WACOSIT® for window, door and facade systems
Physical characteristics

WACOSIT® profiles are prepared by the pultrusion method from glass rovings, glass wool mats, glass fabrics and non-woven glass based on unsaturated polyester resins.

Composition (percent by weight):
glass fiber polyester
approx. 70% of glass fibers
approx. 30% of resin

Processing: WACOSIT® profiles can be processed without problems using conventional carbide- or diamond-tipped tools. Possible processing methods include sawing, drilling, grinding, milling and turning. To avoid dust emission, wet processing is to be preferred.

Water absorption according to DIN EN ISO 62: 1 day < 1%; 7 days < 2%

Standard values of different physical characteristics in unidirectional, fiber-reinforced layers

Properties	Unit	Typical value
Tensile modulus of elasticity E_{II}	GPa	29
Tensile modulus of elasticity $E_{\perp}$	GPa	8
Flexural modulus of elasticity E_{II}	GPa	11
Flexural modulus of elasticity $E_{\perp}$	GPa	6
Thermal conductivity λ	W/mK	0.25
Linear thermal expansion coefficient U_f value without insulation core	K^{-1} W/m^2K	$10 \cdot 10^{-6}$ 1.1
Bending strength σ IIB	MPA	> 400
Bending strength $\sigma_{\perp B}$	MPA	> 110
Tensile strength $\sigma_{II\,z}$	MPA	500
Tensile strength $\sigma_{\perp z}$	MPA	> 30
Density $^{\varphi}$	g/cm^3	1.8

The mixing rules for conventional mixtures allow on the one hand an estimation of the mechanical properties with sufficient accuracy and, on the other, a calculation of the thermal expansion coefficients of the profiles - taking into account the composite components matrix and fiber.

Ernst Kühne Kunststoffwerk GmbH + Co. KG ◦ Im Hagenacker 6 ◦ D-79761 Waldshut-Tiengen
phone: +49 (0) 7751 91 11 - 0 ◦ e-mail: info@ernst-kuehne.de