Divinycell® Matrix 7-7 *(SI units)*

Mechanical properties	Unit	Min	Nom	Test procedure
Density [1)]	kg/m³	47	52	ISO 845
Compressive strength [2)]	MPa	0.6	0.8	ASTM D 1621
Compressive modulus [2)]	MPa	50	60	ASTM D 1621
Tensile strength [2)]	MPa	1.2	1.5	ASTM D 1623
Tensile modulus [2)]	MPa	52	65	ASTM D 1623
Shear strength	MPa	0.6	0.7	ASTM C 273
Shear modulus	MPa	14	17	ASTM C 273
Shear strain	%	8	14	ASTM C 273

Characteristics	Unit	Value	Test procedure
Thermal conductivity [3)]	W/mK	0.0285	ASTM C 518
Water absorption	kg/m²	0.005	ASTM C 272 A
Water vapour permeability [4)]	$\cdot 10^{-8}$ m²/s	4.0	ISO 12572
Coefficient of linear expansion	$\cdot 10^{-6}$/°C	40	
Dimension stability temperature	°C	*)	DIN 53424
Continuous temp. range	°C	–200 to +70	
Max. processing temperature	°C	+90	

Nominal value is an average value of a mechanical property at a nominal density. Minimum value is a minimum guaranteed mechanical property a material has independently of density.

1) Typical density variation –10% to +15%

2) Perpendicular to the plane. All values measured at +23 °C.

3) Thermal conductivity at +20 °C.

4) Water vapour permeability has been tested for densities 45-80 kg/m³.
Higher densities yields lower values, hence, the water vapour perm. < 4.0 · 10⁻⁸ m²/s.

**) Testing is ongoing. Values will be published as soon as completed.*
Meanwhile please contact DIAB Technical Services for advice.

Continuous operating temperature is –200 °C to +70 °C. The foam can be used in sandwich structures, for outdoor exposure, with external skin temperatures up to +85 °C. For optimal design of applications used in high operating temperatures in combination with continuous load, please contact DIAB Technical Services for detailed design instructions. Normally Divinycell Matrix 7-7 can be processed at up to +90 °C with minor dimensional changes.

Maximum processing temperature is dependent on time, pressure and process conditions. Therefore users are advised to contact DIAB Technical Services to confirm that Divinycell Matrix is compatible with their particular processing parameters.

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