

Thermal Insulation and Fireproof Sleeves

IZOPLET

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IZOLA

Incedo per ignes

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Introduction

About our company

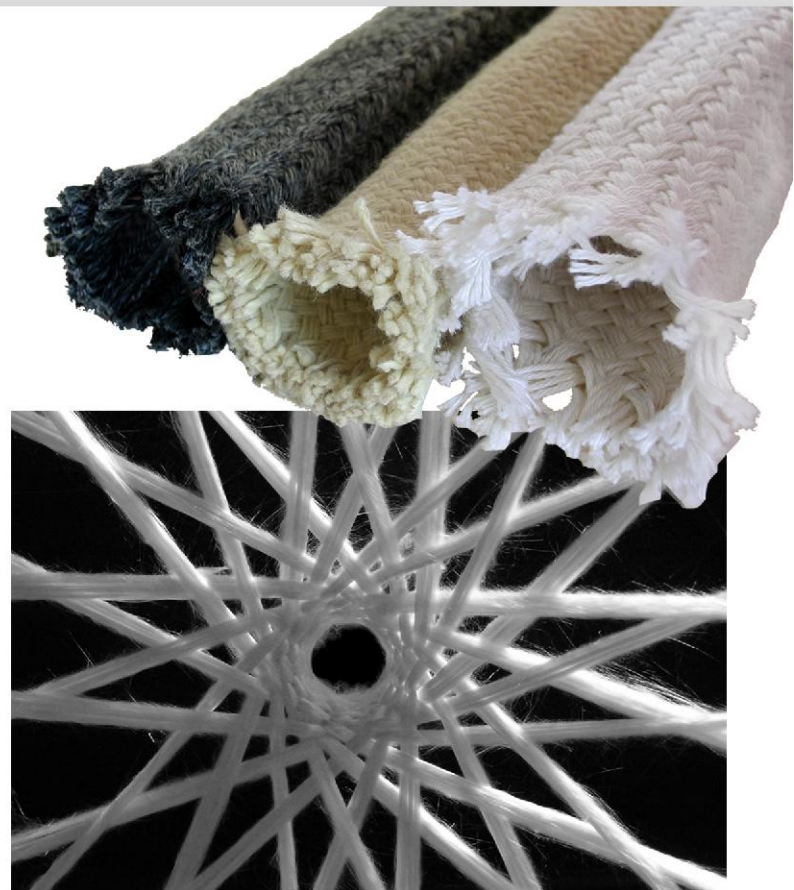
Company IZOLA was founded in 1998. The main business of company is manufacturing asbestos-free heat-insulating and sealing materials.

Heat-insulating and fireproof sleeves IZOPLET are made from high-temperature threads of fiberglass roving, basalt roving, ceramic yarn, high silica roving and another fiber types. If necessary, fibers are impregnated with different compounds to attain specific features.

Technologies

The production of heat-insulated IZOPLET sleeves is carried out according to the IZOLA company's own technical requirements. Company's equipment allows to produce braided sleeves with a diameter in a range from 5mm to 100mm and embroidered sleeves with a diameter of 500mm and more. One of the most important features of heat-insulated sleeves is the thermal conductivity, so a parameter like the side thickness is significant. Production technologies allow to produce sleeves with a side thickness from 0,2 to 20 mm. Different fiber combinations give different features to the sleeves.

One of the interesting fields in sleeves production is a possibility to fully insulate cable products, high-pressure sleeves and etc., using the method of twining with fireproof threads. In this case, the customer receives preliminarily insulated product, which can be used straight at his manufacture without wasting time for sleeves installation. Besides that, the preliminarily insulated products have much higher braid strength, durability and, technologically, better look.



Braided Sleeves

IZOPLET-50

Description

The IZOPLET-50 consists of texturized fiberglass yarn E-type. This sleeve offers good thermal and electric insulation.

Parameters

| | |
|--|-------------|
| Working temperature: long-term/short-term, °C..... | +560 / +700 |
| Thermal conduction (+600 °C), W/mK..... | 0,22 |
| Burning weight loss, %..... | 1,5 |
| Inner diameters, mm..... | 5 - 100 |
| Wall thickness, mm..... | 1 - 5 |
| Color..... | white |



IZOPLET-90

Description

The sleeve is based on ceramic fiber yarn. Yarn is reinforced with glass-roving E-type. Texturing guarantees a large storage volume and thus good insulation properties.

