

The high performance sandwich core

Divinycell Matrix is an all purpose grade with high strength to weight ratio. The unique IPN chemical structure, yields impressive mechanical performance to a low weight. Divinycell Matrix delivers relevant mechanical properties and valuable material characteristics.

Divinycell Matrix are well integrated in the Diab offering and is available in various finishing options as well as kits.

Mechanical properties Divinycell® Matrix

Property	Test Procedure	Unit		MX 7-7	MX 10-8
Compressive Strength ¹	ASTM D 1621	MPa	Nominal	0.8	1.0
			Minimum	0.65	0.84
Compressive Modulus ¹	ASTM D1621-B-73	MPa	Nominal	60	95
			Minimum	50	72
Tensile Strength ¹	ASTM D 1623	MPa	Nominal	1.5	2.1
			Minimum	1.2	1.7
Tensile Modulus ¹	ASTM D 1623	MPa	Nominal	65	100
			Minimum	52	75
Shear Strength	ASTM C 273	MPa	Nominal	0.7	0.84
			Minimum	0.6	0.71
Shear Modulus	ASTM C 273	MPa	Nominal	17	22
			Minimum	15	18
Shear Elongation	ASTM C 273	%	Nominal	14	25
Density	ISO 845	kg/m ³	Nominal	55	60

All values measured at +23°C

1. Properties measured perpendicular to the plane

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

Product Characteristics

- High strength to weight ratio
- Very good peel strength
- Compatible with all main resin types
- High thermal stability
- Small cell size
- Low water absorption
- Good insulation properties
- Low resin uptake
- Consistent and homogenous

Divinycell Matrix is type approved by:



Technical Characteristics

Technical Characteristics Divynycell® Matrix

Characteristics ¹	Unit	MX 7-7	MX 10-8	Test method
Density variation	%	± 10	± 10	-
Thermal conductivity ²	W/(m-K)	0.028	TBD	EN 12667
Coeff, linear heat expansion	x10 ⁻⁶ /°C	40	40	ISO 4897
Continous temp range	°C	-200 to +70	-200 to +70	-
Max process temp	°C	+90	+110	-
Dissipation factor	-	0.0002	TBD	ASTM D 2520
Dielectric constant	-	1.05	TBD	ASTM D 2520

1. Typical values
2. Thermal conductivity at +20°C

Continuous operating temperature is typically -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.

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

Physical characteristics

Format		Unit	MX 7-7	MX 10-8
Plain sheets	Length	mm	2490	2440
	Width	mm	1245	1220
GS sheet	Length	mm	1245	1220
	Width	mm	1245	1220
GS sheet	Length	mm	1245	1220
	Width	mm	830	813

Disclaimer:

This data sheet may be subject to revision and changes due to development and changes of the material. The data is derived from tests and experience. If not stated as minimum values, the data is average data and should be treated as such. Calculations should be verified by actual tests. The data is furnished without liability for the company and does not constitute a warranty or representation in respect of the material or its use. The company reserves the right to release new data sheets in replacement.

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