106	57	114	75	123	95	133
1.5 (38)	19	93	29	99	40	105	52	112	66	119
2.0 (51)	15	90	22	95	31	100	40	105	50	111
2.5 (64)	12	88	18	92	25	96	32	101	41	106
3.0 (76)	10	87	15	91	21	94	27	98	34	102
3.5 (89)	9	86	13	89	18	92	23	96	30	99
4.0 (102)	8	86	11	88	16	91	21	94	26	97

The above table provides approximate heat loss values (HL), Btu/hr·ft², and Surface Temperatures (ST), °F, for flat surfaces. Values are based on horizontal heat flow, vertical flat surface, 80°F ambient temperature, still air, ASJ Max facing. To convert heat loss values to W/m², multiply values by 3.15. To convert surface temperatures, use the formula: °C = (°F-32)/1.8. For similar information using other assumptions, contact your Owens Corning Representative.

700 Series R-Values at 75°F Mean

Product	Nominal k-Value at thickness				
	1-in.	1.5-in.	2-in.	2.5-in.	3-in.
703	4.3	6.5	8.7	10.9	13.0
705	4.3	6.5	8.7	10.9	13.0

To determine R-Value at other thickness or other temperatures on the Thermal Conductive Table above, use the following calculation:

$$\text{Thickness} = \text{R-value} \times \text{k-value}$$

Sound Absorption Coefficients

ASTM C423; Mounting: Type A—Material placed against a solid backing

Product Type	Thickness		Octave Band Center Frequencies, Hz						
	in.	(mm)	125	250	500	1000	2000	4000	NRC
703 Unfaced	1	25	0.03	0.25	0.65	0.93	0.99	0.89	0.70
	2	51	0.10	0.71	1.14	1.14	1.03	0.95	1.00
	3	76	0.31	1.07	1.26	1.15	1.05	0.97	1.15
	4	100	0.51	1.19	1.24	1.13	1.04	0.94	1.15
705 Unfaced	1	25	0.01	0.22	0.67	0.97	1.05	1.06	0.75
	2	51	0.19	0.78	1.16	1.13	1.06	1.06	1.05
	3	76	0.40	1.13	1.19	1.12	1.07	1.06	1.15
	4	102	0.60	1.16	1.15	1.09	1.10	1.06	1.15
703 FRK	1	25	0.18	0.75	0.58	0.72	0.62	0.35	0.65
	2	51	0.63	0.56	0.95	0.79	0.60	0.35	0.75
705 FRK	1	25	0.27	0.66	0.33	0.66	0.51	0.41	0.55
	2	51	0.60	0.50	0.63	0.82	0.45	0.34	0.60
703 ASJ Max	1	25	0.17	0.71	0.59	0.68	0.54	0.30	0.65
	2	51	0.47	0.62	1.01	0.81	0.51	0.32	0.75
705 ASJ Max	1	25	0.20	0.64	0.33	0.56	0.54	0.33	0.50
	2	51	0.58	0.49	0.73	0.76	0.55	0.35	0.65

Insulations are available in:

- 24"x48" (610mm x 1,219mm)
- Type 703 comes in thicknesses from 1" (25mm) to 4" (102mm) in 1/2" (13mm) increments
- Type 705 comes in thicknesses from 1" (25mm) to 3" (76mm) in 1/2" (13mm) increments

Environmental and Sustainability

Owens Corning is a worldwide leader in building material systems, insulation and composite solutions, delivering a broad range of high-quality products and services. Owens Corning is committed to driving sustainability by delivering solutions, transforming markets and enhancing lives. More information can be found at www.owenscorning.com.

Certifications and Sustainable Features

- Certified by SCS Global Services to contain an average of 53% recycled glass content, 31% pre-consumer and 22% post-consumer
- Environmental Product Declaration (EPD) has been certified by UL Environment
- For unfaced products only: Material Health Certificate from Cradle to Cradle Products Innovation Institute
- Health Product Declaration* (HPD)



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