

Insulated Wrap Tape - InsulSave™

For Pipe / Hose / Cable Protection. High Thermal Insulation Value
Provides burn protection for personnel working near hot pipes & hoses

500°F / 260°C: suitable for steam and process piping/hoses – hot or cold protection and energy savings. Useable from -67°F (-55°C) to +500°F (260°C) at the inner contact point.

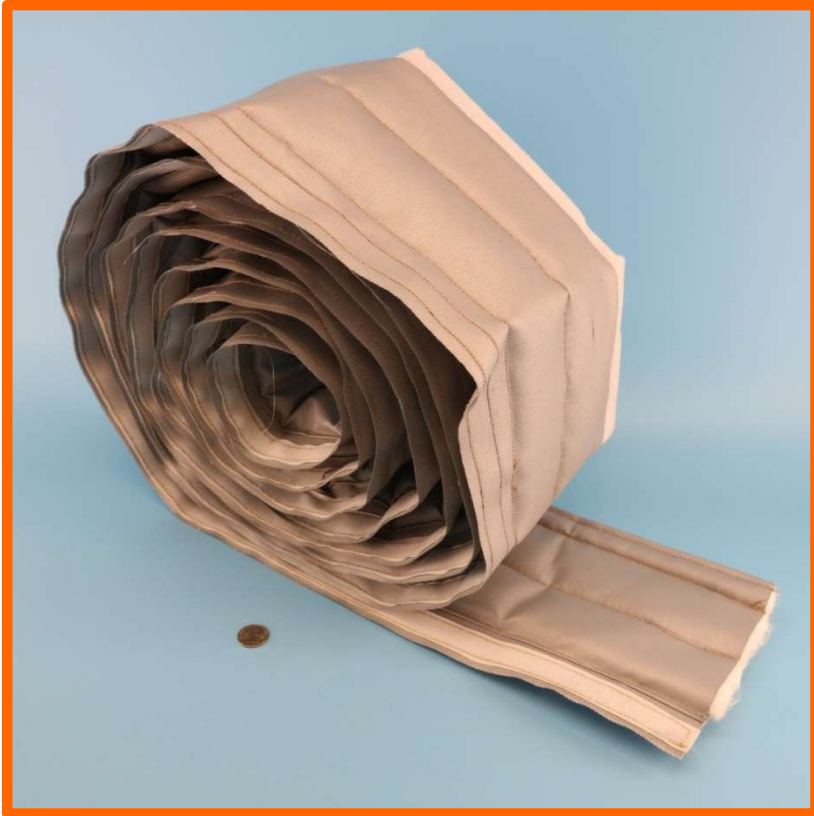


Photo above shows the wrap with liner layer installed



- Typically used to protect short indoor lengths of hot or cold piping and hoses. Excellent for steam and hot process pipes and hoses.
- Provides personnel contact burn protection and energy savings.
- Easy hook and loop closure works in either covering mode: longitudinal or spiral.
- Can be used longitudinally or spirally.
- “Lined” version has a PTFE coated fiberglass support fabric on the inside, protecting the insulation layer. Prevents the insulation fibers from damage if the wrap is removed and re-installed frequently. Also prevents moisture/liquids/contamination of the insulation which is absorbant.
- Available with 1/4” or 1/2” thick insulation layer. Other thicknesses available.
- Excellent for covering pipes with heater trace tapes installed.
- Excellent for labs as one width of wrap can insulate a variety of glass pipe or tube sizes when used in spiral mode.
- Can be used on large size pipes when spiral wrapped or added to other tapes in parallel.
- Insulation layer meets MIL-I-24244. Outer silicone coated fabric meets UL214 and NFPA -701 and is available meeting MIL-I-24244 and NRC 1.36.
- The standard hook and loop closure (rated to +250°F) is positioned above the contact point by the insulation layer thickness, allowing it to be used with hotter contact temperatures. Nomex® (rated to +350°F) and Stainless Steel hook and loop is available as an option.

The wrap may be used longitudinally, or spiral wrapped. In these photos, the wrap has no liner installed.

