

Thermafiber®

# Industrial Felt

**ECONOMICAL • NONCORROSIVE • NONASBESTOS  
PERMANENT • EASILY INSTALLED**

**For thermal, fire protection, and sound control applications in industry.**

## Economical, Easily Applied

A low-cost, preformed mineral-fiber felt for thermal, fire protection and sound control applications. Fine-fiber, semi-rigid composition makes Thermafiber Industrial Felt easy to handle. Foil, ASJ, or glass scrim facings are available.

## Fire-Rated Performance

Rated noncombustible, as defined by NFPA Standard 220 when tested in accordance with ASTM E136. Melting point exceeds 2,000°F, and the product withstands ASTM E119 temperature for over 5 hours when mechanically supported. Not for service operation at this temperature; refer to table on back for recommended maximum hot-surface temperatures. Surface Burning Characteristics: flame spread 0; smoke developed 0, per ASTM E84.

## Start-Up Procedure

On initial start-up only, heat rise should not exceed 15°F per minute to allow binder to dissipate without excessive temperature rise. Thermal conductivity is not affected. When insulation is to be used in applications exposed to high air velocities, adequate protection must be provided to prevent erosion of insulation. Severe vibration may cause degradation of insulation under some conditions. Contact your representative for recommendations on unusual applications.

## Water Performance

Does not lose any of its thermal capabilities if it becomes wet and is allowed to dry. If dried thoroughly, its insulating values return to normal assuming it has not been mechanically damaged.

## Nonadsorbent, Corrosion-Resistant

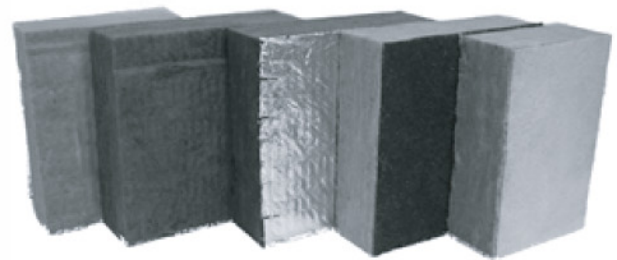
Thermafiber Felt adsorbs less than 1% moisture; will not corrode steel or aluminum as tested per HH-1-558B.



## Wide Range of Applications

Because of a high melt point and 11 densities, Thermafiber Felt is adaptable for commercial and industrial applications in a broad scope of cold to hot or low to high temperatures.

- **Thermal applications**—commercial and industrial ovens, package boilers, dryers, kilns, tanks.
- **Fire-protective applications**—metal fire doors, light fixture protection, ship bulkheads.
- **Sound control applications**—metal partitions, sound booths, acoustical decks, silencers.



## Specification Compliance<sup>(1)</sup>

| Nom. Density—pcf | Meets Federal Specification HH-1-558B (ASTM 553), ASTM C612 <sup>(2)</sup> |                  |                  |                  |         |
|------------------|--|------------------|------------------|------------------|---------|
|                  | Type IA  | Type IB          | Type II          | Type III         | Type IV |
| 3.0              | X  |                  |                  |                  |         |
| 4.0              | X  | X                | X                |                  |         |
| 4.5              | X  | X                | X                |                  |         |
| 6.0              | X  | X                | X                | X                |         |
| 7.0              | X  | X                | X                | X                |         |
| 8.0              | X  | X                | X                | X                |         |
| 9.0              | X  | X                | X                | X                |         |
| 10.0             |  | X                | X                | X                | X       |
| 12.0             |  | X <sup>(3)</sup> | X <sup>(3)</sup> | X <sup>(3)</sup> |         |

(1) All felts meet applicable analysis for chloride content on the basis of plot points for austenitic stainless steel per MIL-I-24244A.

(2) Certification of density based on full compliance with Sec. 11.2 of ASTM C612.

(3) Except linear shrinkage over 1,300 °F.

