

Discover the properties of EFALON® that we can customize to your needs



A miraculous engineering material

EFALON®

Advanced PTFE




Efalon® a registered trademark of Polikim A.S.

EFALON[®] - PTFE



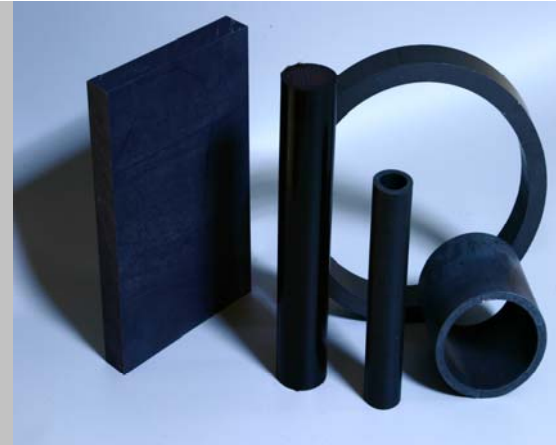
Virgin T100

It is composed up of 100% PTFE material. Virgin **EFALON[®]** has the general properties of PTFE such as perfect chemical resistance, wide operating temperature range, least friction coefficient, absolute non-stickiness, superior electrical insulation, high heat insulation, inflammability and perfect weatherability.

-  **MOULDED RODS**
OD Ø15-425mm, L 100-150-200mm
-  **MOULDED TUBES**
OD Ø40-Ø425mm, ID Ø15-Ø370, L 100-150-200mm
-  **EXTRUDED RODS**
OD Ø4-160mm, L 1000-2000mm
-  **EXTRUDED TUBES**
OD Ø10-Ø106.5mm, L 1000-2000mm
-  **SHEETS**
T 0.5-50mm, WXL 250X250 - 500X500 - 1000X1000mm
-  **SKIVED TAPES**
T 0.05-4mm, W 300-600-900-1000-1200-1500mm
-  **SPAGHETTI TUBINGS**
OD Ø1.3-Ø10mm

Dimensions not listed can be produced upon request.

EFALON[®] - PTFE



Compounds

CARBON-FILLED K25, K35

Carbon-filled EFALON[®] contains 25% and 35% carbon and has less thermal expansion, better wear resistance and less deformation under weight. It is ideal for aqueous environments and is heat conductive.

GLASS-FILLED C15, C25

Glass filled EFALON[®] contains 15% and 25% glass and has less thermal expansion, better wear resistance and less deformation under weight. It has high resistance to acids and oxidation and high electrical insulation properties.

BRONZE-FILLED B40, B60

Bronze-filled EFALON[®] has higher heat conductivity, less thermal expansion, better wear resistance and less deformation under weight. It is easy to machine.

SPECIAL FILLINGS

For special applications, EFALON[®] compounds with special fillers such as molybdenum disulphide, alumina, stainless steel and many others can be produced upon request.

Standard Products



MOULDED RODS

OD Ø15-Ø425mm, L 100-150-200mm

MOULDED TUBES

OD Ø40-Ø425mm, ID Ø15-Ø370, L 100-150-200mm

SHEETS

T 2-50mm, WXL 250X250 - 500X500 - 1000X1000mm

Dimensions not listed can be produced upon request.

