

# INSULATION PRODUCTS CATALOG

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## THE TTT STORY

Thermal Tech & Temp Inc. has contributed to the heating industry for over 20 years. We specialize in custom manufactured thermal protection for the heat treating industry, along with many other industrial markets. Some of our insulation accessories include insulation blankets, gaskets & seals, and high-temperature sleeves. We take pride in our work by taking the time to meet our customers at their job sites and by carefully overseeing all operations to make sure we are always fitting our customer's needs.



**Thermal Tech & Temp Inc. is committed to achieving total customer satisfaction by delivering high-quality, durable, and custom fabricated products 100% of the time!**

You can find Thermal Tech & Temp Inc. on many different social media platforms. Follow our accounts on Facebook, Twitter, Instagram, LinkedIn, and Youtube to stay up to date with our latest products and news.

## CONTACT US

We love connecting with our customers! Feel free to visit us during normal business hours, or reach out via phone or email, and make sure to stay up-to-date with Thermal Tech & Temp by following us on social media!

### **THERMAL TECH & TEMP INC.**

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# THERMASIL NEEDED MAT

## THERMASIL NEEDED MAT

Our Thermasil Needed Mat is a high-temperature, fiber insulation composed of a minimum of amorphous silica fabric. This insulation is ideal for high-temperature gaskets and sealing. Also, this insulation is very reusable in the heat treatment industry.

### ADVANTAGES

The unique properties of TTT-TSM-12 make it binder-free, highly resilient, non-respirable, fireproof, and cost-effective. TTT-TSM-12 also has outstanding chemical resistance, has excellent sound absorption, and low shrinkage.



- ROLL SIZES**
- 6 inches X 25 feet
  - 24 inches x 25 feet
  - 36 inches x 33 1/3 feet
  - 60 inches x 25 feet
  - Custom Sizes



## PROPERTY DATA

### TTT-TSM-12

<b>Thickness</b>	→ 1/2" +/- 10%
<b>Density</b>	→ 10.5 to 12.0 lbs/ft <sup>3</sup>
<b>Temperature Resistance</b>	Intermittent: 2200°F
<b>Melting</b>	→ 3100°F
<b>Continuous</b>	→ 2000°F
<b>Flame Resistance</b>	Flame Spread: 0
<b>Smoke Developed</b>	→ 0
<b>Linear Shrinkage</b>	24 hrs at 1000°F: 0.05%
	24 hrs at 1200°F: 0.06%
	24 hrs at 1400°F: 0.06%
	24 hrs at 1600°F: 0.10%
	24 hrs at 1800°F: 0.30%
	→ 24 hrs at 2000°F: 0.70%
<b>Color</b>	White

### TTT-TSM-25

<b>Thickness</b>	→ 1" +/- 10%
<b>Density</b>	→ 10.5 to 12.0 lbs/ft <sup>3</sup>
<b>Temperature Resistance</b>	Intermittent: 2200°F
<b>Melting</b>	→ 3100°F
<b>Continuous</b>	→ 2200°F
<b>Flame Resistance</b>	Flame Spread: 0
<b>Smoke Developed</b>	→ 0
<b>Linear Shrinkage</b>	24 hrs at 1000°F: 0.05%
	24 hrs at 1200°F: 0.06%
	24 hrs at 1400°F: 0.06%
	24 hrs at 1600°F: 0.10%
	24 hrs at 1800°F: 0.30%
	24 hrs at 2000°F: 0.70%
<b>Color</b>	→ White

## SOLUBLE FIBER

Our Soluble Fiber is a high-temperature insulation that is made from a blend of calcium, silica, and magnesium and can be exposed to temperatures up to 2200°F. This insulation material is both flexible and lightweight with high tensile strength for low heat storage. This insulation is easy to fabricate and install and is resistant to chemical attacks and thermal shock. Typical applications for this insulation include process furnace linings, ovens, batteries, expansion joints, boilers, and soaking pits.

**ROLL SIZES**

- 6 inches X 25 feet
- 24 inches x 25 feet
- 24 inches x 50 feet



## PROPERTY DATA

### TTT-SOLF-12

- Thickness** → 1/2" +/- 10%
- Temperature** → Max: 2200°F
- Resistance** → Operating: 2000°F
- Linear Shrinkage** → 2000°F/24 hrs: 0-1.5%
- Specific Heat** → 0.27 Btu/lbs/F
- Color** → White

### TTT-SOLF-25

- Thickness** → 1" +/- 10%
- Temperature** → Max: 2200°F
- Resistance** → Operating: 2000°F
- Linear Shrinkage** → 2000°F/24 hrs: 0-1.5%
- Specific Heat** → 0.27 Btu/lbs/F
- Color** → White

# E-GLASS NEEDED MAT

## E-GLASS NEEDED MAT

Our E-glass Needed Mat is a uniform blanket that is ideal for the internals of an insulation pad. This particular needed mat is an effective, low-cost replacement for many standard insulation materials that are also very durable and will not tear apart like other insulation. We carry our e-glass needed mat in two sizes: 1/2 inch thick (TTT-ENM-12) and 1 inch thick (TTT-ENM-25).

### ADVANTAGES

The unique properties of TTT-ENM-12 make it an effective low-cost replacement for asbestos mats, millboard, ceramic or refractory paper, mat, and sheets, and mineral boards.



### PROPERTY DATA

#### TTT-ENM-12

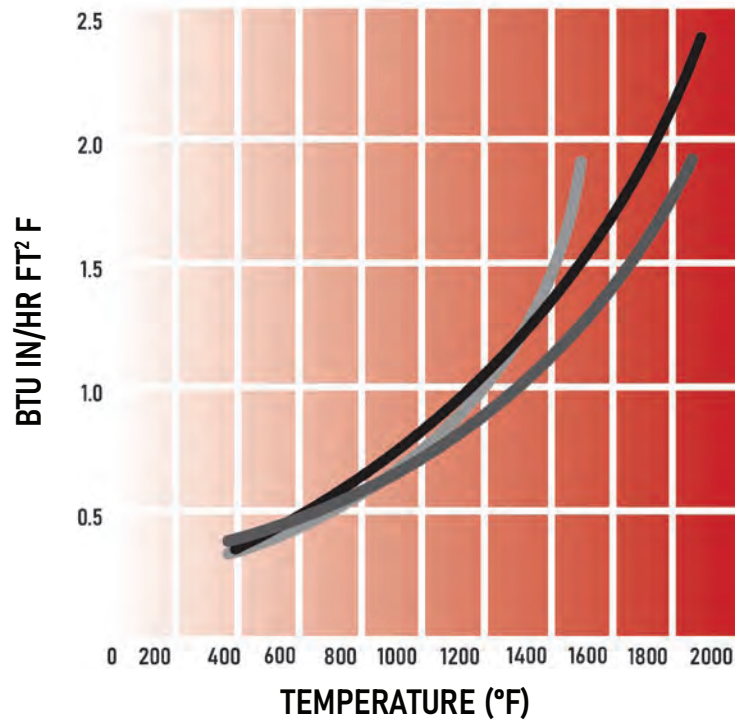
<b>Weight</b>	→ 6 oz/sqft
<b>Thickness</b>	→ 1/2" +/- 10%
<b>Density</b>	→ 9 lbs/ft <sup>3</sup>
<b>Temperature Resistance</b>	→ Max: 1200°F
<b>Flame Resistance</b>	→ Flame Spread: 0 Smoke Developed: 0
<b>Tensile Strength</b>	→ Machine: 80 lbs Cross machine: 60 lbs
<b>Acoustical Ratings</b>	→ 250 frequency: .07 +/- .02 500 frequency: .24 +/- .1 1000 frequency: .55 +/- .01 2000 frequency: .49 +/- .02 4000 frequency: .91 +/- .02
<b>Color</b>	→ White

#### TTT-ENM-25

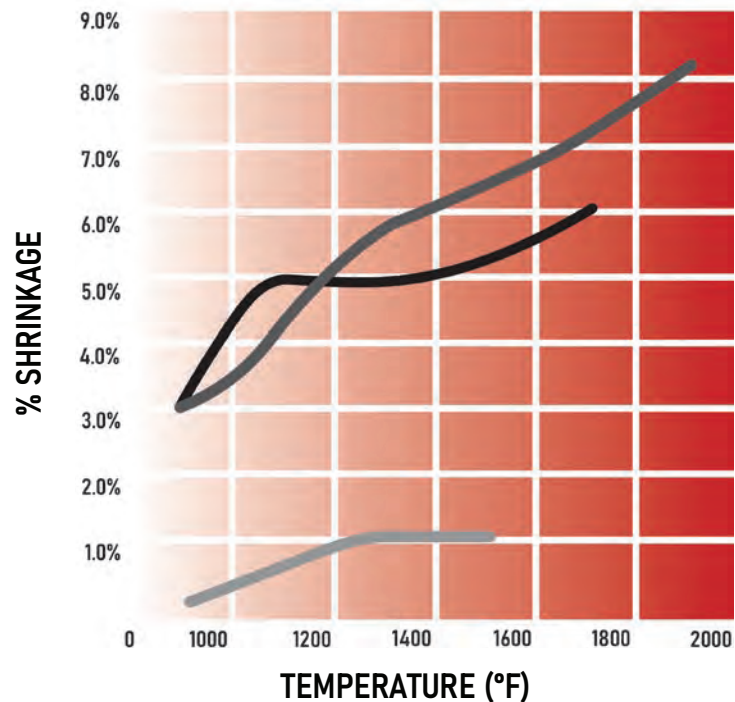
<b>Weight</b>	→ 15 oz/sqft
<b>Thickness</b>	→ 1" +/- 10%
<b>Density</b>	→ 11 lbs/ft <sup>3</sup>
<b>Temperature Resistance</b>	→ Max: 1200°F
<b>Flame Resistance</b>	→ Flame Spread: 0 Smoke Developed: 0
<b>Tensile Strength</b>	→ Machine: 125 lbs Cross machine: 90 lbs
<b>Acoustical Ratings</b>	→ 250 frequency: .15 +/- .02 500 frequency: .8 +/- .1 1000 frequency: 1.02 +/- .01 2000 frequency: 1.08 +/- .02 4000 frequency: .92 +/- .02
<b>Color</b>	→ White

# SPECIFICATION COMPARISONS

## SPECIFICATION COMPARISONS



THERMAL  
CONDUCTIVITY



LINEAR  
SHRINKAGE



- E-GLASS NEEDED MAT**  
 A CONTINUOUS FILAMENT FIBER BLANKET, RECOMMENDED FOR 1500°F
- THERMASIL NEEDED MAT**  
 AMORPHOUS SILICA FIBER BLANKET, RECOMMENDED FOR 1800 °F+
- SOLUBLE FIBER**  
 LOW BIO-PERSISTENT SPUN FIBERS RECOMMENDED FOR 2200 °F MAX

## INDUSTRIAL TEXTILES

## SILICA FABRIC



## TTT-SIL-1800 &amp; TTT-SIL-3600

Medium weight silica fabrics with superior physical & thermal characteristics compared to traditional silica fabrics. This fabric is intended for use in any application where high heat resistance and thermal protection are required.

