

CertainTeed

Specification Sheet

ULTIMATE

High-Performance/Temperature Insulation Material

1. PRODUCT NAME

ULTIMATE High-Performance/
Temperature Insulation Material

2. MANUFACTURER

CertainTeed Corporation
P.O. Box 860
Valley Forge, PA 19482-0105
Phone: 610-341-7000
800-233-8990
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3. PRODUCT DESCRIPTION

Basic Use: The product is used in ship building and other applications. With a maximum service temperature of 1200°F (650°C), ULTIMATE provides excellent fire protection in addition to thermal and acoustic insulation. The thickness should be calculated to ensure the faced surface is limited to 212°F maximum temperature.

Benefits: Safety is based on reliability. For this reason, ULTIMATE is your ideal partner for fire protection applications that need to meet highest demands. Its excellent temperature stability combines with outstanding thermal resistance at high temperatures to offer not only effective fire resistance, but also reliable protection against high temperatures – thanks to its permanent service temperature of 650°C and outstanding lambda values.

Composition and Materials: ULTIMATE is a non-combustible, high temperature insulation composed of high melting temperature fibers. The

insulation is available with no facing or may be faced on one side with a fiber scrim reinforced aluminum facing, a black glass tissue, a glass fiber fabric or a wire mesh.

Limitations: The product should be kept clean and dry from the time of manufacture through job site installation and system operation.

ULTIMATE is used as a thermal insulation with a maximum service temperature of 1200°F (650°C) and for fire protection in ground and sea transport, trains and ships. The correct thickness must be applied to ensure the faced surface is limited to 212°F exposure.

Sizes: Available sizes as shown in the tables on page 3. Contact CertainTeed for other sizes and minimum order quantities.

4. TECHNICAL DATA

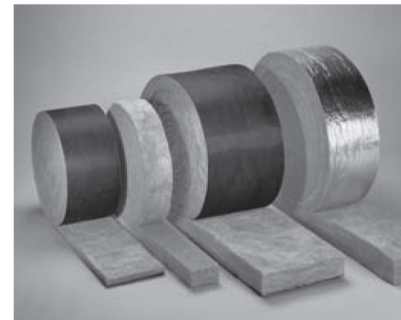
Applicable Standards: For additional applicable standards, contact your CertainTeed representative.

Fire Resistance:

- Fire Hazard Classification:
 - Non-Combustible: US Coast Guard Approval Category 164.109 (unfaced material)
 - ASTM E84
 - Max. Flame Spread Index: 25
 - Max Smoke Developed Index: 50

Physical/Chemical Properties:

- Thermal Performance:
 - See tables on next page
- Operating Limits:
 - Temperature: (ASTM C411)
 - Max. 1200°F (650°C)
 - Water Vapor Sorption: (ASTM C1104)
 - < 5% by weight



- Water Vapor Transmission – Facing: (ASTM E96, Desiccant Method)
 - FSK: Max. 0.02 perms (1.15 x 10⁻⁹ g/Pa-s-m²)
- Corrosiveness: (ASTM C665)
 - Pass test requirements
- Fungi Resistance: (ASTM C1338)
 - Pass test requirements
- Odor Emission: (ASTM C1304)
 - Pass test requirements

Quality Assurance: Many of CertainTeed's insulation manufacturing plants are registered to ISO 9001-2000 standards.

5. INSTALLATION

CertainTeed recommends that all installations be approved and certified by the local approval bodies. Approved assemblies for specific fire rating are available upon request.

6. AVAILABILITY AND COST

Distributed and sold throughout the United States. For availability and cost contact your local distributor, or call CertainTeed Sales Support Group in Valley Forge, PA at 800-233-8990.

At times, a formal certificate of compliance is required to verify that a product meets an outside speci-

cation. In such instances, the request for the required certificate must be made at the time the order is placed. The criteria for such certifications may require third party testing and can significantly increase lead times and costs. Please contact your CertainTeed Sales Representative at time of order to confirm testing and certification requirements.

7. WARRANTY

Inasmuch as CertainTeed has no control over the installation design, installation workmanship, accessory materials, or conditions of application, CertainTeed

does not warrant the performance or results of any installation containing its products.