EFALON[®] - PTFE



Technical Values

| | Unit | Test ASTM | Virgin | Glass-filled | | Carbon-filled | | Bronze-filled | |
|--|--------------------------------|-----------|-------------------|-------------------|-------------------|------------------|------------------|-------------------|------------------|
| | | | T-100 | C-15 | C-25 | K-25 | K-35 | B-40 | B-60 |
| Density, 23°C | gr/cm ³ | D792 | 2.1-2.2 | 2.15-2.25 | 2.2-2.3 | 2.05-2.15 | 2.0-2.1 | 3.05-3.15 | 3.8-4.0 |
| Mechanical Properties | | | | | | | | | |
| Tensile Strength at Break | Kg/cm ² | D638 | 140-380 | 175-260 | 150-240 | 110-210 | 110-160 | 150-280 | 140-220 |
| Elongation at Break 23°C | % | D638 | 200-400 | 250-280 | 200-270 | 70-110 | 55-90 | 120-280 | 110-220 |
| Compression Stress (%1 Deformation) 23°C | Kg/cm ² | D695 | 45-50 | 60-65 | 65-70 | 85-110 | 95-120 | 100-105 | 105-110 |
| Deformation Under Weight (140 kg/cm ² , 24 hours, 23°C) | % | D621 | | | | | | | |
| Total Deformation | | | 14-16.8 | 11-15 | 9.5-13.5 | 2.9-4.8 | 2.3-4.3 | 3.8-4.9 | 3.7-4.8 |
| Permanent Deformation | | | 7.5-8.5 | 6-8 | 4-8 | 0.4-2.1 | 0.3-1.8 | 1.4-2.1 | 1.5-2 |
| Total Deformation Under Weight | % | | | | | | | | |
| 10 kg/cm ² load, 150°C, 24 hours | | | --- | 2.8-3 | 2.6-2.8 | 1.8-2 | 1.3-1.5 | 1.1-1.2 | 1-1.1 |
| 50 kg/cm ² load, 150°C, 24 hours | | | --- | 18-19 | 15-16 | 8-9 | 5-6 | 10-11 | 9-10 |
| Impact Resistance (Izod, notched) | Kj/m ² | D256 | 15.5-16.5 | 14-15.5 | 12-15 | 8.5-9 | | 11-12 | 10-11 |
| Hardness | Shore D | D2240 | 54-60 | 60-64 | 64-68 | 65-68 | 66-70 | 64-68 | 65-70 |
| Physical Properties | | | | | | | | | |
| Coefficient of Friction, Static | | | 0.04 | 0.05 | 0.07 | 0.11 | 0.13 | 0.06 | 0.07 |
| Coefficient of Friction, Dynamic | | | 0.06 | 0.06 | 0.09 | 0.12 | 0.16 | 0.12 | 0.13 |
| PV Limits | Kg.cm Cm ² .min. | | | | | | | | |
| 3 m/min. | | 23-25 | 210-215 | 215-220 | 220-230 | 220-230 | 250-270 | 300-320 | |
| 30 m/min. | | 37-40 | 250-270 | 270-300 | 250-400 | 250-400 | 350-380 | 390-400 | |
| 300 m/min. | | 52-56 | 310-320 | 330-340 | 300-450 | 300-500 | 400-500 | 450-550 | |
| Thermal Properties | | | | | | | | | |
| Specific Heat | Kcal/kg.°C | | 0.23-0.25 | --- | --- | --- | --- | --- | --- |
| Heat Conductivity (x10 ⁻⁴) 30°C | Cal/cm.sn.°C | | 5.5-6 | 8-9 | 10-11 | 15-17 | 19-21 | 17-20 | 17-20 |
| Coefficient of Linear Thermal Expansion (x10 ⁻⁵) | °C ⁻¹ | D696 | | | | | | | |
| 25°C-100°C | | | 12.5-16 | 12-14.5 | 7-11.5 | 9.5-10 | 7.5-8 | 8-9.5 | 7.5-9 |
| 25°C-200°C | | | 15-19 | 9-16 | 7.5-14 | 11-12 | 9-11 | 9.5-11 | 10-11.5 |
| 25°C-300°C | | | 21.5-25 | 15-18 | 8.5-18 | 13-15 | 12-14 | 12.5-13.5 | 13-14 |
| Minimum Allowable Service Temperature in air-Continuous | °C | | -260 | -260 | -260 | -260 | -260 | -260 | -260 |
| Maximum Allowable Service Temperature in air-Continuous | °C | | +270 | +270 | +270 | +270 | +270 | +270 | +270 |
| Electrical Properties | | | | | | | | | |
| Electric Strength, 0,1 mm, Short-term | Kv/mm | D149 | 40-80 | 16-19 | 13-16 | --- | --- | --- | --- |
| Relative Permittivity, 50Hz-10 ⁷ Hz | | D150 | 2-2.1 | 2.3-2.5 | 2.5-2.8 | --- | --- | --- | --- |
| Volume Resistivity, 23°C | Ohm-cm | D257 | >10 ¹⁸ | >10 ¹³ | >10 ¹³ | >10 ³ | >10 ² | >10 ⁸ | >10 ⁷ |
| Surface Resistivity, 23°C 50% Relative Humidity | ohm | D257 | >10 ¹⁶ | >10 ¹⁵ | >10 ¹⁵ | >10 ⁷ | >10 ⁴ | >10 ¹⁰ | >10 ⁹ |
| Dielectric Loss Factor, 50 Hz., 23°C (dry) | | D150 | 0.00005 | 0.00075 | 0.0007 | --- | --- | --- | --- |