**TTT-SIL-1800 WEIGHT:** 18.0 ounces/square yard

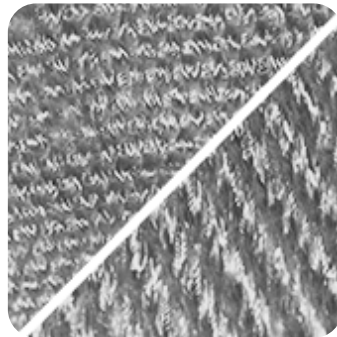
**TTT-SIL-3600 WEIGHT:** 34.0 ounces/square yard



## TTT-HB-SRC

Made from a minimum of 96% pure amorphous silica cloth with cured silicone rubber on one side. This fabric is a safe substitute for ceramic in refractory applications and the optimal choice for welding protection. TTT-SRC-HB is intended for welding/cutting protection, molten metal splash protection, insulation, and much more!

**TTT-HB-SRC WEIGHT:** 29.0 ounces/square yard



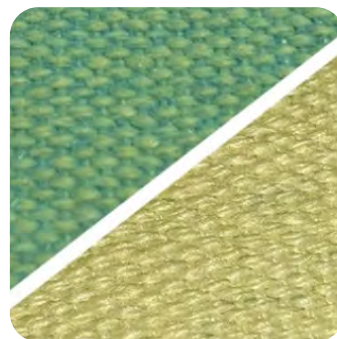
## TTT-TEX-2 &amp; TTT-TEX-4

TTT-TEX-2 is a plain weave silica fabric with properties that include low thermal conductivity and ultra-low heat storage, and TTT-TEX-4 is a twill weave silica fabric that can handle high temperatures better than most plain style silica fabrics due to the texturization of the silica yarn.

**TTT-TEX-2 WEIGHT:** 36.0 ounces/square yard

**TTT-TEX-4 WEIGHT:** 59.0 ounces/square yard

## KEVLAR



## TTT-KEV-2200

Known for its heat resistance and incredible strength. It is also recognized for its durability and ability to withstand impact, due to its high tensile strength-to-weight ratio, and is actually five times stronger than steel.

**WEIGHT:** 22.0 ounces/square yard



# FIBERGLASS FABRIC

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## TTT-SRC-1700

Fiberglass fabric impregnated with silicone rubber. This high-temperature, flame-resistant silicone rubber provides improved abrasion resistance, flexing, tear, and puncture.

**WEIGHT:** 17.5 ounces/square yard



## TTT-TUFFCOAT-2000

Extremely rugged silicone-fiberglass composite is made to withstand high temperatures and chemical exposure. This fabric has great flexibility, is easily sewn on, and has a durable construction.

**WEIGHT:** 20.0 ounces/square yard



## TTT-SRC-3400

Specially formulated fiberglass fabric designed to meet the rigid requirements for use in nuclear reactors and in areas where more resistance is needed.

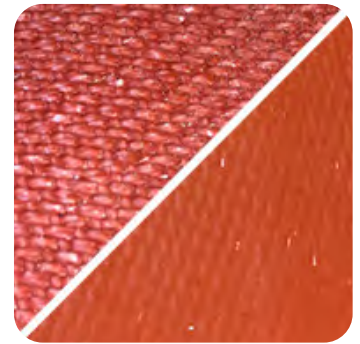
**WEIGHT:** 34.0 ounces/square yard



## TTT-WELD-3500

Extremely heavyweight, “bulky” fiberglass fabric made with highly textured yarn. The WS finish facilitates fabrication by reducing the raveling and fraying of cut edges.

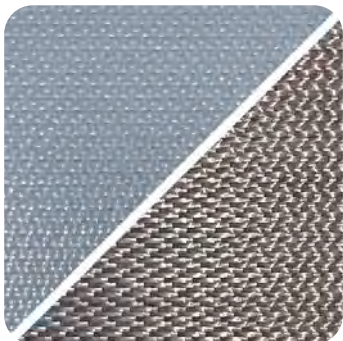
**WEIGHT:** 35.0 ounces/square yard



## TTT-TUFFCOAT-2.0

Silicone-coated fiberglass fabric with a heavy coating of iron oxide red silicone rubber compound. This special blend of polymer can withstand repeated exposure to molten aluminum, steel, and glass, and also has a continuous operating temperature rating of 500°F.

**WEIGHT:** 85.5 ounces/square yard



## TTT-PTFE-1650

Coated fiberglass fabric that is made for very chemical-ridden areas, such as refineries. The Teflon coating on the fabric aids in preventing chemical attacks during a volatile process.

**WEIGHT:** 16.5 ounces/square yard

# INSULATION BLANKETS

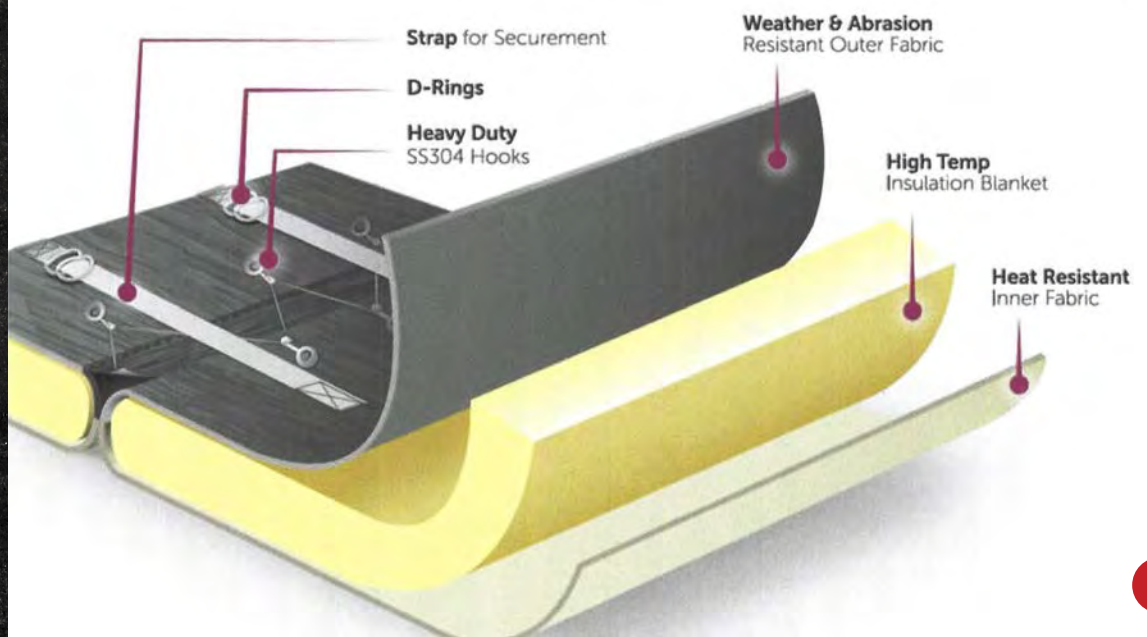
## INSULATION BLANKETS

Thermal Tech & Temp's insulation blankets are specially designed to insulate the work area, improve efficiency, and can resist extreme heat, pressure, moisture, and chemicals. Choose from one of our high-temperature insulations layered with one of our industrial textiles to create a custom insulation blanket that lasts. Our insulation blankets are designed to withstand very high temperatures, and are extremely long-lasting, most being reusable up to 50 thermal cycles per blanket. The sewn insulation blanket does not create the dust and particles typically associated with insulation materials. Therefore, this creates a friendlier environment for the personnel during set up and strip down operations. Design your insulation blanket to meet your specific requirements by first choosing one of our high-temperature insulations, and then covering it with one of our very durable industrial textiles. We are always able to custom-make your insulation blanket to be the exact shape and size needed for your application.



### KEY FEATURES

- *Highly re-usable*
- *Safe to handle*
- *Lightweight*
- *Cost-effective*
- *Low thermal conductivity*





**CONFORMING  
INSULATION BLANKET**  
(3-piece insulation system to conform to a specified radius)



**POST-WELD HEAT  
TREAT (PWHT) BLANKET**  
(1400°F made for stress-relief applications)



**HEAT TRACE  
INSULATION BLANKET**  
(harnesses heat trace to a blanket)



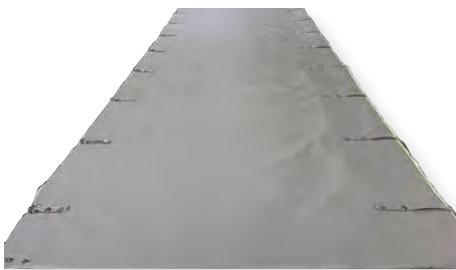
**PRE-HEAT PAD ON PIPE**  
(made to pre-heat small sections on a pipe)



**REDUCER BLANKET**  
(36" diameter to 28" reducer)



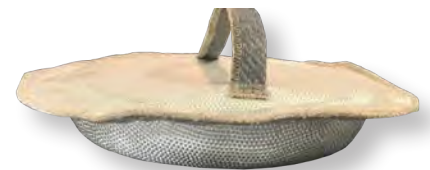
**RIGID INSULATION BLANKET**  
(provides internal oven insulation)



**LARGE SLOW-COOL BLANKET**  
(drapes over steel slabs)



**INSULATION TEE**  
(wraps around tee pipe)



**INSULATION PLUG**  
(works to fill oven hole taps)

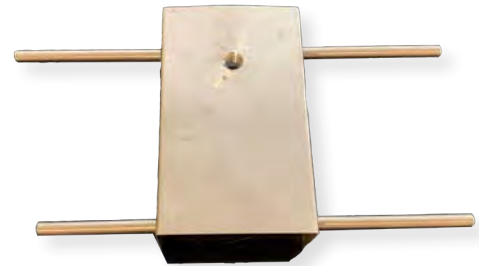
# INSULATION MODULES

## INSULATION MODULES

Thermal Tech & Temp's custom-made "ThermoBlock" insulation modules provide excellent sealing solutions for ovens, furnaces, and other insulation bulkheads. Made from specialty pre-shrunk Thermasil Needled Mat, our insulation modules allow for increased compression in applications where changes in temperature cause metals and piping to fluctuate in size. Where other refractory insulation easily breaks down and becomes airborne, our modules made with Thermasil Needled Mat can handle high-velocity air and gases. With a low heat loss and low heat storage amount, our insulation modules offer faster furnace temperature cycling with no thermal loss. Our insulation modules offer great sealing solutions in applications that involve steel and aluminum producing, stress-relieving ovens, oil refining, glass kilns, and ceramic manufacturing.