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| InsulSave™ Insulated Pipe Wrap Tape - Roll Length 20 feet with Nylon hook and loop closure. Nomex® hook & loop add \$178.00. Stainless Steel hook and loop add \$920.00. | | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|------------------------------------------------------|------------------------------------------------------|
| Part Number | Nominal Pipe Size / Actual Pipe OD (when used lengthwise) | 1/4" Insulation no liner / with liner "X" = 25 | 1/2" insulation no liner / with liner "X" = 50 |
| FAB-INSULSAVE-ID025-THK-X-Y-Z | ¼" / 0.54" | \$ 176.12 / N/A | \$ 212.43 / N/A |
| FAB-INSULSAVE-ID050-THK-X-Y-Z | ½" / 0.84" | \$ 200.34 / \$ 262.92 | \$ 232.77 / \$ 325.64 |
| FAB-INSULSAVE-ID075-THK-X-Y-Z | ¾" / 1" | \$ 215.67 / \$ 292.85 | \$ 251.68 / \$ 351.14 |
| FAB-INSULSAVE-ID100-THK-X-Y-Z | 1" / 1.31" | \$ 245.63 / \$ 336.76 | \$ 280.13 / \$ 397.43 |
| FAB-INSULSAVE-ID150-THK-X-Y-Z | 1 ½" / 1.9" | \$ 286.21 / \$ 396.83 | \$ 319.24 / \$ 452.63 |
| FAB-INSULSAVE-ID200-THK-X-Y-Z | 2" / 2.375" | \$ 323.47 / \$ 444.81 | \$ 361.07 / \$ 517.28 |
| FAB-INSULSAVE-ID250-THK-X-Y-Z | 2 ½" / 2.87" | \$ 354.75 / \$ 511.17 | \$ 400.51 / \$ 573.58 |
| FAB-INSULSAVE-ID300-THK-X-Y-Z | 3" / 3.5" | \$ 411.07 / \$ 574.33 | \$ 454.53 / \$ 654.73 |
| FAB-INSULSAVE-ID350-THK-X-Y-Z | 3 ½" / 4" | \$ 432.32 / \$ 632.66 | \$ 479.63 / \$ 688.54 |
| FAB-INSULSAVE-ID400-THK-X-Y-Z | 4" / 4.5" | \$ 481.47 / \$ 699.54 | \$ 543.29 / \$ 771.28 |

Other sizes and insulation thickness versions available – please call

This product will reduce the surface temperature of the wrap to a level which depends on the temperature of the inner pipe or hose and the thickness of the insulation layer. For thinner insulation layers, the surface temperature will be higher than for thicker layers. The standard nylon hook and loop closure can be used for surface temperatures up to 250°F continuous (300°F for 1 hour – melts at 450°F). For higher temperatures a Nomex® hook and loop closure can be used which can be used up to 350°F continuous. For temperatures between 350°F and 500°F a stainless steel hook and loop is available or the wrap can be used without hook and loop closure and instead use our free-end stainless steel cable ties to secure it. To approximately determine the surface temperature please see the next page in the catalog.

This is a fabricated item: please allow 5 days for production

For the "X" value, use:

"25" for .25" thick insulation; "50" for .50" thick insulation

For the "Y" value, use: "NL" for No Liner; "WL" for With Liner

For the "Z" value, use: "NY" for Nylon; "NM" for Nomex; "SS" for Stainless Steel

InsulSave™ Insulated Wrap Tape Thermal Profile Information

Determining if this product can be used to protect personnel from hot pipe/hose burns

Under OSHA requirements, there is no specific temperature that a pipe or hose or other hot item must be at or below to consider it safe for contact. The OSHA regulations state that steam and hot water pipes shall be covered with insulation or be guarded.

It has generally been accepted by workplace health and safety professionals that metallic items that are above 140°F / 60°C should be protected in a manner so that accidental contact will not produce a burn. Therefore, a target temperature of 140°F / 60°C and below is desirable for metallic objects. Therefore one can also think that any insulation system on a hot pipe or hose should therefore also have a maximum surface temperature of 140°F / 60°C.

There is a standard, UL2200, which does provide some specific temperature numbers for use with engine driven generators, and of interest they differentiate metallic from non-metallic items. It is important to remember that metals conduct heat, and most thermal protection systems (insulation, fabrics, tapes, etc.), do not. This means that the insulation system surface can be “hotter” than a metal surface and still be “touch safe”.