Parameters

| | |
|--|--------------|
| Working temperature: long-term/short-term, °C..... | +800 / +1100 |
| Thermal conduction (+600 °C), W/mK..... | 0,20 |
| Burning weight loss, %..... | 15 |
| Inner diameters, mm..... | 5 - 100 |
| Wall thickness, mm..... | 1 - 10 |
| Color..... | white |



IZOPLET-120

Description

The IZOPLET-120 consists of ceramic fiber yarn reinforced by metal wire which guarantees excellent flexibility, mechanical properties and resists a continuous heat of +1250C.

Parameters

| | |
|--|---------------|
| Working temperature: long-term/short-term, °C..... | +1100 / +1250 |
| Thermal conduction (+600 °C), W/mK..... | 0,26 |
| Burning weight loss, %..... | 18 |
| Inner diameters, mm..... | 5 - 100 |
| Wall thickness, mm..... | 1 - 10 |
| Color..... | white |



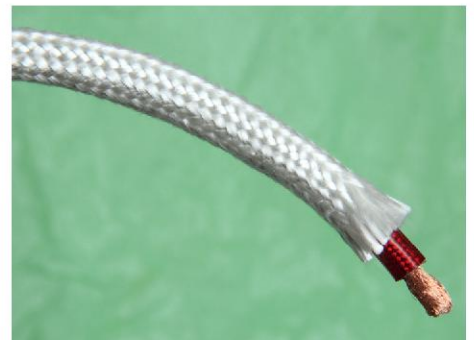
IZOPLET-130

Description

The IZOPLET-130 consists of high silica yarn with at least 96% of SiO₂ content. It does not vitrify and recommended as excellent replacement for ceramic fiber textile.

Parameters

| | |
|--|---------------|
| Working temperature: long-term/short-term, °C..... | +1200 / +1350 |
| Thermal conduction (+600 °C), W/mK..... | 0,22 |
| Burning weight loss, %..... | 1 |
| Inner diameters, mm..... | 5 - 100 |
| Wall thickness, mm..... | 1 - 5 |
| Color..... | white |



Covered Sleeves

Sleeves with steam- and waterproof coating

Braided fireproof sleeves IZOPLET-50 or IZOPLET-130 are used for manufacturing sleeves with coating. During the long process of additional treatment, they are being coated with a silicon layer, which protects sleeves from rubbing, punctures and soaking. Sleeves with such kind of coating, are steam- and waterproof, have good chemical resistance and can be used as a high temperatures protection in conditions of high humidity, friction and other continuous external impacts. Coated sleeves are marked with a letter "S", for example **IZOPLET-130S**.



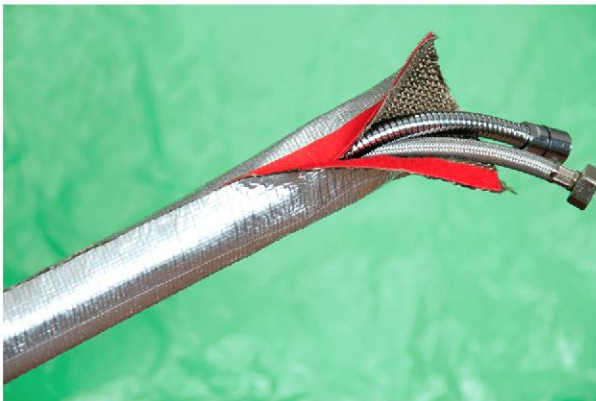
IZOPLET-50S

Description

IZOPLET 50-S consists of a type "E" glass fiber and a silicon coating. It withstands short contacts with melted metals. It's chemical resistant and protects from mechanical effects.

Parameters

Working temperature: long-term/short-term, °C.....+250 / +1000
 Inner diameters, mm.....10 - 130
 Wall thickness, mm.....1 - 6
 Color.....red



Sleeves with an energy-reflective coating

For better insulation ability, sleeves are coated with a metal foil. This kind of coating can be applied only on embroidered sleeves. Metal foil is applied from the outer side. The sleeve application temperature depends on the foil composition, because the sleeve is based on high-temperature cloth IZOLTEX, which surpasses foil of any composition in terms of application temperature. Usually an aluminum foil is used. Sleeves with foil are marked with a letter "A", for example **IZOPLET-120A**.



Sewn Sleeves

Sleeves for fast installation

For places where braided sleeves installation is sophisticated, company IZOLA offers sleeves with "Velcro" type fasteners

Advantages:

- Easy to install and replace
- No need in additional fixing elements

Disadvantages:

- Low continuous application temperature
- Leaks moisture and steam
- Vulnerability to mechanical effects

IZOPLET-50SL

Description

IZOPLET-50SL consists of glass fiber of type "E" and silicon coating, fastening is implemented with a "Velcro" fastener. It withstands short contacts with melted metals. It's also chemical resistant, protects from mechanical effects.



