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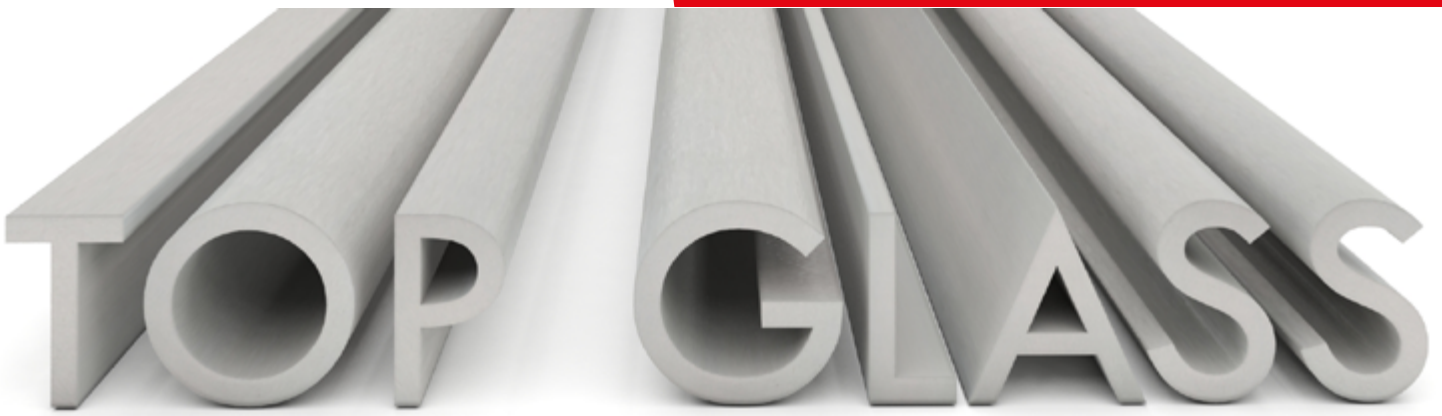
TRIGLASS® PROFILES

Pultrusion since 1963



CUSTOMIZED COMPOSITE SOLUTIONS

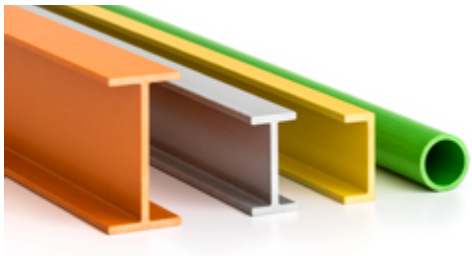
www.topglass.com

MADE IN ITALY

PRODUCTS

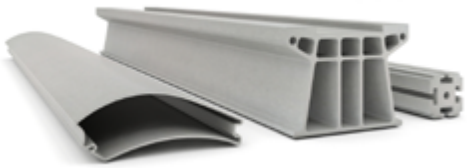
STANDARD TRIGLASS® profiles

- rods, tubes, angles, dog bones, half round and corner section profiles
- 500 differtent shapes available
- partially in stock
- used in a wide range of sectors



STRUCTURAL TRIGLASS® profiles

- section C and H beams, square tubes and angles
- chemical resistance properties and mechanical performance
- outstanding ease of assembly and maintenance-free performance



CUSTOMIZED TRIGLASS® profiles

- customized shape
- designed to meet specific requirements in terms of chemical and physical properties
- thermoplastic profiles made with FULCRUM® technology are also available

TRIGLASS® profiles for WINDOWS

- widely used for window frames, thresholds and shutters
- low overall heat-transfer coefficient
- dimensional stability: they remain stable at all temperatures

Tapered utility POLES

- high mechanical properties and strong resistance to atmospheric agents
- do not require additional surface treatment or periodic maintenance
- light and easily portable by hand

ADVANTAGES

Chemicals and corrosion resistance, electrical insulation capacity, light weight and high mechanical resistance.

COMPOSITE PROFILES ARE THE ONLY OPTION IF COMPARED TO OTHER MATERIALS

COMPARISON WITH OTHER MATERIALS

MATERIALS	SPECIFIC WEIGHT [g/cm^3]	TENSILE STRENGTH [MPa]	ELASTIC MODULUS [GPa]	THERMAL EXPANSION [K^{-1}]	THERMAL CONDUCTIVITY [W/mK]
WOOD	0,7	80	12	14 X 10^{-6}	0,1
PVC	1,4	70	3	85 X 10^{-6}	0,1
PULTRUDED GRP	**1,8**	**400**	**26**	**11 X 10^{-6}**	**0,3**
ALUMINIUM	2,7	250	70	23 X 10^{-6}	170
STEEL	7,8	400	210	12 X 10^{-6}	40

Resistance to Chemicals
Withstand environmental agents and aggressive chemicals.

Assembly and workability
Easy to assemble and adaptable if using woodworking machines.

Electrical Insulation
High dielectric capacity.

Maintenance free
Insulating characteristics allows installation and use with low maintenance costs.

Dimensional stability
Good performing in high temperature fluctuations without presenting significant deformation.