INSULATION  
MODULE YOKE



### KEY FEATURES

- Increased productivity
- Lower installation cost
- Faster temp cycling
- Lower fuel cost
- Easier repairs

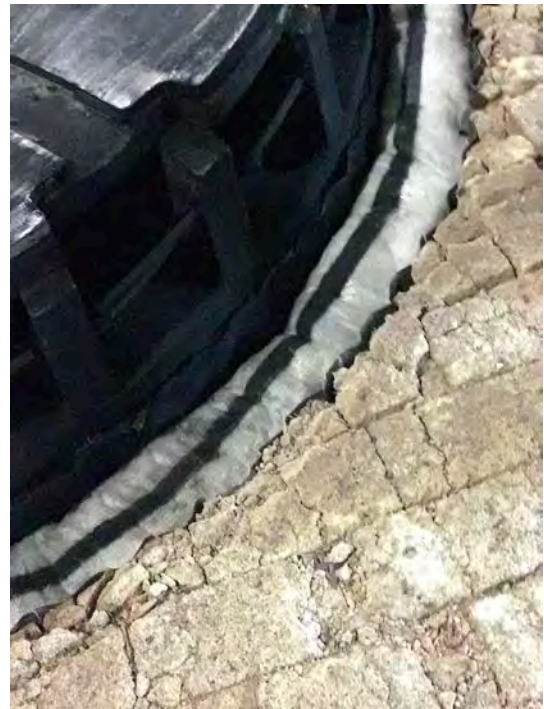
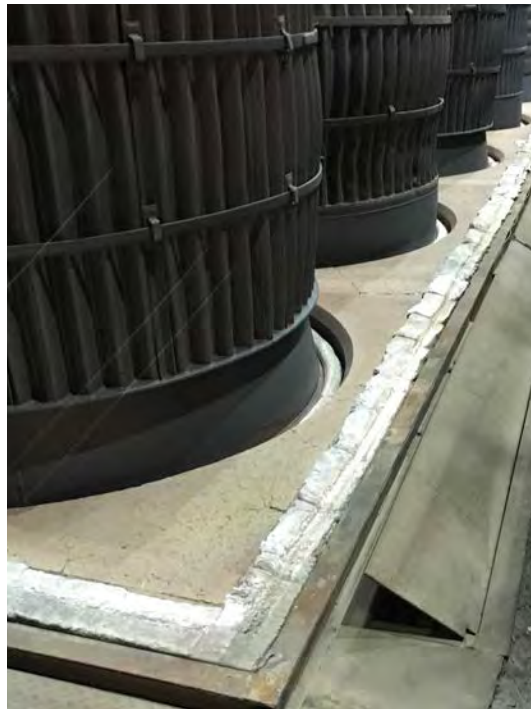


## ANNEALING SEALS

Thermal Tech & Temp's custom annealing seals work to prevent any unwanted loss of HNX gases. Our annealing seals are engineered to prevent any oxygen from coming in and causing blue steel. They also reduce airflow and the possibility of leaks in the base. We use the highest grade of insulation and superior texturized silica fabric that can withstand the wear and tear that is typically associated with the annealing process.

### KEY FEATURES

- Heavy density seals eliminates airflow
- Eliminates carcinogenic caused from ceramic fiber usage
- Reduces loss of HNX gases
- Reduces consumption & waste
- Prevents against abrasion
- Minimizes labor costs



# THERMAL DOOR SEALS

## THERMAL DOOR SEALS

Our thermal door seals can be made from various high-temperature textiles which means that they are specifically engineered to last longer. Protecting against abrasion and moisture from outdoor weather, while also being reflective against radiant heat, our thermal door seals are guaranteed to maximize performance to ensure they have repeatable use. Overall, our thermal door seals offer a perfect solution for the steel-making of coke oven battery doors, homogenizing of ovens in the aluminum industry, and many other industrial applications.

### KEY FEATURES

- Minimizes labor costs
- Prevents air from being pulled into the ovens
- Reduces heat loss
- Prevents distortion of steelwork around the door caused by heat



CORNER DOOR SEAL WITH STAINLESS STEEL SHEETING WORKS TO STOP AIRFLOW IN COKE OVEN DOORS



# TADPOLE SEALS

## TADPOLE SEALS

Our resilient tadpole seals are well suited for applications that require sealing under pressure. When pressure is applied to the bulb of the tadpole, our seals work to conform to the most uneven of surfaces. Our seals are made to have a very high density, which stops airflow and any other compression damages associated with metal-to-metal contact.



### KEY FEATURES

- Prevents metal to metal contact
- Reduces compression damages
- Prevents against abrasion
- Blocks airflow



# GASKETS & EXPANSION JOINTS

## INDUSTRIAL GASKETS

Custom made for sealing pressure and temperature, Thermal Tech & Temp's industrial gaskets offer a high-temperature solution for rough or uneven flanges. Thermasil gaskets last longer which saves our customers money on labor, industrial waste, and reduces any outages that might be caused by failing gaskets and seals.

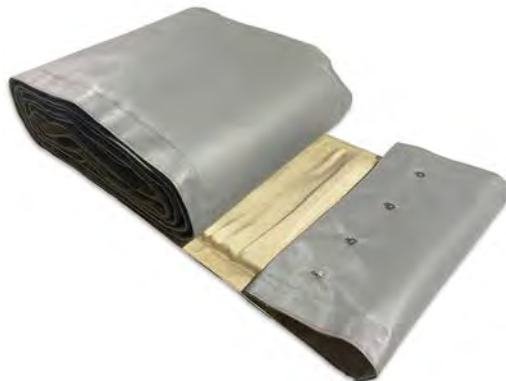
### KEY FEATURES

- Eco-friendly
- Minimizes labor costs
- Prevents against abrasion
- Prevents metal to metal contact
- Highly resilient and reusable
- No carcinogenic ceramic fiber
- Custom sizes & shapes available
- Inconel wire mesh prevents ripping and tearing of fabric
- High-density insulation stops airflow



## EXPANSION JOINTS

Thermal Tech & Temp's custom expansion joints not only can withstand internal pipe pressures but are extremely flexible allowing them to compensate for thermal movement. Our expansion joints offer a great solution in any application where large changes in temperature cause metal components and piping to change size.

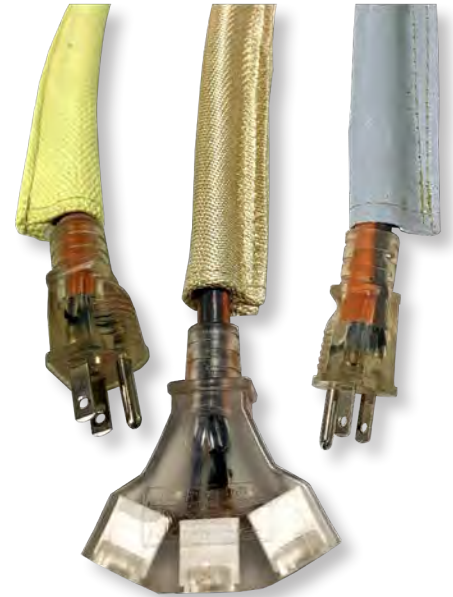




# HIGH-TEMPERATURE SLEEVES

## HIGH-TEMP SLEEVES

All of Thermal Tech & Temp's high-temperature sleeves are fabricated with high-quality industrial textiles. Whether you choose one of our high-temperature sleeves made of Kevlar, Tuffcoat, or Silica, our sleeves will not burn and are a great solution for high-temperature applications. Providing flexibility, durability, and thermal protection, Thermal Tech & Temp's high-temperature sleeves offer a great solution to protecting your hoses, cables, and wires. Our high-temperature sleeves are resistant to hydraulic fluids, lubricating oils, fuels, and flames. They also work to insulate against energy loss in piping and hosing and help to protect employees from burns and other industrial hazards.



### KEY FEATURES

- Long lasting
- Forms to surface
- Cost-effective
- Weatherproof
- Safe for skin

# WELDING & KNEELING PADS

## WELDING & KNEELING PADS

When it comes to ergonomics in the welding industry, making sure you have a good welding & kneeling pad is essential to easing the strain that industrial works are constantly putting on their knees. Not only do they provide comfort, but our welding & kneeling pads provide great protection from heat and weld sparks. Thermal Tech & Temp's welding & kneeling pads can fit in tight, hard-to-reach spaces to offer maximum comfort no matter where you are welding. Our welding & kneeling pads are also completely customizable to fit your needs. Choose your thickness of high-temperature insulation, the outermost layer of fabric, and the shape and size that will work best for your application.