EFALON[®] - PTFE



Applications



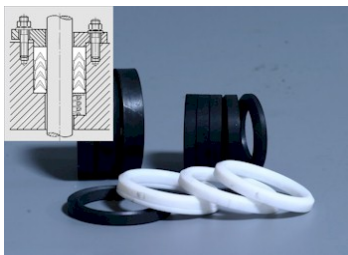
Piston Rings

- Gas compressors like air, oxygen, hydrogen, carbon dioxide, ammonia etc.
- Liquefied gas compressors like butane, propane etc.
- Hydraulic and pneumatic cylinders
- Liquid oxygen pumps
- Piston pumps conveying corrosive liquids and gases.
- High viscosity liquid pumps
- Dosage pumps



Gaskets

EFALON[®] gaskets can be used in all corrosive environments, in low and high temperatures and pressures. As they are long lasting, they reduce the cost of maintenance and the risk of pauses in production. **EFALON[®]** gaskets are not affected by their operating environment or vice versa.



V-Rings, O-Rings

- **EFALON[®] V-rings**
- In machines with back and forth movements and low speed rotating movements
- Valve shafts
- Hydraulic and pneumatic cylinders



LABORATORY EQUIPMENT

EFALON[®] is strongly preferred in the production of laboratory equipment as it is unaffected by chemicals, is resistant to high temperatures and is non-stick. Laboratory instruments such as burettes, beakers, funnels, spheres, taps, elastic collectors, heaters, tubes, T elbows, raschig rings and magnetic mixers etc. are made up of **EFALON[®]**.

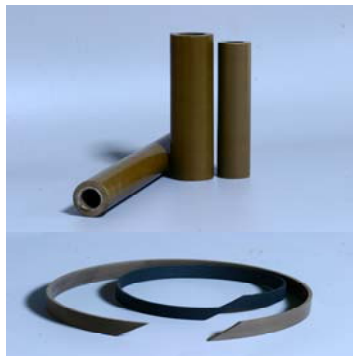
EFALON[®] - PTFE



Applications



EFALON[®] lined products combine the perfect heat and chemical resistance of PTFE with the strength of steel. As nothing sticks onto **EFALON[®]**, pipes remain clean and unclogged. Due to its good insulation properties, it prevents chemicals from freezing in pipes and the adverse effects of weather conditions.



In applications where metal bearings are used, the necessity to use lubricants and the problems caused by the presence of such lubricants have led the way to **EFALON[®]** bearings. **EFALON[®]** bearings can be used without lubrication and in a wider range of applications. Very low friction coefficient, wide operation temperature interval, perfect chemical resistance and sufficient mechanical properties make **EFALON[®]** ideal for bearings.

VARIOUS APPLICATION AREAS

- Gaskets, seals, O-rings, V-rings
- Compression packings and similar sealing products
- Bushes, bearings and piston rings
- Electrical insulators
- Sliding bearings
- Conveyors
- Lined products, valves conducting corrosive material.
- Applications of non-stick surfaces.
- Laboratory instruments requiring chemical resistance.

Leader in engineering plastics production since 1971

EFALON®

KESTAMID®

ULPOLEN®

WE FIND SOLUTIONS TO YOUR PROBLEMS

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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 1000



ULPOLEN® is a type of polyethylene with very high molecular weight. Its density and water absorption are low. **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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