

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 - Imperial units

Property	Test Procedure	Unit		MX 7-7	MX 10-8
Compressive Strength ¹	ASTM D 1621	psi	Nominal	116	145
			Minimum	94	121
Compressive Modulus ¹	ASTM D1621-B-73	psi	Nominal	8,700	13,780
			Minimum	7,250	10,442
Tensile Strength ¹	ASTM D 1623	psi	Nominal	217	304
			Minimum	174	246
Tensile Modulus ¹	ASTM D 1623	psi	Nominal	9,450	14,503
			Minimum	7,550	10,887
Shear Strength	ASTM C 273	psi	Nominal	101	121
			Minimum	87	102
Shear Modulus	ASTM C 273	psi	Nominal	2,465	3,190
			Minimum	2,176	2,611
Shear Elongation	ASTM C 273	%	Nominal	14	25
Density	ISO 845	lb/ft ³	Nominal	3.43	3.74

All values measured at +73.4°F

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	Btu x in / (ft ² x h x °F)	0.201	TBD	EN 12667
Coeff, linear heat expansion	x10 ⁻⁶ /°F	22.2	22.2	ISO 4897
Continuous temp range	°F	-325 to +160	-325 to +160	-
Max process temp	°F	+194	+230	-
Dissipation factor	-	0.0002	TBD	ASTM D 2520
Dielectric constant	-	1.05	TBD	ASTM D 2520

1. Typical values
2. Thermal conductivity at +68°F

Continuous operating temperature is typically -325°F to +160°F. The foam can be used in sandwich structures, for outdoor exposure, with external skin temperatures up to +185°F. 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	inch	98.0	96.0
	Width	inch	49.0	48.0
GS sheet	Length	inch	49.0	48.0
	Width	inch	49.0	48.0
GS sheet	Length	inch	49.0	48.0
	Width	inch	32.7	32.0

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.

All content in this publication is protected by international copyright laws. Copyright © Diab February 2016.

Issued: Feb 2016 Doc No: Matrix Feb 2016 rev12 IMP

Diab Group
 Box 201
 312 22 Laholm, Sweden
 Phone: +46 (0)430 163 00
 E-mail: info@se.diabgroup.com