### KEY FEATURES:

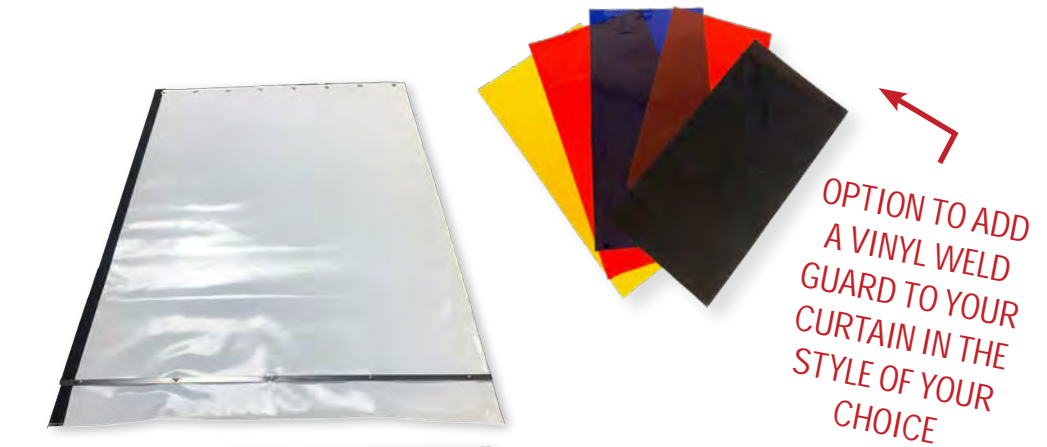
- Protects from heat, sparks, and welding slag
- Can be placed in tight/hard to reach spaces
- High-temperature resistant
- Offered in a variety of thicknesses
- Custom fabricated to any shape or size



# WELDING CURTAINS

## WELDING CURTAINS

Thermal Tech & Temp's custom-made welding curtains work to protect the workspace against weld spark and splatter. We offer our welding curtains in a variety of styles, sizes, and industrial textiles, including our FM-approved silicone-coated rubber fabric. Additionally, there are numerous fiberglass fabrics for light welding, grinding, and cutting as well as silica fabrics for heavy welding, slag, and spatter. With our welding curtains being made to order, it guarantees that they will be a perfect fit for your specific welding application.



OPTION TO ADD  
A VINYL WELD  
GUARD TO YOUR  
CURTAIN IN THE  
STYLE OF YOUR  
CHOICE

### KEY FEATURES:

- Highly re-usable
- Protects against sparks
- Shields against splatter
- Made in the U.S.A.
- Heavy duty



## INDUSTRIAL TAPE

### TEFLON-COATED PTFE FIBERGLASS TAPE

Our Teflon-Coated PTFE high-temperature fiberglass tape is extremely chemical, moisture, and abrasion-resistant. This tape measures 2 inches wide by 18 yards long and has a temperature rating of up to 500°F. The adhesive backing on the tape can be placed directly on the heating element, making it ideal for high-temperature magnet backing and temporary insulation repair.



### HIGH-TEMPERATURE FIBERGLASS TAPE

Our industrial-grade fiberglass tape comes in either 1 or 2 inches wide by 1/8 inch thick by 100 feet long and has a service temperature rating of 1000°F. This tape works great for cable wrapping, industrial pipe wrapping, and high-temperature gaskets.



### STRAPPING TAPE

Measuring 1 inch wide by 60 yards long, our clear Strapping Tape is intended for light-duty reinforcing and bundling. With a clear polypropylene backing and synthetic rubber adhesive, this strapping tape works to resist moisture and abrasion.

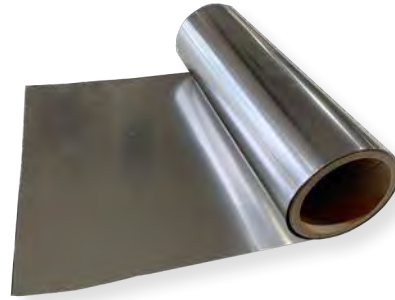


## INSULATION HARDWARE

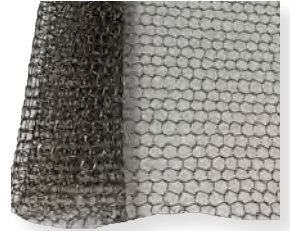
### INSULATION ENHANCEMENTS



STEEL CLADDING



STAINLESS STEEL SHEETING



INCONEL WIRE MESH

### CONNECTING HARDWARE



STEEL TIE WIRE



C-RINGS/HOG RINGS



D-RING



ALLIGATOR BUCKLE



QUICK RELEASE BUCKLE



SLIDE BUCKLE

### STUD GUN & ACCESSORIES



SPEED WASHERS



QUILTING CAPS



LACING ANCHOR



QUILTING PIN



PINTO WELD STUD GUN

## ORDERING INFORMATION

For placing an order with Thermal Tech & Temp, please email us at [sales@thermaltechtemp.com](mailto:sales@thermaltechtemp.com). Feel free to call us at (1-800) 674-9284 with any questions you may have and we would be happy to assist you.

### INSULATION MATERIAL

PART NUMBER	DESCRIPTION
TTT-ENM-12-60	E-Glass Needled Mat, 1/2 inch thick by 60 inches wide by 100 feet long
TTT-ENM-25-60	E-Glass Needled Mat, 1 inch thick by 60 inches wide by 45 feet long
TTT-TSM-12-36	Thermasil Needled Mat, 1/2 inch thick by 36 inches wide by 75 feet long
TTT-TSM-12-60	Thermasil Needled Mat, 1/2 inch thick by 60 inches wide by 75 feet long
TTT-TSM-25-36	Thermasil Needled Mat, 1 inch thick by 36 inches wide by 33 1/3 feet long
TTT-TSM-25-60	Thermasil Needled Mat, 1 inch thick by 60 inches wide by 33 1/3 feet long
TTT-SOLF-12-24	Soluble Fiber, 1/2 inch thick by 24 inches wide by 50 feet long
TTT-SOLF-25-24	Soluble Fiber, 1 inch thick by 24 inches wide by 25 feet long

### INDUSTRIAL TEXTILES

PART NUMBER	DESCRIPTION
TTT-SIL-1800	Silica Fabric, 18.0 oz/square yard
TTT-SIL-3600	Silica Fabric, 36.0 oz/square yard
TTT-HB-SRC	Herringbone Silica Fabric, 29.0 oz/square yard
TTT-TEX-2	Plain Weave Silica Fabric, 36.0 oz/square yard
TTT-TEX-4	Twill Weave Silica Fabric, 59.0 oz/square yard
TTT-SRC-1700	Fiberglass Fabric with Silicone Rubber, 17.5 oz/square yard
TTT-SRC-3400	Fiberglass Fabric with Silicone Rubber, 34.0 oz/square yard
TTT-WELD-3500	Fiberglass Fabric with Highly Texturized Yarn, 35.0 oz/square yard
TTT-PTFE-1650	Fiberglass Fabric with Teflon PTFE Coating, 16.5 oz/square yard
TTT-TUFFCOAT-2000	Tuffcoat Fiberglass Fabric with Silicone Rubber, 20.0 oz/square yard
TTT-TUFFCOAT-2.0	Tuffcoat 2.0 Fabric, only sold as Tuffsleeve 2.0; not available in rolls
TTT-KEV-2200	Kevlar Fabric, 22.0 oz/square yard

### INSULATION MODULES

PART NUMBER	DESCRIPTION
TTT-MODULE-4-12-12	Interior Insulation Module, 4 inches thick by 12 inches wide by 12 inches long
TTT-MODULE-6-6-12	Interior Insulation Module, 6 inches thick by 6 inches wide by 12 inches long
TTT-MODULE-12-12-12	Interior Insulation Module, 12 inches thick by 12 inches wide by 12 inches long

### ANNEALING SEALS

PART NUMBER	DESCRIPTION
TTT-ANSEAL-SINGL-4.5-106	Single-Stack Annealing Seal, 4.5-inch seal diameter by 106-inch inside diameter ring
TTT-ANSEAL-SINGL-4.5-126	Single-Stack Annealing Seal, 4.5-inch seal diameter by 126-inch inside diameter ring
TTT-ANSEAL-MULTI-6-82	Multi-Stack Annealing Seal, 6-inch seal diameter by 82-inch inside diameter ring
TTT-ANSEAL-MULTI-6-88	Multi-Stack Annealing Seal, 6-inch seal diameter by 88-inch inside diameter ring
TTT-ANSEAL-MULTI-6-92	Multi-Stack Annealing Seal, 6-inch seal diameter by 92-inch inside diameter ring
TTT-ANSEAL-MULTI-6-106	Multi-Stack Annealing Seal, 6-inch seal diameter by 106-inch inside diameter ring

CUSTOM PRODUCTS ALWAYS AVAILABLE

## ORDERING INFORMATION

Thermal Tech & Temp ordering information is not limited to the specific sizes of products listed. We are always happy to custom-make products to meet your specific needs.

### THERMAL DOOR SEALS

PART NUMBER	DESCRIPTION
TTT-TDSEAL-4-6	Thermal Door Seal, 1/2 inch thick by 4 inches wide by 6 feet long
TTT-TDSEAL-4-12	Thermal Door Seal, 1/2 inch thick by 4 inches wide by 12 feet long
TTT-TDSEAL-4-25	Thermal Door Seal, 1/2 inch thick by 4 inches wide by 25 feet long

### TADPOLE SEALS

PART NUMBER	DESCRIPTION
TTT-TADPOLE-0.5-2-25	Tadpole Seal, 1/2-inch bulb diameter by 2-inch tail length by 25 feet long
TTT-TADPOLE-1-2-25	Tadpole Seal, 1-inch bulb diameter by 2-inch tail length by 25 feet long
TTT-TADPOLE-1.5-2-25	Tadpole Seal, 1 1/2-inch bulb diameter by 2-inch tail length by 25 feet long
TTT-TADPOLE-2-2-25	Tadpole Seal, 2-inch bulb diameter by 2-inch tail length by 25 feet long