**Compressive Strength:** Per ASTM C165: 12 pcf—590 psf @ 10% compression, 10 pcf—460 psf @ 10% compression.

## STC Data<sup>(4)</sup>

| Nom. Density—pcf | Thickness |     |     |
|------------------|-----------|-----|-----|
|                  | 1"        | 2"  | 3"  |
|                  | STC       | STC | STC |
| 4                | —         | 8   | 14  |
| 6                | 6         | 12  | 16  |
| 8                | 10        | 15  | 18  |
| 10               | 12        | 18  | 23  |
| 12               | 11        | 20  | 26  |

(4) USG Acoustical Research Facility.

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## Physical Properties

### Maximum Hot-Surface Temperature One Side (Enclosed Panel) per ASTM C411

| Nom. Density—pcf | Max. °F | Nom. Density—pcf |         |
|------------------|---------|------------------|---------|
|                  |         |                  | Max. °F |
| 2.5              | 400     | 7.0              | 1,000   |
| 3.0              | 500     | 8.0              | 1,200   |
| 3.5              | 600     | 9.0              | 1,200   |
| 4.0              | 850     | 10.0             | 1,200   |
| 4.5              | 850     | 12.0             | 1,350   |
| 6.0              | 1,000   |                  |         |

Note: Temperatures above 450 °F require mechanical support.

### Thermal Conductivity<sup>(1)</sup> per ASTM C177 or C518

| Density—pcf | K-factor—Btu • in./hr. • ft. <sup>2</sup> • °F |        |        |        |        |
|-------------|--|--------|--------|--------|--------|
|             | 75 °F  | 200 °F | 300 °F | 400 °F | 500 °F |
| 2.5         | .27  | .40    | .51    | —      | —      |
| 3.0         | .26  | .35    | .45    | —      | —      |
| 3.5         | .26  | .35    | .44    | —      | —      |
| 4.0         | .24  | .34    | .42    | .51    | .60    |
| 4.5         | .24  | .33    | .41    | .49    | .58    |
| 6.0         | .24  | .30    | .38    | .46    | .56    |
| 7.0         | .24  | .30    | .37    | .45    | .55    |
| 8.0         | .24  | .29    | .35    | .43    | .53    |
| 9.0         | .24  | .28    | .34    | .42    | .51    |

| Density—pcf | K-factor—Btu • in./hr. • ft. <sup>2</sup> • °F |        |        |        |        |
|-------------|--|--------|--------|--------|--------|
|             | 75 °F  | 150 °F | 300 °F | 500 °F | 700 °F |
| 10          | .24  | .27    | .34    | .48    | .67    |
| 12          | .25  | .28    | .34    | .47    | .61    |

(1) Degrees represent mean temperature.

### Sizes and Availability from Manufacturing Plants<sup>(1)</sup>

| Density—pcf | Wabash, IN  |             |            | Tacoma, WA  |             |            |
|-------------|-------------|-------------|------------|-------------|-------------|------------|
|             | Min. Thick. | Max. Thick. | Max. Width | Min. Thick. | Max. Thick. | Max. Width |
| 2.5         | 1½"         | 6"          | 72"        | 1½"         | 6"          | 90"        |
| 3 & 3.5     | 1½"         | 6"          | 72"        | 1½"         | 5"          | 90"        |
| 4 & 4.5     | 1½"         | 6"          | 72"        | 1"          | 4"          | 90"        |
| 6           | 1"          | 5"          | 72"        | 1"          | 3"          | 90"        |
| 7 & 8       | 1"          | 4"          | 72"        | 1"          | 2½"         | 90"        |
| 9           | 1"          | 3½"         | 72"        | —           | —           | —          |
| 10          | 1"          | 3"          | 72"        | —           | —           | —          |
| 12          | 1"          | 2½"         | 72"        | —           | —           | —          |

Note: Dimension tolerances—width ± 1/8"; length ± 1/8"; thickness -1/8", +1/4".  
(1) Aluminum foil-faced industrial felts are available from all plants.

The information presented herein represents typical or average values obtained by ASTM or other standard methods. The values will vary due to normal manufacturing variations. The person using this product must determine its suitability for a particular application.

**SAFETY FIRST!** Follow good safety and industrial hygiene practices during handling and installing of all products and systems. Take necessary precautions and wear the appropriate personal protective equipment as needed. Read material safety data sheets and related literature on products before specification and/or installation.