8. MAINTENANCE

An inspection and preventative maintenance program for the insulation and vapor retarder system is recommended to ensure optimum performance.

9. TECHNICAL SERVICES

Technical assistance can be obtained either from the local CertainTeed sales representative, or by calling CertainTeed Sales Support Group in Valley Forge, PA at 800-233-8990.

Thermal Conductivity

Nominal Density (pound/ft ³)	Thermal Conductivity	32°F	50°F	122°F	212°F	302°F	392°F	482°F	572°F	622°F	752°F
1.0	BTU.in/(hr.ft ² .°F)	0.263	0.270	0.395	0.437	0.555	0.749				
1.2	BTU.in/(hr.ft ² .°F)	0.236	0.243	0.291	0.374	0.485	0.603	0.707			
1.5	BTU.in/(hr.ft ² .°F)	0.222	0.229	0.270	0.333	0.430	0.534	0.659	0.818		
2.2	BTU.in/(hr.ft ² .°F)	0.215	0.222	0.263	0.326	0.395	0.485	0.582	0.686		
3.0	BTU.in/(hr.ft ² .°F)	0.208	0.215	0.250	0.305	0.367	0.437	0.513	0.589	0.679	
4.1, 4.2	BTU.in/(hr.ft ² .°F)	0.201	0.208	0.243	0.291	0.347	0.402	0.465	0.541	0.624	
5.0	BTU.in/(hr.ft ² .°F)	0.201	0.208	0.236	0.277	0.326	0.381	0.437	0.506	0.575	0.652
5.6, 5.9	BTU.in/(hr.ft ² .°F)	0.201	0.208	0.229	0.277	0.319	0.367	0.416	0.485	0.555	0.624
6.2, 6.4	BTU.in/(hr.ft ² .°F)	0.201	0.208	0.229	0.277	0.312	0.354	0.402	0.471	0.534	0.603

Thermal Conductivity

Nominal Density (kg/m ³)	Thermal Conductivity	0°C	10°C	50°C	100°C	150°C	200°C	250°C	300°C	350°C	400°C
16	W/m.K	0.038	0.039	0.057	0.063	0.080	0.108				
20	W/m.K	0.034	0.035	0.042	0.054	0.070	0.087	0.102			
24	W/m.K	0.032	0.033	0.039	0.048	0.062	0.077	0.095	0.118		
36	W/m.K	0.031	0.032	0.038	0.047	0.057	0.070	0.084	0.099		
48	W/m.K	0.030	0.031	0.036	0.044	0.053	0.063	0.074	0.085	0.098	
66	W/m.K	0.029	0.030	0.035	0.042	0.050	0.058	0.067	0.078	0.090	
80	W/m.K	0.029	0.030	0.034	0.040	0.047	0.055	0.063	0.073	0.083	0.094
90	W/m.K	0.029	0.030	0.033	0.040	0.046	0.053	0.060	0.070	0.080	0.090
100	W/m.K	0.029	0.030	0.033	0.040	0.045	0.051	0.058	0.068	0.077	0.087

