



# RAIL CAR BLANKET FIBERGLASS INSULATION



## Product Specifications and Key Features

Quietflex TexTuf 900 is produced using continuous textile-type glass fibers that have been bonded with a thermal setting phenolic resin. The glass fibers and resin are combined in an air lay system that produces a random fiber orientation for exceptional strength and resiliency. This product can be customized to meet specific customer requirements.

[www.quietflex.com](http://www.quietflex.com)

## APPLICATIONS

TexTuf 900 is designed for railcar, tanks, boilers and other heated equipment operating at temperatures up to 900°F (482°C).

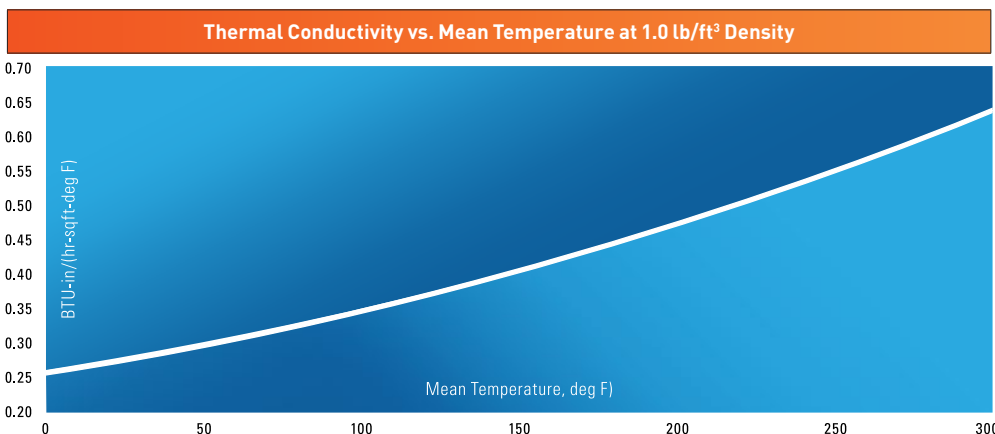
## ADVANTAGES

- High tensile strength
- Excellent resiliency and compression characteristics
- High thermal efficiency
- Fibers do not support bacterial or fungal growth
- Compression packed to save storage space and freight costs
- TexTuf 900 is manufactured in a full range of thicknesses

## SPECIFICATIONS FOR USE

1. TexTuf 900 may be used up to 900°F (482°C) with a maximum thickness of 6" (152 mm) and 650°F (343°C) with a maximum thickness of 8" (203 mm). Double-layer construction with staggered joints is recommended when equipment expansion is such that gaps begin to open between insulation sections (usually 400-600°F [204-316°C]).
2. During initial heat-up to operating temperatures above 400°F (204°C) an acrid odor and some smoke may be given off as the organic binders begin to decompose. When this occurs, caution should be exercised to ventilate the area well.
3. Installations surpassing 650°F (343°C) should be allowed to stabilize for at least two hours prior to heating up to 900°F (482°C). After the initial heat-up this step is not required.

## CONDUCTIVITY VALUES AT SELECT TEMPERATURES (ASTM C518)





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### PHYSICAL PROPERTIES

TEST METHOD OR PROPERTY	DESCRIPTION	RESULTS
Temperature range	Operating temperature	-247°F to 900°F (-155°C to 482°C)
ASTM C411	Standard test method for hot-surface performance of high temperature insulation	Passes up to 900°F (482°C) unfaced only
ASTM C553 type 1, 2 and 3	Standard specification for mineral fiber blanket thermal insulation for commercial and industrial applications	Passes all requirements at varying densities
ASTM E162	Radiant panel	Passes class A radiant panel index = 0
ASTM E662	Specific optical density of smoke generated by solid materials: flaming & non flaming modes	Passes 6.95 flaming - 7.81 non flaming
Boeing BSS 7239	Combustion toxicity flaming mode, 6 gases Non flaming mode, 6 gases	Passes see note A (next page)
ASTM E1354	Standard test method for heat and visible smoke release rates for materials and products using an oxygen consumption calorimeter	Passes see note B (next page)
NFPA 259, 90A and 90B limited combustibility	Standard test method for potential heat of building materials (less than 3,500 BTU/lb (8141 kJ/kg)	Passes
ASTM C665	Corrosion resistance	Passes with aluminum, steel or copper
ASTM C1104	Water vapor sorption	Passes less than 1.0% by weight.
ASTM E84 and UL 723	Flame spread index	Passes class A target less than or equal to 25.
ASTM E84 and UL 723	Smoke developed index	Passes class A target less than or equal to 50.
ASTM C1338, G21, G22	Test methods for determining resistance of insulation materials and facings to fungi and bacteria	Passes does not support the growth of mold, fungi or bacteria
Tensile strength	Material property (can be modified based on customer need)	>= 1 PSI (6.6 kPa)
Nominal density	Material property	1.0 lb/ft <sup>3</sup> (16 kg/m <sup>3</sup> )
Density tolerance	Material property	+2.5 kg/m <sup>3</sup> /-0.5 kg/m <sup>3</sup>
Width tolerance	Material property	+/-6 mm or 0 mm/+12 mm
Length tolerance	Material property	+2% or + 610 mm/0%
Thickness tolerance	Material property	+/-6 mm or 0 mm/+12 mm
Optional facings available	Material property	Laminated FSK and black mat facing