Fire resistance
Production of profiles with excellent properties of fire resistance and extremely low toxic smoke emission.

Lightness
Four times lighter than steel and one and half times than aluminium.

Durability
Selection of raw materials best suited to maximizing long-term mechanical and aesthetic features.

Mechanical resistance
Customized mechanical properties with an elastic-brittle behaviour until breaking.

Thermal Insulation
Very low thermal conductivity coefficient (around 0.3 W/m).

Radar transparency
Transparent to electromagnetic waves and do not generate interference.

Atmospheric resistance
High resistance to rain, UV radiation and critic temperature conditions.

SECTORS
SERVICES

TRIGLASS® PROFILES, thanks to their intrinsic properties,
are widely used in in many different **SECTORS**:


RAILWAYS


COOLING TOWERS


ENERGY


TRANSPORTATION


WINDOWS


CHEMICAL


INFRASTRUCTURE


TUNNELS


STREET FURNITURE


ELECTRICAL


INDUSTRY


TELECOMMUNICATIONS

Not only COMPOSITE PROFILES
TOP GLASS provides to customers important **SERVICES** like:

MOULDS AND MACHINES

Thank's to its over fifty-five year experience, know-how, and ongoing research and development, Top Glass produces moulds, manufactures and installs pultrusion and centrifugal casting systems for customers worldwide.

LABORATORY

Top Glass has an internal laboratory fully equipped to perform mechanical, fire and dielectric tests.
It can also carry out comprehensive analysis of raw materials used in the manufacturing process.

WAREHOUSE

Top Glass has a constant stock of many standard profiles in various lengths, sizes and colours.
It also offers a rapid service of profile cutting and packaging to ensure speedy order fulfilment.

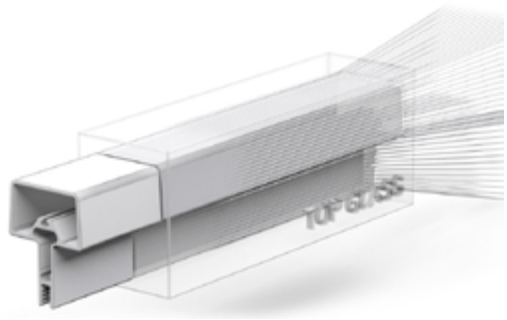
PROCESSING

Machining and assembly complete the range of services offered by Top Glass. We undertake machining such as cutting, drilling, CNC (computer numerical control), and bonding according to the demands of our customers.

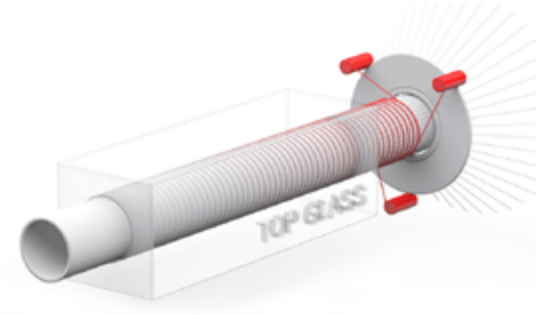
TECHNOLOGIES

TOP GLASS makes its TRIGLASS® PROFILES and utility POLES using systems designed and built entirely inside the company.

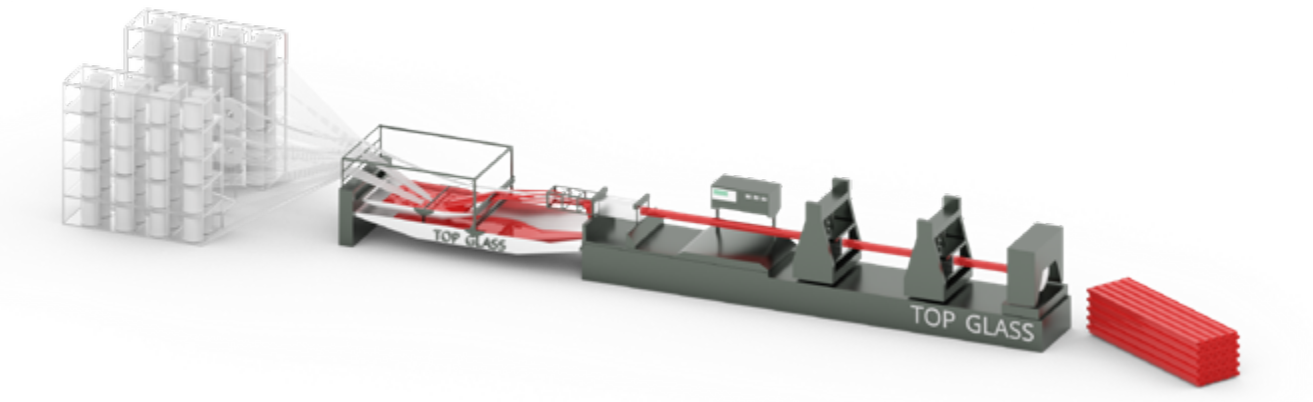
Pultrusion is the equivalent of extrusion applied to composite material.
A continuous process which is ideal for high-volume industrial production for making constant section straight profiles without length limits with high performance in a longitudinal direction.
Pultrusion technology is by nature economically advantageous when it is done on a large scale.