Parameters

Working temperature: long-term/short-term, °C.....+90 / +1000
Inner diameters, mm.....30 - 500
Wall thickness, mm.....1 - 6
Color.....red

Sleeves with big diameter

IZOLA offers braided sleeves with outer diameters up to 100mm. When sleeves with big diameters are needed, they're made of high-temperature IZOLTEX cloths with a method of sewing with a usage of high-temperature threads. Sleeves can be solid, with fasteners or with cringles and lacing. Maximum diameter of this kind of sleeves can reach up to 1000mm and more. Maximum application temperature is determined by features of materials they're made of.



IZOPLET-50C

Description

IZOPLET-50C consists of glass fiber of type "E" and silicon coating, fastening is implemented with metal hooks. It withstands short contacts with melted metals. It's also chemical resistant and protects from mechanical effects.

Parameters

Working temperature: long-term/short-term, °C.....+90 / +1000
Inner diameters, mm.....30 - 500
Wall thickness, mm.....1 - 6
Color.....red



Composite Sleeves

Isolated sleeves of industrial purpose (ISIP)

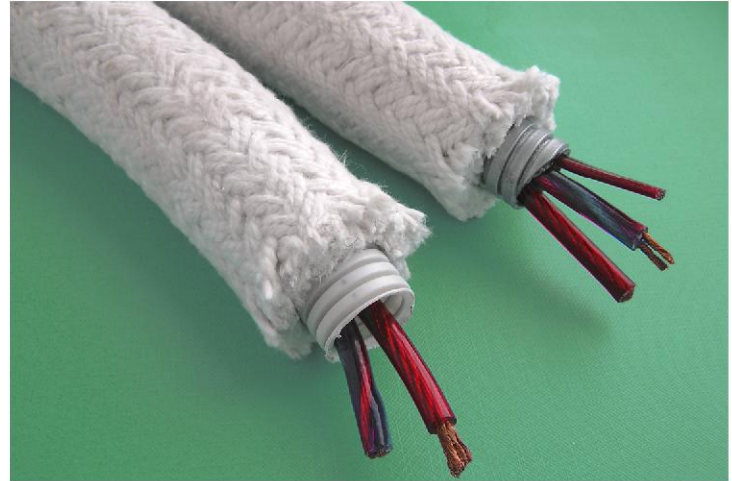
IZOLA offers a unique service of isolating any kind of hoses, cables and other flexible products from high-temperatures impact. It's done with a multilayer tight twining of customer's products with fireproof threads.

Number of layers and thread materials are calculated and negotiated with customers.

Advantages:

- modern and clean look
- convenient and fast installation
- reliable and complex protection

Because these sleeves are manufactured according to customers individual technical tasks and each sleeve is unique, thus only some of examples are introduced in this catalog.



ISIP for cables insulation ($T_{max.} = +1250^{\circ}C$).

Example: Isolating of high-pressure sleeve

Technical task:

To isolate a high-pressure sleeve with a diameter of 30mm

Environment:

- constant temperature of $+130^{\circ}C$
- steam
- possible hit with melted metal splashes
- constant friction

Solution:

The high-pressure sleeve is covered with 3 layers (pic. 1), where:

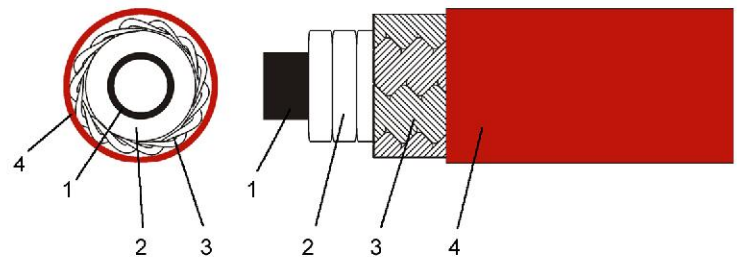
1 – high-pressure sleeve

2 – a layer of silica fiber

This layer provides a great heat-insulation

3 – an IZOPLET-120 braid layer of silica fiber thread, reinforced with stainless steel. Tight braid will provide higher strength to the thermal-insulation layer and will not let it go, even if the upper silicon layer will burn after time.

4 – outer layer – IZOPLET-50S sleeve. It provides resistance to friction, protects lower thermal-insulation layers from moisture to get in.



pic. 1