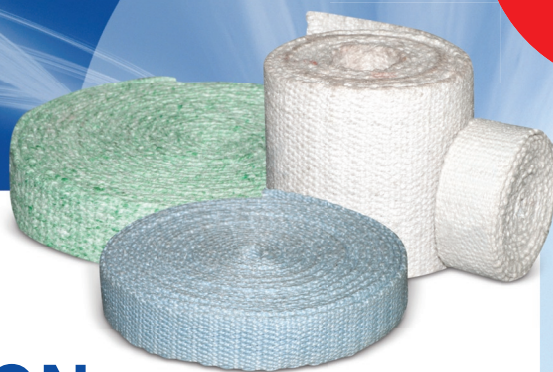


THERMAL INSULATIONS



THERMAL INSULATION FABRICS AND TAPES

General information

We offer thermal insulation fabrics and multilayer tapes made of top quality materials. Our products include thermal insulations, conveyor belts, and manhole tapes.

They are made using heat resistant glass, kaolin, aluminosilicate, quartz, and aramid yarns.

Thanks to specific structure and interweaving of yarns of various layers, the product is dense and resistant to delamination even under most demanding working conditions.

Thermal insulation tapes and fabrics are used as thermal insulation in all types of machinery, equipment and installations exposed to high temperatures, and wherever reduction in heat transfer is an aim.

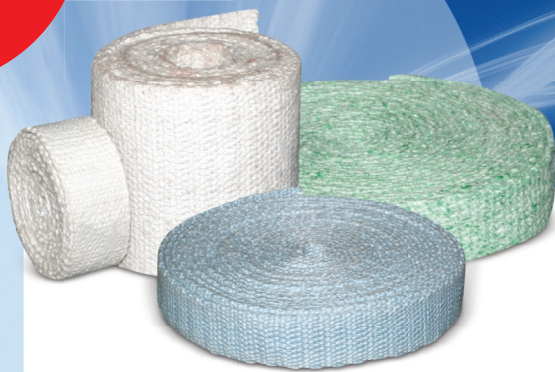
They are frequently used as heat screens, insulations for annealing of welded structures, and as a protection of hoses and cables laid near heat sources.

They are also used as static insulation wherever high temperatures are accompanied by relatively low pressure of sealed medium, and/or large wear of flanges. To that end we can weave the tape with central section perforated in order to set the tape over the bolts of the sealed joint. Our tapes are also used in belt conveyors to transport hot objects and materials.

Upon request we can produce self-adhesive glass and aramid tapes. However, please mind that the adhesive layer only facilitates mounting and shall burn out under working conditions.

Other yarns for tapes and fabrics are available subject to arrangement between the customer and the manufacturer.





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Dimensions and dimensional tolerances

| Width [mm] | Thickness [mm] ± 10% | | | | | | | | |
|--------------|------------------------|---------|---------|---------|---------|---------|---------|---------|---------|
| | 2±0,3 | 3±0,4 | 5±0,7 | 6±0,8 | 8±0,8 | 10±1,0 | 12±1,2 | 15±1,5 | 20±2,0 |
| 30±2 | A, S, G | A, S, G | A, S, G | A, S, G | A, S, G | A, S, G | A, S, G | - | - |
| 40±2 | A, S, G | A, S, G | A, S, G | A, S, G | A, S, G | A, S, G | A, S, G | A, S, G | - |
| 50±2 | A, S, G | A, S, G | A, S, G | A, S, G | A, S, G | A, S, G | A, S, G | A, S, G | - |
| 60±2 | A, S, G | A, S, G | A, S, G | A, S, G | A, S, G | A, S, G | A, S, G | A, S, G | A, S, G |
| 80±2 | A, S, G | A, S, G | A, S, G | A, S, G | A, S, G | A, S, G | A, S, G | A, S, G | A, S, G |
| 100±2 | A, S, G | A, S, G | A, S, G | A, S, G | A, S, G | A, S, G | A, S, G | A, S, G | A, S, G |
| 120±2 | A, S, G | A, S, G | A, S, G | A, S, G | A, S, G | A, S, G | A, S, G | A, S, G | A, S, G |
| 140±2 | A, S, G | A, S, G | A, S, G | A, S, G | A, S, G | A, S, G | A, S, G | A, S, G | A, S, G |
| 160±2 | A, S, G | A, S, G | A, S, G | A, S, G | A, S, G | A, S, G | A, S, G | A, S, G | A, S, G |
| 180±3 | A, S, G | A, S, G | A, S, G | A, S, G | A, S, G | A, S, G | A, S, G | A, S, G | A, S, G |
| 200±3 | A, S, G | A, S, G | A, S, G | A, S, G | A, S, G | A, S, G | A, S, G | A, S, G | A, S, G |
| 220±3 | A, S, G | A, S, G | A, S, G | A, S, G | A, S, G | A, S, G | A, S, G | A, S, G | A, S, G |
| 250±3 | A, S, G | A, S, G | A, S, G | A, S, G | A, S, G | A, S, G | A, S, G | A, S, G | - |
| 300±4 | A, S, G | A, S, G | A, S, G | A, S, G | A, S, G | A, S, G | A, S, G | A, S, G | - |
| 400±4 | A, S, G | A, S, G | A, S, G | A, S, G | - | - | - | - | - |
| 500±5 | A, S, G | A, S, G | - | - | - | - | - | - | - |
| 600±6 | A, S, G | A, S, G | - | - | - | - | - | - | - |
| 800±8 | A, S, G | A, S, G | - | - | - | - | - | - | - |
| 1000±10 | A, S, G | A, S, G | - | - | - | - | - | - | - |
| 1200±10 | A, S, G | A, S, G | - | - | - | - | - | - | - |

