



Composites

## **SOLUTIONS FOR PULTRUSION**

Pultrusion enables continuous production of straight composite parts with complex sections, hollow profiles or sharp angles.

This process means you can achieve very high reinforcement levels (60 - 70%) with high strength.

# **CHOMARAT**

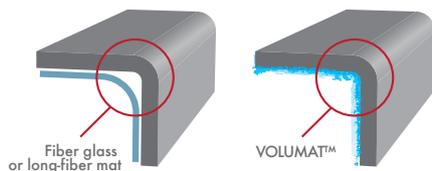


## VOLUMAT™

**VOLUMAT™** is a combination of fabric or multiaxial + mat, mechanically bonded by the needleloom process, without chemical binding.

### ADVANTAGES

- This needleloom process adds volume to reinforcements which means greater part thicknesses can be achieved.



- It is highly advantageous for parts with sharp angles, because high volume fibers allow optimum filling of critical areas.

- The use of a fabric or multiaxial backing for **VOLUMAT™** adds transverse mechanical strength to finished products.

- Does not fray during processing which gives a better surface aspect than most of other reinforcements like CFM.



### APPLICATIONS

**VOLUMAT™** is particularly recommended for the manufacture of parts that require mechanical properties.



## VOLUMAT™ ASPECT

**VOLUMAT™ ASPECT** is the combination of **VOLUMAT™** and a polyester veil affixed by needleloom.

### ADVANTAGES

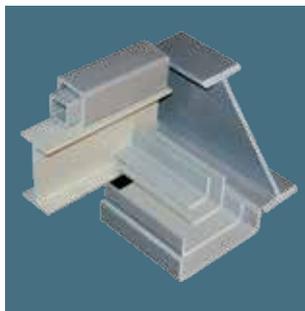
Apart from the advantages of **VOLUMAT™**, the addition of a polyester veil:

- improves the surface appearance of profiles
- creates a barrier against UV or chemical attack
- saves preparation time (fabric + veil in one step)



### RANGE

- Fabric backing: 240 | 300 | 420 | 600 g/m<sup>2</sup>
- Support multiaxial : bi, tri or quadriaial : 400 to 1500 g/m<sup>2</sup>
- Mat : 200 | 300 | 450 g/m<sup>2</sup>
- Polyester veil: 50 g/m<sup>2</sup>
- Standard width: **VOLUMAT™** 125 cm and **VOLUMAT™ ASPECT** : 190 cm edges cut.



## COMPLEMENTARY SOLUTIONS

The **VOLUMAT™** range was specifically designed to deal with certain design and manufacturing constraints involved in the pultrusion process. However, **CHOMARAT** does offer other reinforcement materials which can be used in this process and offers complementary characteristics.



**ROVIMAT™**  
300T/150N

Assembly of a 300 g/m<sup>2</sup> fabric to a specific "long-fiber" mat.

### APPLICATIONS | ADVANTAGES

This reinforcement material is particularly suited to the production of wide parts which need a high level of mechanical characteristics.

The long-fiber mat facilitates holding and forming before it goes into the die and provides the profiles with added thickness.

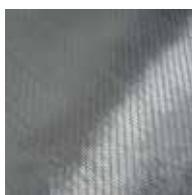


**TAPES**

Tape is a reinforcement material woven with a continuous warp, without a fringe. It may be balanced or unidirectional, fixed or not, made using glass, polyester, aramid or other fibers.

### APPLICATIONS | ADVANTAGES

Tapes are a solution for thin profiles (reinforcement weight from 100 g/m<sup>2</sup>) and also for narrow profiles due to perfect tolerance control on the tape width. "Setting" improves the stability of the tape and means it can be better maintained when it goes into the die (unraveling, easier to control). Using fine yarns means the surface appearance is improved.



**G-PLY™**

"Non Crimp Fabric" (NCF) made of unidirectional layers (0°, 90°, +/-45°) mechanically bonded by stitching. This product range provides both stability and mechanical performance when used in pultrusion.

The use of a triaxial fiber improves torsional strength.

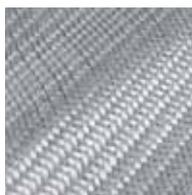


**FIXED DIAGONAP™**

This product is a reinforcement made up of layers laid one on top of the other and bonded together mechanically (0°, 90°, + or - 45°).

As well as providing similar mechanical strength to **G-PLY™**, the additional setting gives the reinforcement better stability and greater strength, which makes it easier to use.

This product can be made of glass, aramid, carbon or a combination of fibers.



**DIAGOTEX™**

Fixed bias-woven reinforcement with an angle of between 30° and 60°.

This enables the orientation of the reinforcements to be optimized and thus both the flexural and torsional strength. It holds its shape, with regularity of angle guaranteed. Reinforcement "setting" facilitates cutting and avoids unraveling.



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