

**Fireproof, Non-stick**



*Technology that transforms PTFE into fabric*

# EFALON<sup>®</sup> GLASS FABRIC

**Glass fabric coated with PTFE**

Efalon<sup>®</sup> is a registered trademark of Polikim.

# EFALON<sup>®</sup> GLASS FABRIC



## General Properties

### Mechanical Properties

Glass fabric increases the resistance of Eفالon<sup>®</sup> against wear, deformation under load, cold flow, rupture and tearing. Tensile, compression and tear strengths of Eفالon<sup>®</sup> Glass Fabric are high. Besides its mechanical features, its non-stick characteristic, possibility of being used in low and high temperatures and its perfect chemical resistance make Eفالon<sup>®</sup> Glass Fabric a great choice as conveyor material. With its high resistance to cold flow, Eفالon<sup>®</sup> Glass Fabric is also used with success in gasket production.

### Physical Properties

As Eفالon<sup>®</sup> has the lowest coefficient of friction among all solids, so does Eفالon<sup>®</sup> Glass Fabric. The surface of Polikim's Eفالon<sup>®</sup> Glass Fabric is slippery, shiny and smooth. Even the stickiest materials do not stick onto its surface. Its surface can be cleaned easily. Eفالon<sup>®</sup> Glass Fabric is used in candy and chocolate factories, bottling and pharmaceutical industries and in similar applications as conveyor and surface coating material. In addition to its physical properties, thanks to its good performance in high temperatures, it is also used in packaging and heat sealing. Eفالon<sup>®</sup> Glass Fabric is odorless and tasteless. It does not have any effect on human health and does not contaminate its environment. It is used without hesitation in food and pharmaceutical industries. Eفالon<sup>®</sup> Glass Fabric is fireproof; is not affected by weather conditions and humidity.

### Thermal Properties

Eفالon<sup>®</sup> Glass Fabric can be used continuously at  $-190^{\circ}\text{C}$  and  $+260^{\circ}\text{C}$ , maintaining all of its properties within this interval. Even at low temperatures it is pliable, but if it is subject to dynamic tensions it should not be used at temperatures below  $-60^{\circ}\text{C}$ . Eفالon<sup>®</sup> Glass Fabric displays perfect weatherability. Its thermal expansion is lower compared to virgin Eفالon<sup>®</sup>. It maintains its dimensional stability within its operating temperature interval.

### Chemical Properties

Eفالon<sup>®</sup> Glass Fabric is resistant to acids, solvents, oils, fuels and corrosion. Only in high pressures and temperatures, melted or dissolved virgin alkali metals and some fluorine compounds affect Eفالon<sup>®</sup> Glass Fabric adversely. With its high chemical resistance, Eفالon<sup>®</sup> Glass Fabric is used as protective barriers and aprons in laboratories, spraying, bottle washing and similar operations and in contact with acids, gases and other corrosive liquids.

### Electrical Properties

Eفالon<sup>®</sup> Glass Fabric is a good insulator that can be used in many electrical applications in a wide temperature and frequency range. Its dielectric strength is approximately  $40\text{kV/mm}$ . Its dielectric loss factor, in the  $60\text{-}10^7$  Hz frequency interval, is less than 0.003. Its surface arc resistivity is high, its surface remains intact even when exposed to arc. It has superior insulation performance than H class electrical insulation materials. Eفالon<sup>®</sup> Glass Fabric is used in making transformer and engine coils and insulation tapes. For electrical and electronic applications, laminated plates of Eفالon<sup>®</sup> Glass Fabric are also an option.

# EFALON® GLASS FABRIC

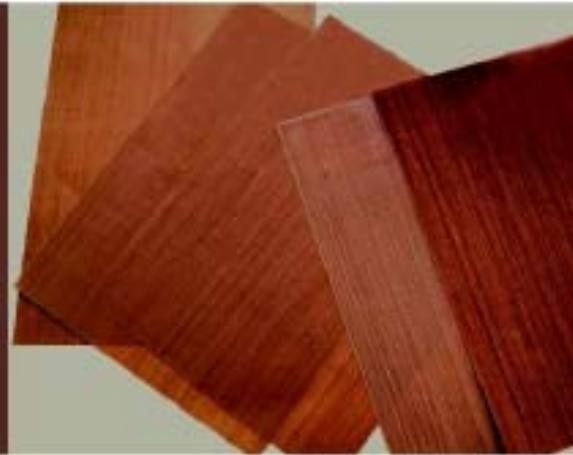


## Applications

Operations such as cutting, perforating, sewing, punching etc. can be applied easily on **Efalon® Glass Fabric**. With all these all purpose characteristics **Efalon® Glass Fabric** finds a very wide application area:

- Astronaut garments
- Automatic plants with endless belts
- Bearings
- Biscuit, dough conveyors
- Boiler and reactor linings
- Bottling industry
- Building and roof applications
- Cable wrappings
- Candy production
- Channel linings
- Chocolate production
- Cold storage depots
- Coloring / printing line in textile production
- Conveyors
- Cylinder linings
- Diaphragms
- Drying line in textile production
- Electrical engine wrapping (coil wire) / insulation
- Frozen food transport
- Gaskets
- Generator insulation tapes
- Glass and double glazing production lines
- Guides and valve seats in compressors
- Heat sealing machines
- Insulation tapes
- Jaw welding machine
- Laboratories
- Laminated plates
- Lining of equipment
- Meat, fish, chicken freezing operations
- Meat, fish, chicken fumigation and drying operations
- Melted rubber / plastic / glass / ceramic transportation
- Oven and microwave oven coverings
- Packing industry
- Paint factories
- Pharmaceutical industry
- Phase separators
- Plastic bag closing machines
- Pressing line in carpet/door mat production
- Printed circuits
- Protective aprons and barriers in chemical environments
- Plastic injection moulding machines
- Plastic window, door production
- Seals
- Silo linings
- Slashing drum lining
- Sticky material transportation
- Surface coating
- Transformer wrapping
- Vacuum systems

# EFALON® GLASS FABRIC



## Standard Types

Definition <sup>*</sup>	Nominal Thickness (mm)	Nominal Weight <sup>**</sup> (gr/m <sup>2</sup> )	Ptfe Ratio %	Tension Resistance (N/5 cm)
<b>Efalon® Glass Fabric</b>				
Standard	0.08	155	68	800
Standard	0.13	270	60	1200
Standard	0.15	320	67	1200
Standard	0.25	530	62	2300
Standard	0.32	620	54	3300
Standard	0.75	650	39	3800
<b>Efalon® Adhesive Glass Fabric ***</b>				
Adhesive	0.08	140	65	800
Adhesive	0.13	255	58	1200
Adhesive	0.15	296	63	1200
Adhesive	0.25	455	55	2300
<b>Efalon® Antistatic Glass Fabric</b>				
Antistatic	0.13	255	58	1200
Antistatic	0.25	480	58	2300
Antistatic	0.35	710	59	3300

\* Standard width is 1000mm. Please contact Polikim for special dimensions.

\*\* Weight tolerance gr/m<sup>2</sup> = ± %5

\*\*\* Adhesive weight not included. Weight of **Efalon® Glass Fabric** only.

Whatever the application may be, long duration of **Efalon® Glass Fabric** depends on selecting the right material. Please contact Polikim for most appropriate material choice.

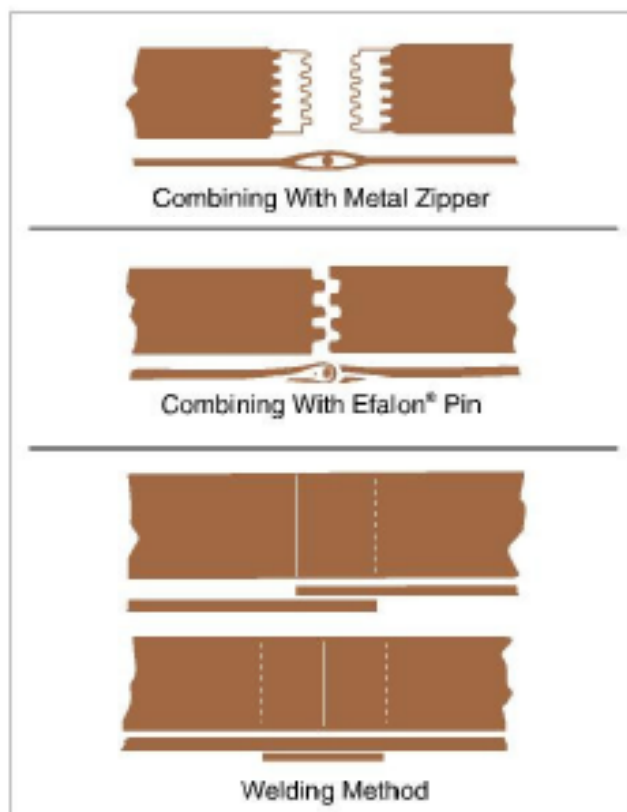
# EFALON<sup>®</sup> GLASS FABRIC



## Some Examples of Application

### Conveyors

Polikim produces endless conveyor belts from **Efalon<sup>®</sup> Glass Fabric** in different widths, from 1mm to 100m length. Conveyor belts can be combined in one of the following methods:



#### Combining With Metal Zipper

This method enables the replacement of the conveyor belt without dismantling the system.