### INSULATION BLANKET

PART NUMBER	DESCRIPTION
TTT-INSB-12-15	Insulation Blanket, 12 inches wide by 15 inches long (fits a 2.5-inch pipe diameter)
TTT-INSB-12-21	Insulation Blanket, 12 inches wide by 21 inches long (fits a 4-inch pipe diameter)
TTT-INSB-12-26	Insulation Blanket, 12 inches wide by 26 inches long (fits a 5-inch pipe diameter)
TTT-INSB-12-30	Insulation Blanket, 12 inches wide by 30 inches long (fits a 6-inch pipe diameter)
TTT-INSB-18-34	Insulation Blanket, 18 inches wide by 34 inches long (fits a 7-inch pipe diameter)
TTT-INSB-18-38	Insulation Blanket, 18 inches wide by 38 inches long (fits a 8-inch pipe diameter)
TTT-INSB-18-43	Insulation Blanket, 18 inches wide by 43 inches long (fits a 10-inch pipe diameter)
TTT-INSB-18-49	Insulation Blanket, 18 inches wide by 49 inches long (fits a 12-inch pipe diameter)
TTT-INSB-18-54	Insulation Blanket, 18 inches wide by 54 inches long (fits a 14-inch pipe diameter)
TTT-INSB-18-58	Insulation Blanket, 18 inches wide by 58 inches long (fits a 16-inch pipe diameter)
TTT-INSB-24-67	Insulation Blanket, 24 inches wide by 67 inches long (fits a 18-inch pipe diameter)
TTT-INSB-24-73	Insulation Blanket, 24 inches wide by 73 inches long (fits a 20-inch pipe diameter)
TTT-INSB-24-76	Insulation Blanket, 24 inches wide by 76 inches long (fits a 21-inch pipe diameter)
TTT-INSB-24-79	Insulation Blanket, 24 inches wide by 79 inches long (fits a 22-inch pipe diameter)
TTT-INSB-24-85	Insulation Blanket, 24 inches wide by 85 inches long (fits a 24-inch pipe diameter)
TTT-INSB-24-91	Insulation Blanket, 24 inches wide by 91 inches long (fits a 26-inch pipe diameter)
TTT-INSB-24-98	Insulation Blanket, 24 inches wide by 98 inches long (fits a 28-inch pipe diameter)
TTT-INSB-24-105	Insulation Blanket, 24 inches wide by 105 inches long (fits a 30-inch pipe diameter)
TTT-INSB-24-112	Insulation Blanket, 24 inches wide by 112 inches long (fits a 32-inch pipe diameter)
TTT-INSB-24-126	Insulation Blanket, 24 inches wide by 126 inches long (fits a 36-inch pipe diameter)
TTT-INSB-24-140	Insulation Blanket, 24 inches wide by 140 inches long (fits a 40-inch pipe diameter)
TTT-PHP-6-120	Pre-Heat Pad, 1/2 inch thick by 6 inches wide by 120 inches long
TTT-PHP-6-240	Pre-Heat Pad, 1/2 inch thick by 6 inches wide by 240 inches long
TTT-PHP-12-120	Pre-Heat Pad, 1/2 inch thick by 12 inches wide by 120 inches long
TTT-PHP-12-240	Pre-Heat Pad, 1/2 inch thick by 12 inches wide by 240 inches long

CUSTOM PRODUCTS ALWAYS AVAILABLE

## ORDERING INFORMATION

For placing an order with Thermal Tech & Temp, please email us at [sales@thermaltechtemp.com](mailto:sales@thermaltechtemp.com). Feel free to call us at (1-800) 674-9284 with any questions you may have and we would be happy to assist you. Thermal Tech & Temp ordering information is not limited to the specific sizes of products listed. We are always happy to custom-make products to meet your specific needs.

### HIGH-TEMPERATURE SLEEVES

PART NUMBER	DESCRIPTION
TTT-HTS-SIL-2-80	High-Temperature Sleeve, 2-inch diameter by 80 feet long made of Silica fabric
TTT-HTS-SIL-4-80	High-Temperature Sleeve, 4-inch diameter by 80 feet long made of Silica fabric
TTT-HTS-SIL-6-80	High-Temperature Sleeve, 6-inch diameter by 80 feet long made of Silica fabric
TTT-HTS-TUF-2-80	High-Temperature Sleeve, 2-inch diameter by 80 feet long made of TuffCoat material
TTT-HTS-TUF-4-80	High-Temperature Sleeve, 4-inch diameter by 80 feet long made of TuffCoat material
TTT-HTS-TUF-6-80	High-Temperature Sleeve, 6-inch diameter by 80 feet long made of TuffCoat material
TTT-HTS-KEV-2-80	High-Temperature Sleeve, 2-inch diameter by 80 feet long made of Kevlar fabric
TTT-HTS-KEV-4-80	High-Temperature Sleeve, 4-inch diameter by 80 feet long made of Kevlar fabric
TTT-HTS-KEV-6-80	High-Temperature Sleeve, 6-inch diameter by 80 feet long made of Kevlar fabric

### INDUSTRIAL TAPE

PART NUMBER	DESCRIPTION
TTT-TEFLON-TAPE	Teflon-PTFE Fiberglass Tape, 2 inches wide by 18 yards long
TTT-HTT-1	High-Temperature Fiberglass Tape, 1 inch wide by 1/8 inch thick by 100 feet long
TTT-HTT-2	High-Temperature Fiberglass Tape, 2 inches wide by 1/8 inch thick by 100 feet long
TTT-STRAP-TAPE	3M Strapping Tape, 1 inch wide by 60 yards long

### WELDING & KNEELING PADS

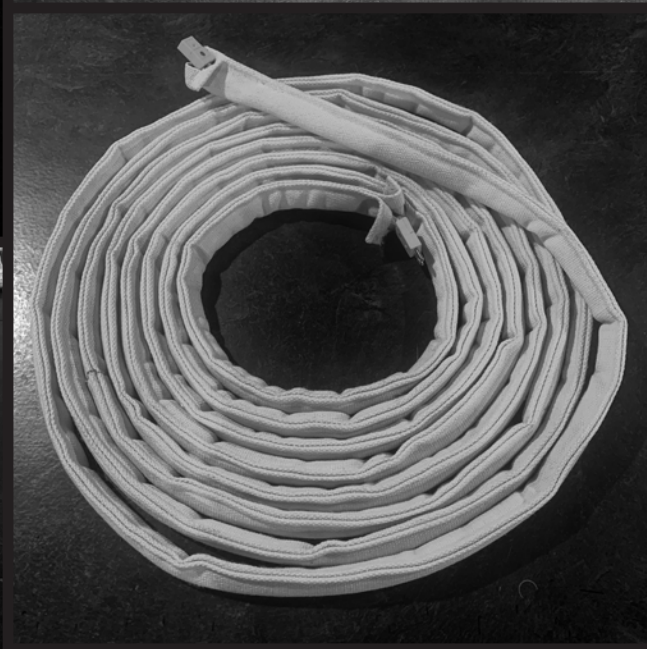
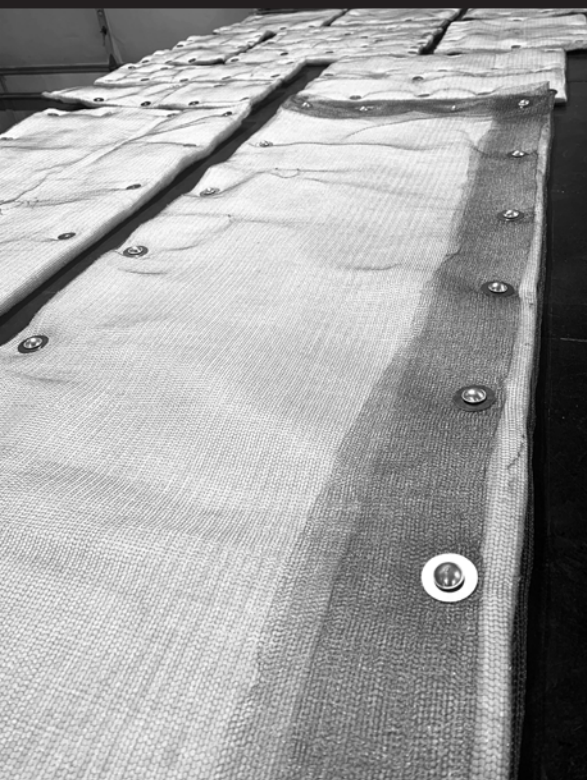
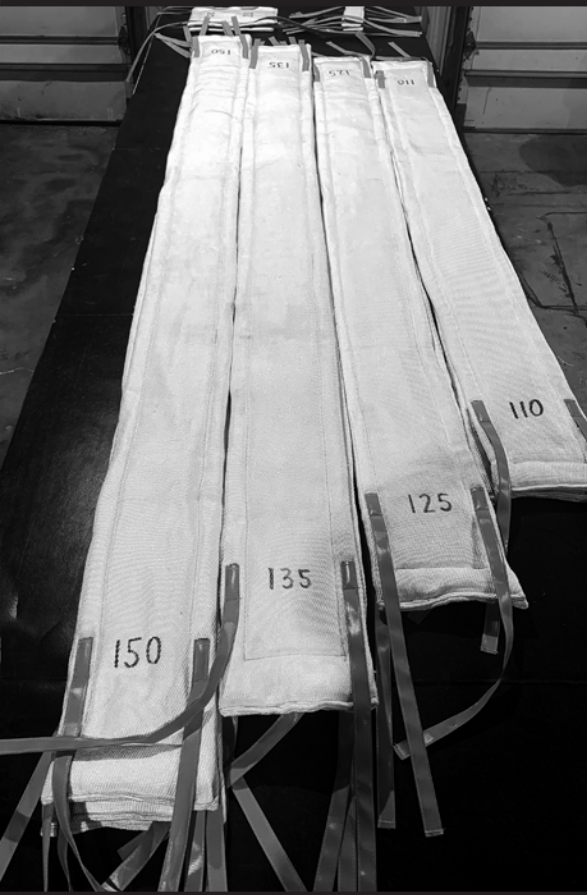
PART NUMBER	DESCRIPTION
TTT-KEV-WKP-2-24-24	Kevlar Welding & Kneeling Pad, 2 inches thick by 24 inches wide by 24 inches long
TTT-KEV-WKP-2-24-48	Kevlar Welding & Kneeling Pad, 2 inches thick by 24 inches wide by 48 inches long
TTT-KEV-WKP-2-36-48	Kevlar Welding & Kneeling Pad, 2 inches thick by 36 inches wide by 48 inches long
TTT-KEV-WKP-2-48-48	Kevlar Welding & Kneeling Pad, 2 inches thick by 48 inches wide by 48 inches long
TTT-SIL-WKP-2-24-24	Silica Welding & Kneeling Pad, 2 inches thick by 24 inches wide by 24 inches long
TTT-SIL-WKP-2-24-48	Silica Welding & Kneeling Pad, 2 inches thick by 24 inches wide by 48 inches long
TTT-SIL-WKP-2-36-48	Silica Welding & Kneeling Pad, 2 inches thick by 36 inches wide by 48 inches long
TTT-SIL-WKP-2-48-48	Silica Welding & Kneeling Pad, 2 inches thick by 48 inches wide by 48 inches long

### WELDING CURTAIN

PART NUMBER	DESCRIPTION
TTT-SIL-WC-48-48	Welding Curtain, 48" wide x 48" long made of 36.0 oz silica fabric with grommets
TTT-SIL-WC-48-72	Welding Curtain, 48" wide x 72" long made of 36.0 oz silica fabric with grommets
TTT-SIL-WC-48-96	Welding Curtain, 48" wide x 96" long made of 36.0 oz silica fabric with grommets
TTT-SIL-WC-48-120	Welding Curtain, 48" wide x 120" long made of 36.0 oz silica fabric with grommets

CUSTOM PRODUCTS ALWAYS AVAILABLE





## TTT-SIL-1800 DATA

1

### DESCRIPTION

TTT-SIL-1800 is a medium-weight silica fabric, tan in color, with superior physical and thermal characteristics compared to traditional silica fabrics. ANSI/FM 4950 approved for welding curtains. This material can meet MIL C24576A Type 1.