Pullwinding is used for producing tubular profiles with high transversal rigidity and mechanical resistance. This production process differs from pultrusion with respect to way the fibreglass is positioned for reinforcing the profile. In order to obtain superior rigidity pullwinding uses both roving placed longitudinally and circumferentially with respect to the profile's axis.

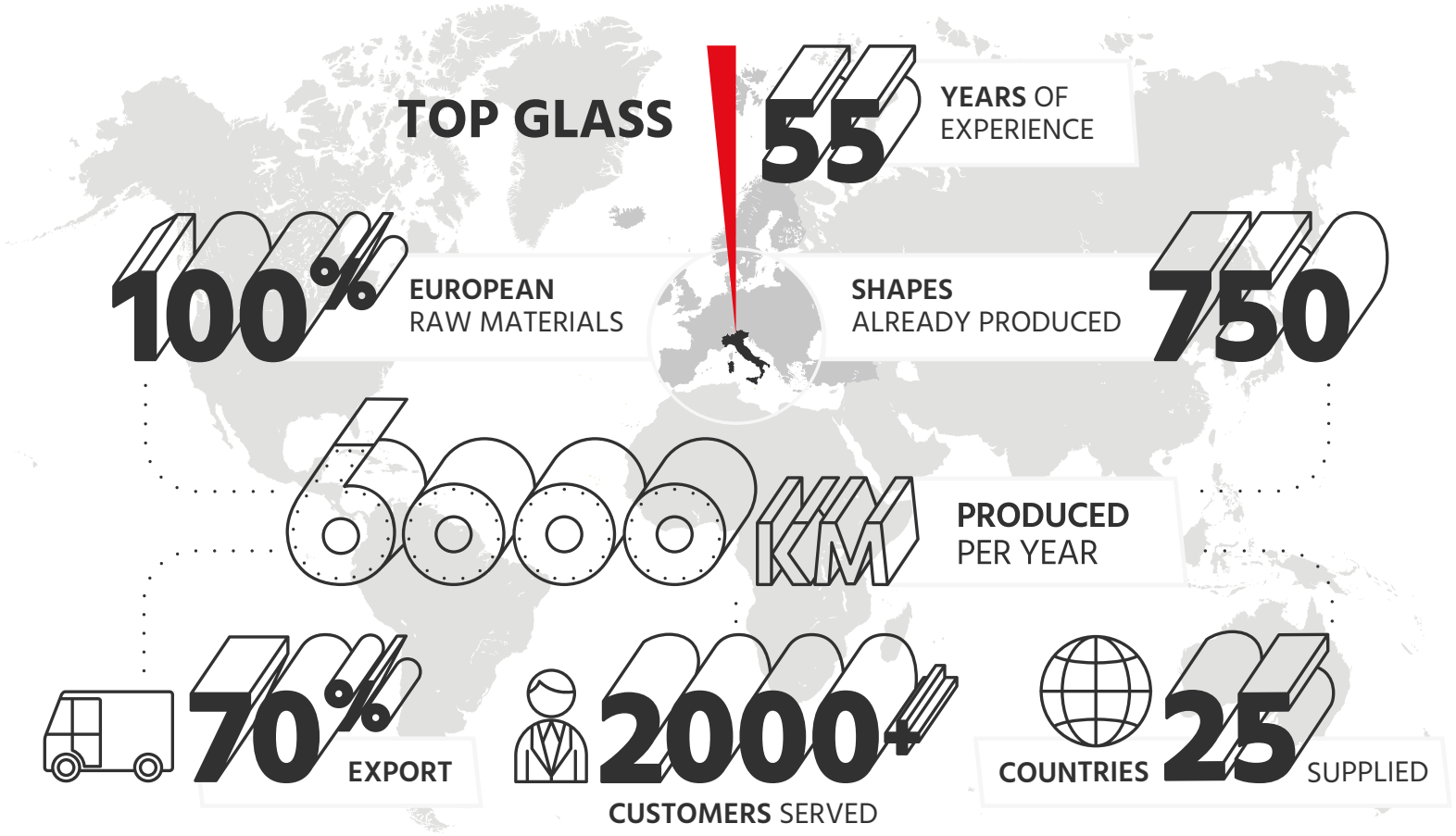


Centrifugal casting is used to make fiberglass composite poles in the shape of a truncated cone (GFRP tapered poles) with a maximum length up to 13.6 meters in one piece only, with a high degree of dimensional and physical-mechanical repeatability. It is mostly appreciated in lighting poles and supports for electricity, telephone and over-head lines.



COMPOSITE PROFILES SOLUTIONS

SINCE MORE THAN 55 YEARS TOP GLASS PRODUCES
TRIGLASS® PROFILES AND UTILITY **POLES** IN **COMPOSITE MATERIALS.**



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