#### Combining With Efalon<sup>®</sup> Pin

This method is similar to the zipper method with the exception and elimination of metal parts. If chemical resistance is a must, metal parts must not be included in the design. Conveyor belts must be combined with Efalon<sup>®</sup> pins.

#### Welding Method

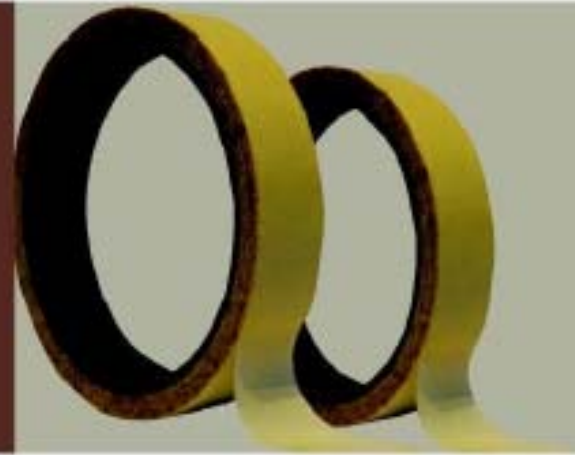
This method is the most common one. It is possible to adhere the belt ends by putting them side-by-side or one over the other. Ends are cut with angles of 45° and 90° and are overlaid or adhered side-by-side.



### Reinforcing the Edges

It is possible to reinforce belts with glass fabric on one or both edges. This operation reduces wear on belt edges caused by pulleys. Punches can also be fixed onto the reinforced edges. Punches entering the grooves during rotation provide smooth rotation of the conveyor at constant speed. Punches can be on both sides or only on one side.

# EFALON® GLASS FABRIC



## Some Examples of Application

### Plastic Bag Closing Machines

**Eفالon® Glass Fabric** is used successfully in packaging and plastic bag closing machines due to its superior mechanical properties, its non-stickiness, slipperiness and resistance to high temperatures.

### *Jaw Welding Machines*

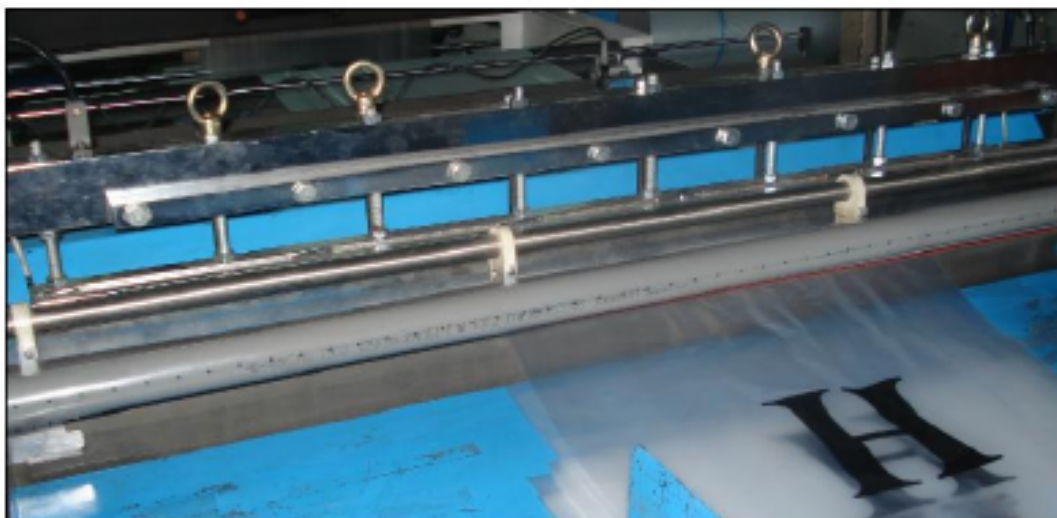
**Eفالon® Glass Fabric** should be used to prevent sticking and accumulation of plastic onto the jaws. **Eفالon® Glass Fabric** does not deform in high temperatures, making it an ideal material for this application. **Eفالon® Glass Fabric** is generally attached mechanically to the jaws. Besides, its surface can be treated self-adhesive or can be fixed with an adhesive. For better heat insulation, thinner sheets should be preferred.