2

### APPLICATIONS

TTT-SIL-1800 is intended for use in any application where high heat resistance and thermal protection are required, such as furnace curtains, stress-relieving blankets, welding blankets, and other heat shielding applications.

3

### ADVANTAGES

The unique properties of TTT-SIL-1800 make it an extremely cost-effective alternative to regular silica fabrics with superior physical properties, such as abrasion resistance and breaking strength. The vermiculite coating that is on TTT-SIL-1800 performs a dual task. Initially, it reduces the ability of the fabric to fray making it more workable through the cutting and sewing processes. The even greater duty of the vermiculite coating is to dissipate the heat across the fabric rather than allow heat from molten slag to fester in a single point allowing greater protection from molten slag going through the fabric. These factors along with the higher melting point of the amorphous silica allow TTT-SIL-1800 to be the fabric of choice where high heat resistance is desired.

4

### PROPERTY DATA

Characteristics:	Method:	English Values:	Metric Values:
Weight	ASTM-D-3776	18.0 oz/sy +/- 10%	612 g/m +/- 10%
Thickness	ASTM-D-1777	.030" +/- 10%	0.762 mm +/- 10%
Breaking Strength	ASTM-D-579	Warp: 250 lbs/in Fill: 100 lbs/in	Warp: 44.6 kg/cm Fill: 17.9 kg/cm
Temperature Resistance	N/A	Continuous Use: 1800°F Melting: 3000° F	Continuous Use: 982°C Melting: 1649°C
Linear Shrinkage		5% at 1800° F	5% at 982.22 °C
Base Fabric and Weave	N/A	Silica/8 Harness Satin	
Color:	N/A	Light Tan/Vermiculite	
Abrasion Resistance	MIL-C-24576A	20 Cycles/minute	
Width	N/A	35 inches	88.9 centimeters
Length	N/A	50 yards	45.72 meters

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## TTT-SIL-3600 DATA

1

### DESCRIPTION

TTT-SIL-3600 is a medium-weight silica fabric, tan in color, with superior physical and thermal characteristics compared to traditional silica fabrics. ANSI/FM 4950 approved for welding curtains. This material can meet MIL C24576A Type 1.

2

### APPLICATIONS

TTT-SIL-3600 is intended for use in any application where high heat resistance and thermal protection are required, such as furnace curtains, stress-relieving blankets, welding blankets, and other heat shielding applications.

3

### ADVANTAGES

The unique properties of TTT-SIL-3600 make it an extremely cost-effective alternative to regular silica fabrics with superior physical properties, such as abrasion resistance and breaking strength. The vermiculite coating that is on TTT-SIL-3600 performs a dual task. Initially, it reduces the ability of the fabric to fray making it more workable through the cutting and sewing processes. The even greater duty of the vermiculite coating is to dissipate the heat across the fabric rather than allow heat from molten slag to fester in a single point allowing greater protection from molten slag going through the fabric. These factors along with the higher melting point of the amorphous silica allow TTT-SIL-3600 to be the fabric of choice where high heat resistance is desired.

4

### PROPERTY DATA

Characteristics:	Method:	English Values:	Metric Values:
Weight	ASTM-D-3776	34.0 oz/sy +/- 10%	1156 g/m +/- 10%
Thickness	ASTM-D-1777	.0050" +/- 10%	1.270 mm +/- 10%
Breaking Strength	ASTM-D-579	Warp: 200 lbs/in Fill: 100 lbs/in	Warp: 35.71 kg/cm Fill: 17.86 kg/cm
Temperature Resistance	N/A	Continuous Use: 1800°F Melting: 3000° F	Continuous Use: 982°C Melting: 1649°C
Linear Shrinkage		5% at 1800° F	5% at 982.22 °C
Base Fabric and Weave	N/A	Silica/8 Harness Satin	
Color:	N/A	Light Tan/Vermiculite	
Abrasion Resistance	MIL-C-24576A	20 Cycles/minute	
Width	N/A	35 inches	88.9 centimeters
Length	N/A	50 yards	45.72 meters

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## TTT-TEX-2 DATA

### 1 DESCRIPTION

TTT-TEX-2 is a high temperature resistant plain weave silica fabric with properties that include low thermal conductivity and ultra-low heat storage.

### 2 APPLICATIONS

TTT-TEX-2 is intended for flange and equipment covers, removable insulation fabrics, expansion joints, and welding blankets.

### 3 ADVANTAGES

The unique properties of TTT-TEX-2 make water, chemical, oil, and high-temperature resistant, have low thermal conductivity, and ultra-low heat storage. TTT-TEX-2 is also skin-friendly and harmless to health.

### 4 PROPERTY DATA

Characteristics:	Method:	English Values:	Metric Values:
Thickness	DIN EN ISO 5084	0.789" +/- 0.01"	2.0 mm +/- 0.3 mm
Area Weight	DIN EN 12127	30.97 oz/yd <sup>2</sup> +/- 10%	1050 g/m <sup>2</sup> +/- 10%
Threadcount Warp cm	DIN EN 1049-2		55 Fd./10cm +/- 3 Fd./10
Threadcount Weft cm	DIN EN 1049-2		31 Fd./10cm +/- 3 Fd./10
Tensile Strength Warp	DIN EN ISO 13934-1		> 2500 N/5 cm
Tensile Strength Weft	DIN EN ISO 13934-1		> 850 N/5 cm
Linear Shrinkage	PV 01362	< 3%	< 3%
Loss on Ignition	ISO 1887	< 3%	< 3%
Weave	N/A	Plain	
Color:	N/A	White	
Application Limit			1050°C <sup>1</sup>
Brief Peaks up to			1100°C <sup>2</sup>

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## TTT-TEX-4 DATA

1

### DESCRIPTION

TTT-TEX-4 is a high-temperature resistant twill weave silica fabric with properties that include low thermal conductivity and ultra-low heat storage.

2

### APPLICATIONS

TTT-TEX-4 is intended for rugged terrain and conditions, abrasion-prone areas, expansion joints, pads, curtains, covers, and sleeves.

3

### ADVANTAGES

The unique properties of TTT-TEX-4 make it high-temperature resistant, have low thermal conductivity, and ultra-low heat storage. TTT-TEX-4 is also skin-friendly and harmless to health. TTT-TEX-4 handles high temperatures better than most plain style silica fabrics due to the texturization of the silica yarn. TTT-TEX-4 also handles metal-to-metal abrasion with ease.

4

### PROPERTY DATA

Characteristics:	Method:	English Values:	Metric Values:
Weight	ASTM-D-3776	59.0 oz/sqyd +/- 10%	2000.44 g/m <sup>2</sup> +/- 10%
Weight with coating	N/A	None	None
Temperature Resistance	N/A	1022°F	550°C
Melting Temperature	N/A	1544°F	840°C
Thickness	ASTM-D-1777	0.05 inches +/- 10%	1.27 mm +/- 10%
Thread count	N/A	Warp: 82 Fd/10 cm Weft: 30 Fd/10 cm	
Yarn count	N/A	Warp: 500 tex Weft: 820 tex	
Tensile strength	N/A	Warp: > 4000 N/5 cm Weft: > 1000 N/5 cm	
Base Fabric and Weave	N/A	Twill weave	
Color:	N/A	White	

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## TTT-HB-SRC DATA

1

### DESCRIPTION

TTT-HB-SRC is made from a minimum of 96% pure amorphous silica cloth and is rated to 1800°F (980°C) with cured silicone rubber on one side. TTT-HB-SRC has been tested and rated to the ANSI/FM 4950 standard which is now required by the NFPA 51B. TTT-HB-SRC meets USCG164.009 as part of MIL-C-24576SH and meets NFPA 701-1999 Method 2 as well as MIL-STC-2041D Notice 2.

2

### APPLICATIONS

TTT-HB-SRC is intended for welding/cutting protection, molten metal splash protection, heat and flame shielding, stress relief, insulation, hose and cable protection, emergency fire blankets, tadpole tapes, oven door seals, and gaskets.

3

### ADVANTAGES

The unique properties of TTT-HB-SRC make it a safe substitute for ceramic in refractory applications, the optimal choice for welding protection, and flexible and chemical resistant with low thermal conductivity and low halogens and soluble chlorides.

4

### PROPERTY DATA

Characteristics:	Method:	English Values:	Metric Values:
Weight	ASTM-D-3776	29.0 oz/yd <sup>2</sup> +/- 10%	822.136 g/m <sup>2</sup> +/- 10%
Thickness	ASTM-D-1777	0.047" +/- 10%	1.194 mm +/- 10%
Temperature resistance	N/A	1800°F	982.22 °C
Coating temperature	N/A	500°F	260 °C
Melting point	N/A	3000°F	1648.889 °C
Linear shrinkage	N/A	1%	
Weight loss on ignition	N/A	1%	
Base Fabric and Weave	N/A	Herringbone	
Color:	N/A	Various colors	

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## TTT-PTFE-1650 DATA

1

### DESCRIPTION

TTT-PTFE-1650 is a fluorocarbon impregnated and coated fiberglass fabric designed for use in removable blankets as a weather/chemical resistant barrier. This fabric is easily sewn and is flexible enough to conform to intricate shapes. The fluorocarbon impregnation and coating is extremely resistant to most industrial chemicals and has been in applications to 600°F. This standard duty product can be manufactured to meet the requirements of NRC Guide 1.36 and Military Specification MIL-I-24244.

2

### APPLICATIONS

TTT-PTFE-1650 is intended to be used for removable blankets for valves, flanges, pumps, instrumentation, and freeze protection.

3

### ADVANTAGES

TTT-PTFE-1650 has a very low level of flammability, good chemical resistance, excellent cleanability and abrasion resistance, minimal smoke levels, and is UV resistant.

