

CONTACTS

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In partnership with
MATRASUR COMPOSITES,
Saint-Gobain Reinforcements
& **Composites** is organizing 11
Road Shows throughout
Europe. The Shows will be open
exclusively to companies that
operate in the composites
market.

This initiative calls for technical
demonstrations and
presentations on RTM Light
technology and Uniconform®.
For more information, contact:
rita.ciocia@saint-gobain.com

2 Internet portals:
www.saint-gobainvetrotex.com
& www.sqtf.com

FIRE and HIGH TEMPERATURE RESISTANCE:

Uniconform® is made of 100% glass fiber, is without synthetic yarn and has no chemical binder.

It offers an optimal fire resistance and can not show any shearing after resin degradation under heat effect.

Furthermore, Uniconform® has an excellent stability when submitted to thermal treatment.

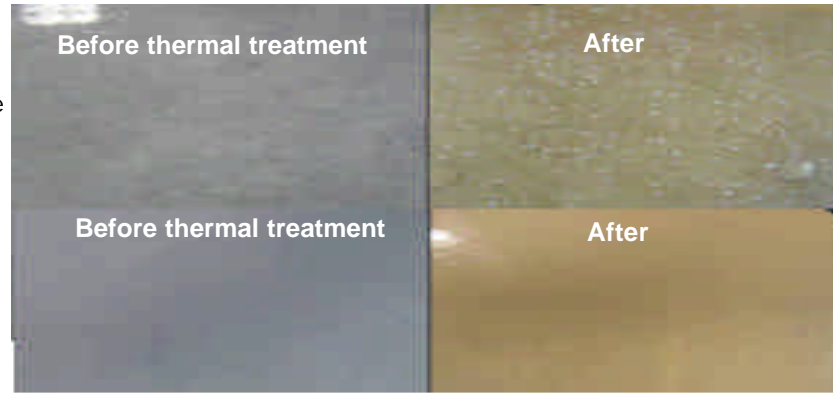
Consequently, it is very well adapted for painted and dried parts.

Complex with synthetic core:

during thermal treatment the core can expand and even melt. The surface appearance after treatment is highly faded

Uniconform®:

the reinforcement does not suffer any damage due to heat. Surface appearance is preserved.



C.S.A
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UNICONFORM®

The 1st continuous filament mat absolutely innovating

Without chemical binder, thick and deformable dedicated to RTM and Injection applications.

DRESSING OF EVEN THE MOST COMPLEX MOLDS



Uniconform® is highly deformable and flexible. It is easily adapted to all types of injection molds. Saving dressing-time and avoiding local cut-outs.

TRANSLUCENCY

The absence of synthetic stitching yarns and its glass fiber composition (which have a styrene soluble sizing) give Uniconform® excellent characteristics.

Therefore it is particularly well suited for translucent applications.