So the maximum temperature that the surface of an insulation system can be at should be below 203°F / 95°C for accidental or casual brush-by contact.

| Location | Composition of surface ^a | |
|----------------------------------------------------------------------------------------------------------------------------|-------------------------------------|--------------|
| | Metal | Nonmetallic |
| Handles or knobs that are grasped for holding | 50°C (122°F) | 60°C (140°F) |
| Handles or knobs that are contacted and do not involve holding; and other surfaces subject to contact and user maintenance | 60°C (140°F) | 85°C (185°F) |
| Surfaces subject to casual contact ^a | 70°C (158°F) | 95°C (203°F) |

^a A handle, knob, or similar device, made of a material other than metal that is plated or clad with metal having a thickness of 0.005 inch (0.127 mm) or less is judged as a nonmetallic part.

^b See the Exception to 38.3.

UL2200 temperature limits

The information on the next page provides more information to help determine what thickness of insulation may result in a pipe wrap that will provide the desired temperature drop from the surface of the pipe to the surface of the pipe wrap.

It can be seen that the ½” thick insulation can provide, for example, a suitable drop for pipes operating up to 500°F and that the standard nylon hook and loop is suitable at the surface temperature of 203°F.

Thinner ¼” insulation would provide less of a temperature differential while the ¾ “ insulation would provide more differential. This information should only be used as a guideline and every installation will be different. The information presented should help you to determine if you are on the correct path to determining the best solution to meet your needs.

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Insulation Properties of the Insulated Wrap Tape

| <p>Physical Properties</p> <p>Service Temperature..... Up to 1200°F Fire Resistance..... Incombustible Density (Approximate)..... 9 lbs./cu. ft. Moisture Absorption..... Negligible</p> <p>Thermal Conductivity ("K" value at 9.1 lbs./cu. ft.):</p> <table border="1"> <tr> <th>Mean Temperature</th> <th>"K"-btu/sq. ft./hr./°F/in.</th> </tr> <tr> <td>300°F</td> <td>0.40</td> </tr> <tr> <td>500°F</td> <td>0.50</td> </tr> <tr> <td>700°F</td> <td>0.65</td> </tr> </table> <p>Thermal Conductivity (btu/sq ft/hr/°F/in)</p> <p>Glass Filament Tensiles (at various temperatures)</p> | Mean Temperature | "K"-btu/sq. ft./hr./°F/in. | 300°F | 0.40 | 500°F | 0.50 | 700°F | 0.65 | <p>Properties of Fiberglass "E" Glass</p> <p>Physical/Mechanical Properties of Glass Fibers</p> <p>Specific Gravity..... 2.60 grams/cc. Density..... 0.094 lbs./cu. in. Tensile Strength (PSI×10³ @ 70°F)..... 500 lbs. Modulus of Elasticity (PSI×10 @ 72°F)..... 10.5 lbs. After Heating (PSI×10 @ 1000°F)..... 11.8 lbs. Elongation @ 72°F..... 4.8%</p> <p>Thermal Properties of Bulk Glass</p> <p>Softening Point..... 1500°F Strain Point..... 1100°F Annealing Point..... 1200°F</p> <p>Electrical Properties of Bulk Glass</p> <p>Dielectric Constant</p> <table border="1"> <tr> <td>1 MHz @ 72°F</td> <td>6.33</td> </tr> <tr> <td>10kHz @ 72°F</td> <td>6.13</td> </tr> </table> <p>Power Factor</p> <table border="1"> <tr> <td>1MHz @ 72°F</td> <td>0.001</td> </tr> <tr> <td>10kHz @ 72°F</td> <td>0.0039</td> </tr> </table> <p>Note: The physical and performance properties cited in this literature have been derived in tests conducted by various fiber companies. Tests have been conducted on both fiber and fabrics woven with bulked glass fiber. Reference to U.S. Government specification values as well as information provided on certain end uses which currently use bulked glass are presented for the information of potential customers in determining the potential suitability of these products for their own applications. No claims are made as to the accuracy or applicability of the test methods employed or the results derived therefrom. Important Cautionary Note: Items of protective equipment manufactured from fiberglass fabrics such as aprons, gloves, mittens, etc. should be labeled to show the maximum short-term and continuous-exposure temperature limits established in accordance with the standard specifications applicable to the item of equipment being offered.</p> | 1 MHz @ 72°F | 6.33 | 10kHz @ 72°F | 6.13 | 1MHz @ 72°F | 0.001 | 10kHz @ 72°F | 0.0039 |
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