A - aramid tape or fabric S - glass tape or fabric G - ceramic tape or fabric

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Glass tapes and fabrics

Glass tapes and fabrics are made of type E boroaluminosilicate glass, or type HT high temperature glass. Textured glass yarn consists of a bunch of continuous glass fibres of type E glass, subjected to curling process in order to increase its elasticity and improve the efficiency of insulation. We produce fabrics and tapes of type E glass - heat resistance up to 650 °C, and of HT glass - working at temperatures up to 750 °C.

Technical parameters

| Type of tape or fabric | Glass E | Glass HT |
|--|----------|----------|
| Type of tape or fabric, °C | 650 | 750 |
| Temp. under dynamic operation, °C | 650 | 750 |
| Weft density in one layer | 19-23* | 17-21** |
| Warp density in one layer | 19-23* | 17-21** |
| Shrinkage after 2 h at 800 °C, % of weight | max. 1,5 | |

* for thicknesses 2-10 mm ** for thicknesses 12-20 mm



Aramid tapes and fabrics

Aramid tapes and fabrics can be made from cut fibres of aromatic polyamide braided around glass carrier, or from continuous aramid fibre. Thanks to their excellent mechanical strength, tapes made of continuous aramid fibre are used as conveyor belts. Aramid yarn is obtained by braiding bunches of aromatic polyamide fibres around the glass core.

Technical parameters

| Type of tape or fabric | Aramid |
|--|----------------|
| Temp. under static operation, °C | 400 |
| Temp. under dynamic operation, °C | 300 |
| Weft density in one layer | 19-23* 17-21** |
| Warp density in one layer | 19-23* 17-21** |
| Shrinkage after 2 h at 400 °C, % of weight | max. 1,5 |

* for thicknesses 2-10 mm ** for thicknesses 12-20 mm

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Ceramic tapes and fabrics

Ceramic tapes and fabrics can be made of kaolin, aluminosilicate, and BIO aluminosilicate yarn. Ceramic yarn is made of ceramic fibres braided on glass carrier. Up to 18% of cotton fibres are added as process additive. During operation cotton fibres burn out without aggravating the parameters of ceramic tapes and fabrics. In addition, the yarn can be reinforced with stainless steel or brass wire. Ceramic yarns include, among others, the following:

- a. kaolin yarn – spun of fibres which are extracted through melting and defibering of natural kaolin. Since natural kaolin can include admixtures of various metals, resulting fibres can be tinted and feature lower application temperature than that of aluminosilicate fibres.
- b. aluminosilicate yarn – based on aluminosilicate fibres featuring high chemical purity and increased heat resistance. Thanks to high chemical purity, it can be used at temperatures higher than kaolin yarn.
- c. Bio-soluble ceramic yarn – thanks to the addition of calcium oxide and magnesia, fibres of this yarn type are biodegradable and, hence, considered safe to living organisms.

Technical parameters

| Type of tape or fabric | Kaolin | Aluminosilicate | Bio-soluble ceramic |
|--|--------|-----------------|---------------------|
| Temp. under static operation, °C | 800 | 1200 | 1100 |
| Temp. under dynamic operation, °C | 650 | 650 | 650 |
| Weft density in one layer | | 19-23* 17-21** | |
| Warp density in one layer | | 19-23* 17-21** | |
| Shrinkage after 2 h at 800 °C, % of weight | | max. 20 | |

* for thicknesses 2-10 mm ** for thicknesses 12-20 mm

All information in this catalogue is based on years of experience in manufacture and use of the discussed products. Since sealing performance in the joint is subject to multiple factors such as mounting method, system parameters, and sealed medium, technical parameters specified herein are of informative nature only and cannot be used as grounds for any claims; any special uses of products are subject to consulting with the manufacturer.