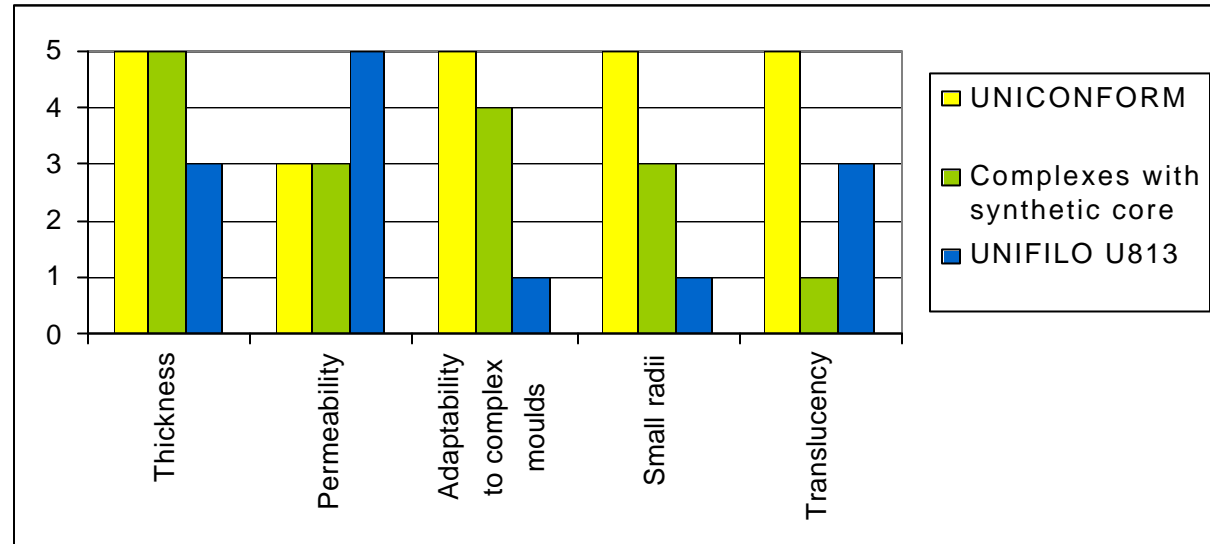


In recent years, RTM and other injection processes have experienced dramatic growth. In general, closed mold processes meet the rising demand to reduce Volatile Organic Compound emissions. They also respond to the need for repeatability and improved piece quality. Finally, they allow needed industrialization of composite production.

Continuing this trend, Saint-Gobain Reinforcements & Composites' development and technical assistance teams propose a new RTM, Injection product.

UNICONFORM®, is the first product on the composites market offering unique characteristics.

COMPARISON BETWEEN UNICONFORM® and SOME OTHER PRODUCTS FOR RTM, INJECTION PROCESS



THICKNESS:

for example, with a surface weight of 600g/m², Uniconform® can fill a 2 to 3mm space between the lower and upper mold.

PERMEABILITY:

Uniconform® and other complexes with synthetic core have the same level of permeability. It is about 2x10⁻⁹m² with 600g/m² for 2mm thick space between upper and lower mold. Unifilo®, with the same surface weight, remains the reference in terms of permeability with the value of about 3,5x10⁻⁹ m².

ADAPTABILITY TO COMPLEX MOLDS:

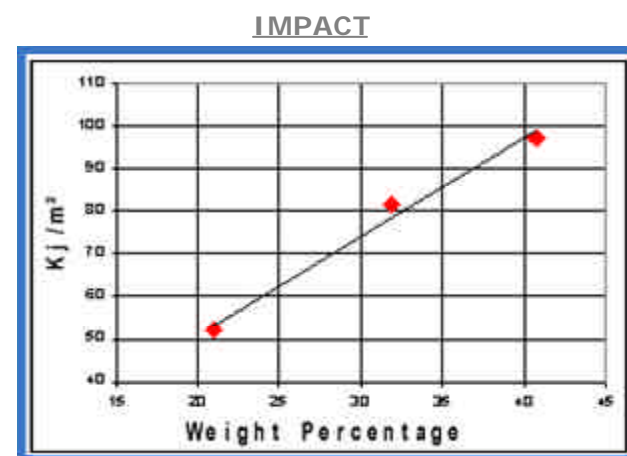
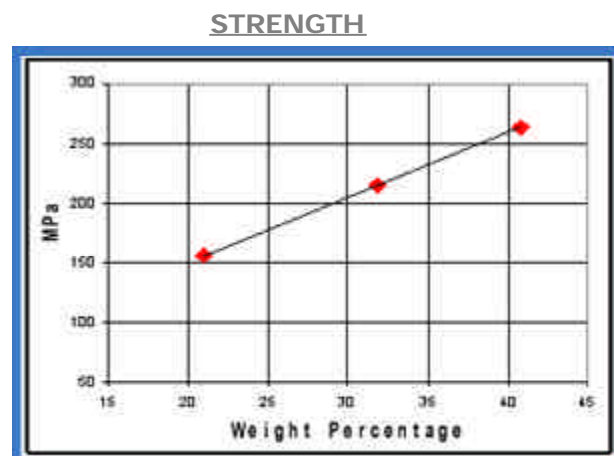
Thanks to its high flexibility, Uniconform® is easily adapted to the geometry of all complex mold.