### *Automatic Plants with Endless Belts*

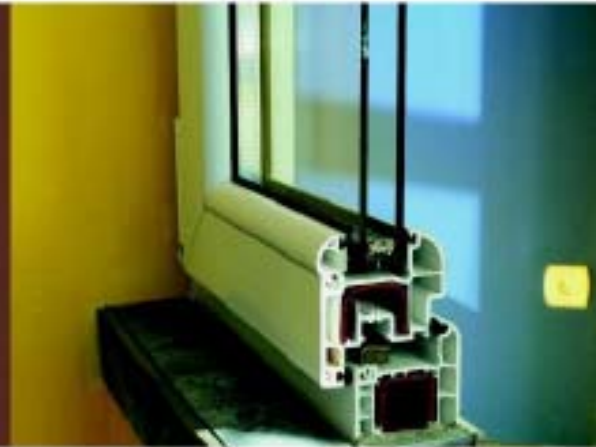
In plants where plastic bags are closed automatically with a continuous operation, endless belts with **Eفالon® Glass Fabric** should be used. Its non-stickiness, slipperiness, high wear and elongation resistance, pliability and resistance to high temperatures enable the packaging operation to be continuous and fast.

### Adhesive Belts

Two different types of adhesive belts can be produced. In one, one surface is self-adhesive. Adhesive surface can be easily applied by pressing gently and can be used immediately between  $-55^{\circ}\text{C}$  and  $+200^{\circ}\text{C}$ . For short periods, heat can be increased up to  $+250^{\circ}\text{C}$ . One or both surfaces of the other type can be made adhesive by a special technique and applied in place with the appropriate adhesive. Please contact Polikim for the right choice of adhesive. Both belt types have the same properties that **Eفالon® Glass Fabric** has such as slipperiness, chemical resistance, electrical insulation, non-stickiness, resistance to low and high temperatures.



# EFALON® GLASS FABRIC



## Some Examples of Application

### Cylinders

**Eفالon® Glass Fabric** is used in lining of drying cylinders, slashing drums and similar cylinders to keep the surface of the cylinder non-stick and slippery. Cylinders up to 1100mm length can be coated with **Eفالon® Glass Fabric** without dismantling the system.

### Laminated Plates

Laminated plates can be obtained by combining a number of **Eفالon® Glass Fabric** sheets one over the other. Laminated plates have all the characteristics that virgin **Eفالon®** sheets have. Moreover their compression strengths and impact resistances, resistance to flow at high and low temperatures and cold flow are better. **Eفالon®** laminated plates are also non-stick, resistant to chemicals and corrosion.

### Construction

Many superior properties of **Eفالon® Glass Fabric** such as perfect resistance to humidity, chemicals and corrosion, the fact that it can be used in a wide temperature interval (-190°C, +260°C), its high transmission of light, fireproof properties, easiness to clean make it an interesting roof material for buildings. It can be used in structures such as stadiums, swimming pools and other sports facilities, fair and exposition stands, bus stations, warehouses etc.

### Other Glass Fabric Types

Silicone Coated Glass Fabric is resistant to high temperatures (maximum 230°C), is non-stick, resistant to wear and chemicals and has superior dielectric properties. It is widely used in shrink tunnels, foam rubber production, electric insulation tapes, conveyor belts, protective barriers, non-stick separating plates and gaskets.

**Eفالon® open-mesh glass fabric** is usually used in textile, serigraphy, and food drying belts. It is an interesting material with resistance to high temperatures (-170°C, +260°C), perfect wear resistance and tensile strength, low specific heat, high dielectric strength, dimensional stability, resistance to IR, HF and UV and is human health compliant.

Please contact Polikim for further information and technical support.



# Leader in engineering plastics production since 1971.

EFALON®

KESTAMID®

ULPOLEN®

WE FIND SOLUTIONS TO YOUR PROBLEMS +

Efalon®, Kestamid®, Ulpolen® are registered trademarks of Polikim.

EFALON®, PTFE T-100



**EFALON®** is Polikim's PTFE material.

It has superior properties that can't be found in combination in any other material. It is resistant to all chemicals used in manufacturing and can be used between -260°C and +270°C. Nothing sticks onto its surface and is more slippery than ice.

KESTAMID®, PA6G Standard



With its outstanding mechanical, physical and chemical properties, **KESTAMID®** is one of the most commonly used engineering plastics. **KESTAMID®** has good impact and wear resistance and fatigue strength. It is an engineering plastic replacing metals.

ULPOLEN®, UHMWPE 1002



**ULPOLEN®** is a type of polyethylene with very high molecular weight. Its density is low and does not absorb water. **ULPOLEN®** has very different properties than HDPE. It has utmost impact and wear resistance. Its coefficient of friction is low. Its chemical resistance and electrical properties are good.

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