Roll Dimensions

Nominal Density (kg/m ³)	Thickness mm (inches)	Roll	Length m (ft)	Width m (ft)	Pieces/ Pkg	m ² (ft ²)/ Pkg	Pkgs/ 40' Container	m ² (ft ²)/ Container
16, 24	30 (1.18)	Roll	18.0 (59.1)	1.2 (3.9)	1	21.6 (232.7)	198	4276.8 (46,075)
16, 24	40 (1.57)	Roll	17.5 (57.4)	1.2 (3.9)	1	21.0 (226.2)	198	4158.0 (44,794)
16, 24	50 (1.97)	Roll	14.0 (45.9)	1.2 (3.9)	1	16.8 (181.0)	198	3326.4 (35,380)
16, 24	60 (2.36)	Roll	12.0 (39.4)	1.2 (3.9)	1	14.4 (155.1)	198	2851.2 (30,714)
16, 24	80 (3.15)	Roll	9.0 (29.5)	1.2 (3.9)	1	10.8 (116.3)	198	2138.4 (23,037)
16, 24	100 (3.94)	Roll	7.0 (23.0)	1.2 (3.9)	1	8.4 (90.5)	198	1663.2 (17,919)
16, 24	120 (4.72)	Roll	6.0 (19.7)	1.2 (3.9)	1	7.2 (77.6)	198	1425.6 (15,361)
36	50 (1.97)	Roll	8.0 (26.2)	1.2 (3.9)	1	9.6 (103.3)	198	1900.8 (20,462)
36	60 (2.36)	Roll	6.5 (21.3)	1.2 (3.9)	1	7.8 (84.0)	198	1544.4 (16,625)
36	80 (3.15)	Roll	5.0 (16.4)	1.2 (3.9)	1	6.0 (64.6)	198	1188.0 (12,789)
36	100 (3.94)	Roll	4.0 (13.1)	1.2 (3.9)	1	4.8 (51.7)	198	950.4 (10,231)
36	120 (4.72)	Roll	3.2 (10.5)	1.2 (3.9)	1	3.84 (41.3)	198	760.32 (81,185)

Slab Dimensions

Nominal Density (kg/m ³)	Thickness mm (inches)	Slab	Length m (ft)	Width m (ft)	Pieces/ Pkg	m ² (ft ²)/ Pkg	Pkgs/ 40' Container	m ² (ft ²)/ Container
24 U MPV, U MPA	30 (1.18)	Slab	1.2 (3.9)	0.6 (1.97)	16	11.52 (124.0)	220	2,534.4 (27,283)
24 U MPV	40 (1.57)	Slab	1.2 (3.9)	0.6 (1.97)	12	8.64 (93.0)	220	1,900.8 (20,462)
24 U MPV, U MPA, U MPN	50 (1.97)	Slab	1.2 (3.9)	0.6 (1.97)	10	7.2 (77.5)	220	1,584.0 (17,052)
24 U MPV, U MPA, U MPN	60 (2.36)	Slab	1.2 (3.9)	0.6 (1.97)	8	5.76 (62.01)	220	1,267.2 (13,641)
24 U MPV, U MPA, U MPN	80 (3.15)	Slab	1.2 (3.9)	0.6 (1.97)	6	4.32 (46.5)	220	950.4 (10,231)
24 U MPV, U MPA, U MPN	100 (3.94)	Slab	1.2 (3.9)	0.6 (1.97)	5	3.60 (38.75)	220	792.0 (8,526)
24 U MPN	30 (1.18)	Slab	1.2 (3.9)	0.6 (1.97)	18	12.96 (139.5)	220	2,851.2 (30,693)
36, 66, 95 U MPG	50 (1.97)	Slab	1.2 (3.9)	0.625(2.05)	8	6.0 (64.6)	220	1320.0 (14,210)
36, 66, 95 U MPG	60 (2.36)	Slab	1.2 (3.9)	0.625 (2.05)	6	4.5 (48.4)	220	990 (20,657)
36, 66, 95 U MPG	80 (3.15)	Slab	1.2 (3.9)	0.625 (2.05)	5	3.75 (40.4)	220	825.0 (8,881)
36, 66, 95 U MPG	100 (3.94)	Slab	1.2 (3.9)	0.625 (2.05)	4	3.00 (32.3)	220	660.0 (7,105)
36, 48, 66, 68, 90, 95, 100, 102	20 (.79)	Slab	1.2 (3.9)	0.6 (2.0)	20	14.40 (155)	198	2,851.20 (30,690)
36, 48, 66, 68, 90, 95, 100, 102	30 (1.18)	Slab	1.2 (3.9)	0.6 (2.0)	13	9.36 (100.8)	198	1,853.28 (19,949)
36, 48, 66, 68, 90, 95, 100, 102	40 (1.57)	Slab	1.2 (3.9)	0.6 (2.0)	10	7.20 (77.5)	198	1,425.60 (15,345)
36, 48, 66, 68, 90, 95, 100, 102	50 (1.97)	Slab	1.2 (3.9)	0.6 (2.0)	8	5.76 (62)	198	1,140.48 (12,276)
36, 48, 66, 68, 90, 95, 100, 102	60 (2.36)	Slab	1.2 (3.9)	0.6 (2.0)	6	4.32 (46.5)	198	855.36 (9,207)
36, 48, 66, 68, 90, 95, 100, 102	70 (2.76)	Slab	1.2 (3.9)	0.6 (2.0)	5	3.60 (38.8)	198	712.80 (7,673)
36, 48, 66, 68, 90, 95, 100, 102	80 (3.15)	Slab	1.2 (3.9)	0.6 (2.0)	5	3.60 (38.8)	198	712.80 (7,673)
36, 48, 66, 68, 90, 95, 100, 102	100 (3.94)	Slab	1.2 (3.9)	0.6 (2.0)	4	2.88 (31)	198	570.24 (6,138)