TRANSLUCENCY:

Uniconform® is made of 100% glass fiber which has a styrene soluble sizing. This makes it the only reinforcement for injection particularly well suited for translucent applications.

MECHANICAL PROPERTIES:

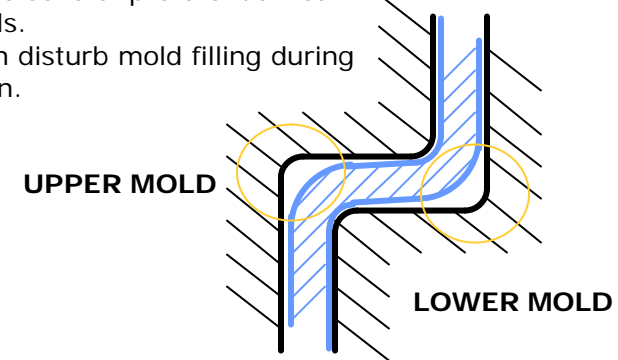
Uniconform® is available in 3 different weights: 600g/m², 900g/m² and 1200g/m². This range allows to fill a 2 to 5mm thickness in a single layer and adjust the glass content in order to reach corresponding mechanical properties.



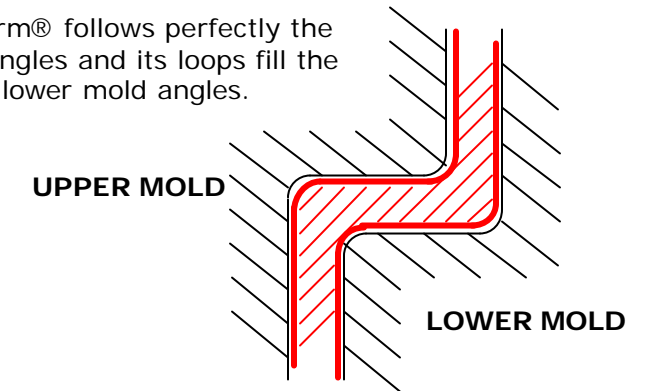
Conformability to small radii:

unlike other products, Uniconform® follows perfectly the ingoing angles of the lower mold, offering a high flexibility. It has a high number of loops that fill in outgoing angles of the lower mold and limit local cracks due to lack of reinforcement. These two characteristics reduce formation of preferential channels for resin during injection process and give more homogeneous distribution.

Other stiffer reinforcements follow small radii with difficulty and generate several preferential resin channels. This can disturb mold filling during injection.



Uniconform® follows perfectly the ingoing angles and its loops fill the outgoing lower mold angles.



Mold filling is more homogeneous and isotropic with Uniconform® during resin injection. It is closer to what numerical simulation would predict.



Stiffer and more resilient product:

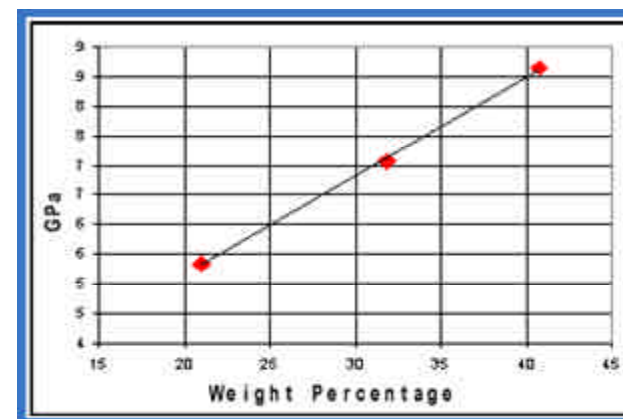
resin goes preferentially along ridges and defective filling may occur.



Uniconform®:

smoother filling. The risk that the resin arrives to vents before complete filling is decreased.

FLEXURAL MODULUS



RANGE and CORRESPONDING GLASS RATIO

mould tickness mm	grammage g/m ²	vol %	weight %
2	600	12	22
3	600	8	15
2	900	17	31
3	900	12	22
4	900	9	17
3	1200	15	28
4	1200	12	22
5	1200	9	18