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## NOTE A: SUMMARY OF TEST RESULTS

Passes Boeing BSS 7239

COMPOUND	WITHOUT PILOT FLAME		WITH PILOT FLAME	
	AVERAGE ppm	STANDARD DEVIATION ppm	AVERAGE ppm	STANDARD DEVIATION
CO (ppm)	41.3	4.8	68.3	2.9
HCL (ppm)	Not detected	n/a	Not detected	n/a
HCN (ppm)	Not detected	n/a	Not detected	n/a
HBr (ppm)	Not detected	n/a	Not detected	n/a
HF (ppm)	Not detected	n/a	Not detected	n/a
NO (ppm)	Not detected	n/a	Not detected	n/a
NO <sup>2</sup> (ppm)	Not detected	n/a	Not detected	n/a
SO <sup>2</sup> (ppm)	Not detected	n/a	Not detected	n/a

## NOTE B:

Passes ASTM E1354

TEST AVERAGES									
Test	t(ig)(s)	t(fo)(s)	t(end)(s)	RR(peak) [kW/m <sup>2</sup> ]	tpeak (s)	THR (MJ/m <sup>2</sup> )	HRR (60) [kW/m <sup>2</sup> ]	HRR (180) [kW/m <sup>2</sup> ]	HRR (300) [kW/m <sup>2</sup> ]
Mean	0	0	1113.3	10.27	30	1.54	5.01	3.68	2.76
1	0	0	1200	13.51	25	1.32	8.85	4.93	3.04
2	0	0	1200	18.18	10	2.15	7.93	5.33	4.48
3	0	0	1200	9.53	10	1.25	3.81	3.05	2.14
4	0	0	1200	7.85	5	2.11	3.95	3.28	2.69
5	0	0	920	7.07	105	1.40	2.70	3.19	2.69
6	0	0	960	5.51	15	1.02	2.80	2.33	1.52

Test	Flux (kW/m <sup>2</sup> )	t (mm)	Area (cm <sup>2</sup> )	m(i)(g)	m(s)(g)	m(f)(g)	Δm(g)	Ave MLR [g/s/m <sup>2</sup> ]	EHC(av) [MJ/kg]
Mean		50.5		8.0	8.0	7.3	0.6	0.2	14.52
1	35	51.24	88.4	8.02	8.0	7.4	0.7	0.1	-2.99
2	35	51.24	88.4	8.02	8.0	7.3	0.7	0.1	20.49
3	35	50.74	88.4	8.05	8.1	7.2	0.9	0.4	5.57
4	35	48.3	88.4	8.46	8.5	7.6	0.9	0.3	19.43
5	35	50.76	88.4	7.51	7.5	7.2	0.3	0.0	35.02
6	35	50.6	88.4	7.76	7.8	7.3	0.5	0.1	9.60

Test	THR(0-300) [MJ/m <sup>2</sup> ]	THR(0-600) [MJ/m <sup>2</sup> ]	THR(0-1200) [MJ/m <sup>2</sup> ]	SPR(av) [m <sup>2</sup> /s]	SEA(av) [MJ/kg]	Fuel Load [MJ/kg]	MARHE [kW/m <sup>2</sup> ]
Mean	0.86	1.21	-	-0.0001	-224.70	1.70	6.84
1	0.99	1.20	1.32	-0.0006	-1144.42	1.46	9.44
2	1.34	1.79	2.15	-0.0006	-1055.41	2.37	11.99
3	0.68	0.93	1.25	0.0000	-23.86	1.37	7.07
4	0.81	1.31	2.11	0.0002	260.14	2.21	6.22
5	0.82	1.20	-	0.0000	127.39	1.64	3.26
6	0.52	0.82	-	0.0003	487.98	1.16	3.08

General Observations: Light smoke was produced initially, sample faded from yellow to white and no flaming occurred.

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### WARNING

Textile glass fibers are used to manufacture the fiberglass insulation product. Handling, installing, or removing the product may result in some fiberglass contact. Users of this product are therefore advised to wear appropriate personal protective equipment so as not to experience skin, eye, or respiratory irritation. Gloves and eye protection, long sleeved, loose fitting clothing are recommended when installing or otherwise handling the product. Avoid breathing fiberglass dust and avoid contact with skin or eyes. A NIOSH approved (N95 or higher) disposable or reusable dust respirator properly fitted is recommended whenever the product is handled. Respiratory protection is mandatory when the dust level in the workplace exceed OSHA permissible exposure limits or if worker irritation occurs. Work clothes should be washed separately and the washer rinsed after use.

### FIRST AID MEASURES

If dust gets in eyes flush eyes with water to remove the fiber dust. If symptoms persist, seek medical attention. Fibers can be removed by washing the skin with soap and warm water after handling this product. Further product safety information is available from your employer. The Material Safety Data Sheet is available from your distributor, directly from QuietFlex or on the QuietFlex website at [www.quietflex.com](http://www.quietflex.com).

The physical and chemical properties of the QuietFlex Faced Versatile Blanket represent typical, average values obtained in accordance with accepted test methods and are subject to normal manufacturing variations. The data is supplied as a technical service and is subject to change without notice. Check with QuietFlex Manufacturing Company LP to obtain current information.