If no facing is specified, all facings are available in that size.

All U MPG product is 25 mm wider than standard product.

Fire Classification and Certificates

Deck Construction	US Coast Guard No.	Product	Dimensions						EC Type-Examination Certificate (MED) No.
			Density		Level		Stiffener		
			lbs/ft ³	kg/m ³	inches	mm	inches	mm	
Steel - Deck A15	164.105/EC0736/100.197	U MFN 24 / UMPN 24 +FACING	1.5	24	2.0	50	2.0	50	100.197
Steel - Deck A30	164.105/EC0736/100.197	U MFN 24 / UMPN 24 +FACING	1.5	24	2.0	50	2.0	50	100.97
Steel - Deck A30	164.105/EC0736/100.198	UMPN 24 / UMPN 66 +FACING	1.5 to 4.1	24 to 66	2.0	50	1.2	30	100.198
Steel - Deck A60	164.105/EC0736/100.190	U MFA 36 / U MPN 36 +FACING	2.2	36	2.4	60	2.4	60	100.190
Steel - Deck A60	164.105/EC0736/100.199	U MPN 36 / U MPN 66 +FACING	2.2 to 4.1	36 to 66	2.4	60	1.2	30	100.199
Alu - Deck A60	164.105/EC0736/100.199	U MPN 66 + FACING	4.1	66	2 x 1.2	2 x 30	2 x 1.2	2 x 30	100.202
Steel - Deck A60 floating floor	164.105/EC0736/100.185	U MPN 90	5.6	90	2.0	50			100.185

Fire Classification and Certificates

Bulkhead Construction	US Coast Guard No.	Product	Dimensions						EC Type-Examination Certificate (MED) No.
			Density		Level		Stiffener		
			lbs/ft ³	kg/m ³	inches	mm	inches	mm	
Steel - Bulkhead A15	164.105/EC0474/MED300905CS/1	U MFN 24 / UMPN 24 +FACING	1.5	24	2.0	50	2.0	50	MED300905CS/1
Steel - Bulkhead A15	4.105/EC0474/MED300905CS/3	U MPN 66 +FACING	4.1	66	1.2	30	1.2	30	MED300905CS/3
Steel - Bulkhead A30	164.105/EC0474/MED357305CS/1	U MPN 36 / UMPN 66 +FACING	2.2 to 4.1	36 to 66	2.4	60	1.2	30	MED07804CS/1 MED357305CS/1
Steel - Bulkhead A60	164.105/EC0474/MED357305CS/2	U MPN 48 / U MPN 66 +FACING	3.0 to 4.1	48 to 66	3.9	100	1.6	40	MED07804CS/2 MED357305CS/2
Steel - Bulkhead A60	164.105/EC0474/MED300905CS/2	U MPN 66 +FACING	4.1	66	2 x 1.2	2 x 30	1.2	30	MED300905CS/2
Steel - Bulkhead A60	164.105/EC0474/MED016207CS	U MPN 66 +FACING	4.1	66	2.8	70	1.2	30	MED016207CS
Alu - Bulkhead A60	164.107/EC0474/MED072607CS/100	U MPN 66 +FACING	4.1	66	2 x 1.2	2 x 30 both sides	2 x 1.2	2 x 30	MED072607CS/100

For more information, please visit www.isover-ULTIMATE.com.



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