4

### PROPERTY DATA

Characteristics:	Method:	English Values:	Metric Values:
Weight	ASTM-D-3776	16.5 oz/sy +/- 10%	561 g/m <sup>2</sup> +/- 10%
Thickness	ASTM-D-1777	0.016" +/- 10%	0.381 mm +/- 10%
Tensile Strength	ASTM-D-5034	Warp: 410 lbs/in Fill: 350 lbs/in	71.44 kg/cm 53.58 kg/cm
Mullen Burst	ASTM-D-3786	650 psi	45.5 kg/cm <sup>2</sup>
		Char Length: 1 inch max.	2.54 cm max.
		Afterglow: 1 second max.	1 second max.
		Flame Out: 1 second max.	1 second max.
Temperature Resistance	N/A	-150°F to 600°F	-101°C to 315°C
UV Resistance	ASTM-G-154	1000 hrs; no change in tensile	
Base Fabric and Weave	N/A	Fiberglass/Satin Weave	
Color:	N/A	Gray	

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## TTT-SRC-1700 DATA

1

### DESCRIPTION

TTT-SRC-1700 is a fiberglass fabric impregnated with silicone rubber. This high temperature and retardant silicone rubber provide improved resistance to abrasion, exing, tear, and puncture. This product is designed specifically for high temperature ( 500 °F ) removable insulation blankets for valves, flanges, and fittings.

2

### APPLICATIONS

TTT-SRC-1700 is intended for removable insulation blankets, flange covers, welding curtains, safety clothing, equipment covers, and expansion joints.

3

### ADVANTAGES

The unique properties of TTT-SRC-1700 make it water and oil-resistant, UV-resistant, flame-retardant, low-smoke, easily fabricated, and lightweight.

4

### PROPERTY DATA

Characteristics:	Method:	English Values:	Metric Values:
Weight	ASTM-D-3776	17.5 oz/sy +/- 10%	595 g/m +/- 10%
Thickness	ASTM-D-1777	.0018" +/- 0.001"	0.457 mm +/- 0.025 mm
Breaking Strength	ASTM-D-5035	Warp: 310 lbs/in Fill: 260 lbs/in	Warp: 55.37 kg/cm Fill: 0.43 kg/cm
Tear Strength	ASTM-D-5587	Warp: 58 lbs/min. Fill: 58 lbs/min	Warp: 26.25 kg/min. Fill: 26.25 kg/min.
Burst Strength	ASTM-D-3786	600 psi/min	42 kg/sqcm
Flame Resistance	ASTM-D-6413	Char Length: 1/16" max Afterglow: 1 sec. max Flame Out: 1 sec. max	Char Length: 0.159 cm max
UV Resistance	ASTM-G-154	1000 hours; no change	
Temperature Resistance	N/A	-85°F to 500°F	-65°C to 260°C
Base Fabric and Weave	N/A	Fiberglass/Satin Weave	
Color:	N/A	Silver Silicone	

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## TTT-SRC-3400 DATA

### 1 DESCRIPTION

TTT-SRC-3400 is a fiberglass fabric impregnated with a specially formulated silicone rubber designed to meet the rigid requirements for use in nuclear reactors. This product is designed specifically for high temperature (500 ° F) removable pads, flange, and valve covers. This product can be manufactured to meet the requirements of NRC 1.36 as well as MIL-I-24244. This (Heavy Duty) silicone impregnated fiberglass fabric is used where more wear resistance is needed.

### 2 APPLICATIONS

TTT-SRC-3400 is intended for removable insulation pad covering, flange and valve covers, welding curtains and splash shields, safety clothing, equipment covers, and flexible connectors (expansion joints).

### 3 ADVANTAGES

The unique properties of TTT-SRC-3400 make it water and oil-resistant, acid and alkali-resistant, flame-retardant, low-smoke, easily sewn, adhesively bonded or sealed. The special high temperature, flame retardant silicone rubber provides greater life and improved resistance to abrasion, flexing, tear, and puncture.

### 4 PROPERTY DATA

Characteristics:	Method:	English Values:	Metric Values:
Weight	ASTM-D-3776	34.0 oz/sy +/- 10%	1156g/m <sup>2</sup> +/- 10%
Thickness	ASTM-D-1777	.037" +/- 10%	0.940 mm +/- 10%
Breaking Strength	ASTM-D-5034	Warp: 400 lbs/in Fill: 350 lbs/in	Warp: 71.44 kg/cm Fill: 62.51 kg/cm
Tear Strength	ASTM-D-5587	Warp: 65 lbs/min. Fill: 55 lbs/min	Warp: 29.48 kg/min. Fill: 24.95 kg/min.
Burst Strength	ASTM-D-3786	750 psi/min	52.5 kg/sqcm
Flame Resistance	ASTM-D-6413	Char Length: 1" max Afterglow: 1 sec. max Flame Out: 1 sec. max	Char Length: 2.54 cm max
Temperature Resistance	N/A	-67°F to 500°F	-55°C to 260°C
Base Fabric and Weave	N/A	Fiberglass/Satin Weave	
Color:	N/A	Silver Silicone	
E-glass fabric	N/A	1200°F Melting Point	649°C Melting Point

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## TTT-TUFFCOAT-2000 DATA

### 1 DESCRIPTION

TTT-TUFFCOAT-2000 is a silicone/fiberglass composite that contains a thick, rugged, coating engineered specifically for removable pads, flanges and valve covers.

### 2 APPLICATIONS

TTT-TUFFCOAT-2000 is intended for preheating blankets, kneeling pads, protective hoses, cables, welding neck protectors, low-temperature heating blankets, and welding gloves.

### 3 ADVANTAGES

Our TTT-TUFFCOAT-2000 material has high-temperature and chemical exposure capabilities, excellent flexibility, is easily sewn, and has a durable construction.

### 4 PROPERTY DATA

Characteristics:	Method:	English Values:	Metric Values:
Weight	N/A	20 oz/yd <sup>2</sup>	680 g/m <sup>2</sup>
Thickness	N/A	0.018 in	0.46 mm
Tensile Strength	N/A	Warp: 370 lbs/in Fill: 310 lbs/in	Warp: 3240 N/50 mm Fill: 2714 N/50 mm
Temperature Resistance	N/A	480°F Continuous	249°C Continuous
Color	N/A	Gray	

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## TTT-TUFFCOAT-2.0 DATA

### 1 DESCRIPTION

Tuffcoat 2.0 has a thick silicone rubber coating on fiberglass fabric that can withstand repeated exposures to molten steel, molten aluminum, and molten glass up to 3000°F (1650°C) in a short time. The heavy coating of the iron oxide red silicone rubber compound sheds molten metal splash immediately, so very little heat transfer occurs. When exposed to flames, the silicone rubber transforms into a crust, creating a protective SiO2 refractory layer. Modulus of elasticity on the Tuffcoat 2.0 makes it an ideal choice for bundling hoses, tubes, and cables in a variety of hostile environments.

### 2 APPLICATIONS

Typical applications for Tuffcoat 2.0 include protecting hoses and cables in steel mills, aluminum smelting plants, offshore drilling rigs, foundries, and glass manufacturing facilities. Additional uses include the bundling of multiple hoses and cables together while providing good abrasion resistance.

### 3 ADVANTAGES

Our Tuffcoat material has high-temperature and chemical exposure capabilities, as well as an excellent modulus of elasticity. This allows this fabric to easily stretch and expand over fittings and connectors. The outer cover offers excellent resistance to most industrial chemicals and hydraulic oils. Additionally, the special formulation of liquid silicone rubber prevents fraying and the absorption of flammable oils or other contaminants into exposed glass fibers. Finally, this material is outstanding when it comes to molten splash resistance, flexibility, and water and oil resistance, and is very good concerning flame and abrasion resistance.

### 4 PROPERTY DATA

Characteristics:	Method:	English Values:	Metric Values:
Weight	N/A	85.5 oz/yd <sup>2</sup>	2900 g/m <sup>2</sup>
Thickness	N/A	0.08 in	2.0 mm
Max Short Term Exposure	N/A	3000°F	1650°C
Continuous Operating Temp	N/A	500°F	260°C
Color	N/A	Brick Red	

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## TTT-WELD-3500 DATA

### 1 DESCRIPTION

TTT-WELD-3500 is extremely heavyweight fiberglass made with highly texturized yarn creating a very “bulky” fabric. It is available in three different finishes - GR (Greige or Loomstate), WS (Weave Set Finish), or VCF (Vermiculite Coating for high-temperature protection.)

### 2 APPLICATIONS

TTT-WELD-3500 is intended for uses where a heavyweight, thick (insulative) fabric is required with high heat resistance. The WS finish facilitates fabrication by reducing raveling and fraying of cut edges. The VCF (Vermiculite Coating) finish provides a combination of high heat resistance and weaves stability for use in fabrication items, such as mitts, gloves, aprons, removable blankets, expansion joints, and strip curtains. Available in 40” (101.6 cm) and 60” (152.4 cm) widths.

### 3 ADVANTAGES

Due to the fact that TTT-WELD-3500 is a texturized fiberglass plain weave fabric, it is extremely durable with high tensile strength and can handle temperatures up to 1200°F.

### 4 PROPERTY DATA

Characteristics:	Method:	English Values:	Metric Values:
Weight	ASTM-D-3776	35.0 oz/sy +/- 10%	1190 g/m <sup>2</sup> +/- 10%
Thickness	ASTM-D-1777	0.080” +/- 10%	1.5424 mm +/- 10%
Tensile Strength	ASTM-D-5035	Warp: 470 lbs/in Fill: 250 lbs/in	Warp: 83.94 kg/cm Fill: 44.65kg/cm
Ends/Inch	ASTM-D-3775	Warp: 10 Fill: 8	
Temperature Resistance	N/A	GR and WS: 1000°F VCF: 1200°F continuous VCF: 1500°F intermittent	538°C : 649°C : 816°C VCF: 648.89 °C continuous VCF: 815 °C intermittent
Base Fabric and Weave	N/A	Fiberglass/Plain weave	
Color:	N/A	GR, WS: White; VCF: Tan	

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## TTT-KEV-2200 DATA

### 1 DESCRIPTION

TTT-KEV-2200 is a fairly modern fabric with an innumerable amount of applications across many industries. Known for its heat resistance and incredible strength, KEVLAR has found itself used as an essential component in protective equipment used by all industrial fields for abrasion protection, high strength fabric for covers, and blankets. TTT-KEV-2200 is an aramid fiber blend over a fiberglass core yarn. It can be used to produce high-temperature sleeves, heat shields, and curtains, tadpole seals, etc.