For further information on these products, including nonstandard sizes, contact Thermafiber at these sales offices:  
Tacoma, WA (800) 426-8127  
Wabash, IN (888) 834-2371



## Physical Data

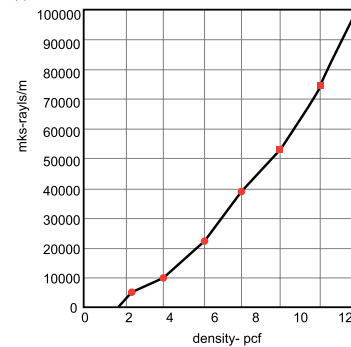
| Nom. Density—pcf | Approx. Density Tolerance—pcf <sup>(1)</sup> |            |
|------------------|--|------------|
|                  | Tacoma                                       | Wabash     |
| 2.5              | ± 0.5  | -0.5 +1.0  |
| 3.0              | ± 0.5  | -0.5 +1.0  |
| 3.5              | ± 0.5  | -0.5 +1.0  |
| 4.0              | ± 0.5  | -0.5 +1.0  |
| 4.5              | ± 0.5  | -0.5 +1.0  |
| 6.0              | ± 0.75                                       | -0.75 +2.0 |
| 7.0              | ± 1.0  | -1.0 +2.0  |
| 8.0              | ± 1.0  | -1.0 +2.0  |
| 9.0              | —  | -1.5 +2.5  |
| 10.0             | —  | -1.5 +2.5  |
| 12.0             | —  | -1.5 +2.5  |

(1) On package weight basis.

## NRC Data<sup>(1)</sup>

| Specimen Tested—pcf | 1/2 Octave Band Center Frequency—Hz |      |      |      |      |      | NRC  |
|---------------------|-------------------------------------|------|------|------|------|------|------|
|                     | 125                                 | 250  | 500  | 1000 | 2000 | 4000 |      |
| <b>1" thickness</b> |                                     |      |      |      |      |      |      |
| 4                   | .06                                 | .24  | .58  | .81  | .85  | .90  | .60  |
| 6                   | .07                                 | .24  | .62  | .87  | .91  | .91  | .65  |
| 8                   | .10                                 | .37  | .82  | .97  | .91  | .89  | .75  |
| 12                  | .09                                 | .31  | .77  | .96  | .99  | .94  | .75  |
| <b>2" thickness</b> |                                     |      |      |      |      |      |      |
| 4                   | .24                                 | .68  | 1.08 | 1.08 | .99  | .92  | .95  |
| 6                   | .32                                 | .81  | 1.11 | 1.09 | 1.02 | .94  | 1.00 |
| 8                   | .35                                 | .84  | 1.08 | 1.04 | .96  | .93  | 1.00 |
| 12                  | .40                                 | .79  | .78  | .94  | .94  | .87  | .85  |
| <b>4" thickness</b> |                                     |      |      |      |      |      |      |
| 2.5                 | .63                                 | 1.15 | 1.15 | 1.05 | 1.05 | .94  | 1.00 |
| 4                   | .77                                 | 1.14 | 1.15 | 1.04 | 1.04 | .94  | 1.00 |
| 6                   | .84                                 | 1.11 | 1.11 | 1.05 | 1.05 | .93  | 1.00 |

(1) Riverbank Acoustical Laboratories.



**Specific Airflow Resistance**  
(per ASTM C522 - Standard Method of Test for Airflow Resistance of Acoustical Materials)

● Original Series  
■ Recent Series

**NOTICE:** In no event shall we be liable for any special, indirect, incidental or consequential damages including, but not limited to, loss of anticipated profits or revenues, whether or not such damages are claimed in contract, tort (including negligence), warranty, strict liability or otherwise. In addition, we shall not be liable for any loss whatsoever caused by application of these goods not in accordance with our current printed instructions. Our liability shall be expressly limited to the replacement of defective goods. Any claim with respect to an alleged deficiency with the product contained herein shall be deemed waived unless made in writing to us within thirty (30) days of the date such alleged deficiency was or reasonably should have been discovered.