### 2 APPLICATIONS

TTT-KEV-2200 is intended for preheat blankets, kneeling pads, protecting hoses, cables, welding neck protectors, low-temperature heating blankets, and welding gloves.

### 3 ADVANTAGES

TTT-KEV-2200 is most notably recognized for its durability and ability to withstand impact, due to its high tensile strength-to-weight ratio. It is known to be five times stronger than steel. In terms of temperature, TTT-KEV-2200 can not only maintain its durability down to cryogenic temperatures but is even found to be stronger in such conditions. In intense heat, the tensile strength is found to reduce by 10% after exposure to 160°C (320 °F) for 500 hours.

### 4 PROPERTY DATA

Characteristics:	Method:	English Values:	Metric Values:
Weight	ASTM-D-3776	22.0 oz/sy +/- 10%	623.69 g/m <sup>2</sup> +/- 10%
Thickness	ASTM-D-1777	0.08" +/- 10%	2.032 mm +/- 10%
Tensile Strength	ASTM-D-5035	Warp: 225 lbs/in Fill: 150 lbs/in	40.1804 kg/cm 26.787 kg/cm
Temperature Resistance	N/A	600°F	315.556 °C
Color:	N/A	Yellow and Green	

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## TTT-ENM-12 DATA

### 1 DESCRIPTION

TTT-ENM-12 is manufactured to conform with the requirements of Military Specification MIL-1-16411 Type II, ASTM-C-1086-96, and Coast Guard Specification for Incombustible Materials #164.009 and MIL-1-24244. TTT-ENM-12 is a fiberglass mat composed of 100% "E" type glass fibers 9-13 microns in diameter which is put into a web form and mechanically needled together without chemical binders.

### 2 APPLICATIONS

TTT-ENM-12 is intended for use as thermal insulation and gasket material in home and industrial furnaces, package boiler, and for special piping applications where heat resistance, flexibility, and low special air and liquid chemical and thermal resistance are mandatory.

### 3 ADVANTAGES

The unique properties of TTT-ENM-12 make it an effective low-cost replacement for asbestos mats, mill-board, ceramic or refractory paper, mat and sheets, and mineral boards.

### 4 PROPERTY DATA

Characteristics:	Method:	English Values:	Metric Values:
Weight		6 oz/sqft	1831.2 g/m <sup>2</sup>
Thickness	ASTM-D-1777	1/2" +/- 10%	25.4 mm +/- 10%
Density		9 lbs/ft	144.2 kg/m <sup>3</sup>
Temperature Resistance	N/A	Max: 1200°F	Max: 649°C
Flame Resistance	ASTM-E-84	Flame Spread: 0 Smoke Developed: 0	
Tensile Strength	N/A	Machine: 80 lbs Cross machine: 60 lbs	Machine: 36.2874 kg Cross machine: 27.2155 kg
Acoustical Ratings	N/A	250 frequency: .07 +/- .02 500 frequency: .24 +/- .1 1000 frequency: .55 +/- .01 2000 frequency: .49 +/- .02 4000 frequency: .91 +/- .02	
Color:	N/A	White	

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## TTT-ENM-25 DATA

1

### DESCRIPTION

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2

### APPLICATIONS

TTT-ENM-25 is intended for use as thermal insulation and gasket material in home and industrial furnaces, package boiler, and for special piping applications where heat resistance, flexibility, and low special air and liquid chemical and thermal resistance are mandatory.

3

### ADVANTAGES

The unique properties of TTT-ENM-25 make it an effective low-cost replacement for asbestos mats, mill-board, ceramic or refractory paper, mat and sheets, and mineral boards.

4

### PROPERTY DATA

Characteristics:	Method:	English Values:	Metric Values:
Weight		15 oz/sqft	4578 g/m <sup>2</sup>
Thickness	ASTM-D-1777	1" +/- 10%	25.4 mm +/- 10%
Density		11 lbs/ft <sup>3</sup>	176.2 kg/m <sup>3</sup>
Temperature Resistance	N/A	Max: 1200°F	Max: 649°C
Flame Resistance	ASTM-E-84	Flame Spread: 0 Smoke Developed: 0	
Tensile Strength	N/A	Machine: 125 lbs Cross machine: 90 lbs	Machine: 56.699 kg Cross machine: 90.8233
kg			
Acoustical Ratings	N/A	250 frequency: .15 +/- .04 500 frequency: .8 +/- .03 1000 frequency: 1.02 +/- .02 2000 frequency: 1.08 +/- .02 4000 frequency: .92 +/- .02	
Color:	N/A	White	

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## TTT-TSM-12 DATA

### 1 DESCRIPTION

TTT-TSM-12 is lightweight, high-temperature insulation composed of 100% amorphous silica fiber that has been specially treated during the manufacturing process to reduce residual shrinkage at elevated temperatures.

### 2 APPLICATIONS

TTT-TSM-12 is intended for use in glass furnace crown insulation repair, nuclear insulation applications, acoustic insulation, insulating pads and blankets, high-temperature and acid resistant gaskets, exhaust manifold insulation, stress-relieving pads, high-temperature pipe and valve insulation, welding protection, thermal and acoustic insulation for steam and gas turbines, expansion joints and more.

### 3 ADVANTAGES

The unique properties of TTT-TSM-12 make it binder-free, highly resilient, non-respirable, fireproof, and cost-effective. TTT-TSM-12 also has outstanding chemical resistance, has excellent sound absorption, and low shrinkage.

### 4 PROPERTY DATA

Characteristics:	Method:	English Values:	Metric Values:
Thickness	ASTM-D-1777	1/2" +/- 10%	12.7 mm +/- 10%
Density		10.5 to 12.0 lbs/ft <sup>3</sup>	168 to 192 kg/cc
Temperature Resistance	N/A	Intermittent: 2200°F Continuous: 2000°F Melting: 3100°F	Intermittent: 1200°C Continuous: 1100°C Melting: 1700°C
Linear Shrinkage	24 hrs at 1000°F (540°C) 24 hrs at 1200°F (990°C) 24 hrs at 1400°F (820°C) 24 hrs at 1600°F (1000°C) 24 hrs at 1800°F (1100°C) 24 hrs at 2000°F (1200°C)	0.05% 0.06% 0.06% 0.10% 0.30% 0.70%	
Thermal Conductivity	500°F (260°C) 1000°F (540°C) 1500°F (820°C) 1800°F (1000°C)	0.45 Btu-in/hr.ft 0.78 Btu-in/hr.ft 1.39 Btu-in/hr.ft 1.93 Btu-in/hr.ft	0.054 Kcal-m/hr.m <sup>20</sup> C 0.094 Kcal-m/hr.m <sup>20</sup> C 0.166 Kcal-m/hr.m <sup>20</sup> C 0.231 Kcal-m/hr.m <sup>20</sup> C
Color:	N/A	White	

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## TTT-TSM-25 DATA

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### APPLICATIONS

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### ADVANTAGES

The unique properties of TTT-TSM-25 make it binder-free, highly resilient, non-respirable, fireproof, and cost-effective. TTT-TSM-25 also has outstanding chemical resistance, has excellent sound absorption, and low shrinkage.

4

### PROPERTY DATA

Characteristics:	Method:	English Values:	Metric Values:
Thickness	ASTM-D-1777	1" +/- 10%	25.4 mm +/- 10%
Density		10.5 to 12.0 lbs/ft <sup>3</sup>	168 to 192 kg/cc
Temperature Resistance	N/A	Intermittent: 2200°F Continuous: 2000°F Melting: 3100°F	Intermittent: 1200°C Continuous: 1100°C Melting: 1700°C
Linear Shrinkage	24 hrs at 1000°F (540°C) 24 hrs at 1200°F (990°C) 24 hrs at 1400°F (820°C) 24 hrs at 1600°F (1000°C) 24 hrs at 1800°F (1100°C) 24 hrs at 2000°F (1200°C)	0.05% 0.06% 0.06% 0.10% 0.30% 0.70%	
Thermal Conductivity	500°F (260°C) 1000°F (540°C) 1500°F (820°C) 1800°F (1000°C)	0.45 Btu-in/hr.ft 0.78 Btu-in/hr.ft 1.39 Btu-in/hr.ft 1.93 Btu-in/hr.ft	0.054 Kcal-m/hr.m <sup>20</sup> C 0.094 Kcal-m/hr.m <sup>20</sup> C 0.166 Kcal-m/hr.m <sup>20</sup> C 0.231 Kcal-m/hr.m <sup>20</sup> C
Color:	N/A	White	

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## TTT-SOLF-12 DATA

### 1 DESCRIPTION

TTT-SOLF-12 is a high-temperature body low bio-persistence fiber that utilizes a unique spinning technology to create a special fiber with superior thermal and mechanical properties. This fiber is made from a blend of calcium, silica, and magnesium and can be exposed to temperatures up to 2192°F.

### 2 APPLICATIONS

TTT-SOLF-12 is intended for use in removable insulation, cable trays, batteries, expansion joints, ovens, process furnace linings, structural steel fire protection, fire barriers, and more.

### 3 ADVANTAGES

The unique properties of TTT-SOLF-12 make it flexible, lightweight, inorganic, thermal shock, chemical attack, and corrosion resistant with a low level of thermal conductivity and high tensile strength for low heat storage. TTT-SOLF-12 is also a cost-effective alternative to refractory ceramic fiber for applications to 2200°F. TTT-SOLF-12 also has excellent sound absorption, is high heat-reflective, and is easy to fabricate and install.

### 4 PROPERTY DATA

Characteristics:	Method:	English Values:	Metric Values:
Thickness	ASTM-D-1777	.5" +/- 10%	12.7 mm +/- 10%
Temperature Resistance	N/A	Max: 2200°F Operating: 2000°F	Max: 1200°C Operating: 1100°C
Linear Shrinkage	2000°F/24 hrs	0-1.5%	
Specific Heat	(Btu/lbs/F)	0.27	
Color:	N/A	White	

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### 4 PROPERTY DATA

Characteristics:	Method:	English Values:	Metric Values:
Thickness	ASTM-D-1777	1" +/- 10%	25.4 mm +/- 10%
Temperature Resistance	N/A	Max: 2200°F Operating: 2000°F	Max: 1200°C Operating: 1100°C
Linear Shrinkage	2000°F/24 hrs	0-1.5%	
Specific Heat	(Btu/lbs/F)	0.27	
Color:	N/A	White	

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