

# Data sheet **MYCELL™ M**

Universal structural foam

Material data sheet / Issue 08/2010 / Replaces issue 09/2009

## Description

A unique closed cell, cross-linked polymer foam that combines high stiffness and strength to weight ratios with superior toughness. It is non-friable, contains no CFC's, has negligible water absorption, and provides an excellent resistance to chemicals. A fine cell structure offers an excellent bonding surface that is compatible with most resins and manufacturing processes. It is ideally suited as a core material for a wide variety of light-weight sandwich structures subjected to both static and dynamic loads in service.

## Applications

### Marine

Hulls, decks, bulkheads, superstructures, interiors

### Road and Rail

Roof panels, interiors, floors, doors, partition walls, side skirts

### Wind Energy

Rotor blades, nacelles, turbine generator housings

### Air

General aviation (sport aircraft) parts, galley carts

### Recreation

Surfboards, snowboards, wakeboards

### Industrial

Tooling, tanks, ductwork, containers, covers

## Charakteristik

- **high strength and stiffness to weight ratios**
- **good impact strength**
- **low resin absorption**
- high fatigue resistance
- good fire performance (self-extinguishing)
- sound and thermal insulation
- non biodegradable
- good styrene resistance

## Processing

- contact molding (hand/spray)
- vacuum infusion
- resin injection (RTM)
- adhesive bonding
- pre-preg processing
- thermoforming

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Properties	Certificate	Unit	Value <sup>1)</sup>	MYCELL™ M060	MYCELL™ M080
<b>Density</b>	ISO 845	kg/m <sup>3</sup>	Average typ. range	60 54 - 69	80 72 - 92
<b>Compressive strength perpendicular to the plane</b>	ISO 844	N/mm <sup>2</sup>	Average Minimum	0.90 0.75	1.45 1.10
<b>Compressive modulus perpendicular to the plane</b>	DIN 53421	N/mm <sup>2</sup>	Average Minimum	69 55	104 80
<b>Tensile strengt in the plane</b>	ISO 527 1-2	N/mm <sup>2</sup>	Average Minimum	1.3 1.0	2.0 1.6
<b>Tensile modulus in the plane</b>	ISO 527 1-2	N/mm <sup>2</sup>	Average Minimum	45 35	66 50
<b>Shear strength</b>	ISO 1922	N/mm <sup>2</sup>	Average Minimum	0.85 0.70	1.2 1.0
<b>Shear modulus</b>	ASTM C393	N/mm <sup>2</sup>	Average Minimum	22 18	30 24
<b>Shear elongation at break</b>	ISO 1922	%	Average Minimum	16 10	18 10
<b>Thermal conductivity at room temperature</b>	ISO 8301	W/m.K	Average	0.031	0.033
<b>Standard sheet</b>					
Width		mm ± 5		1150	1020
Length		mm ± 5		2450 <sup>2)</sup>	2180
Thickness		mm ± 0.5		5 to 70	3 to 68
<b>Block</b>					
Thickness		mm ± 2		78	72
<b>Scrim-cloth (sc)</b>					
Width		mm ± 10		600 or 1200	510 or 1020
Length		mm ± 10		1140	1080
Thickness		mm ± 0.5		5 to 70	3 to 68
<b>Colour</b>				yellow	green

Finishing options, other dimensionen and closer tolerances upon request.

<sup>1)</sup> Minimum values for DNV definition, specimen thickness 20 mm except tensile properties (10mm) and pressure module (40mm) <sup>2)</sup> Half size plane sheets for thickness ≤ 8mm

The data provided gives approximate values for the nominal density and DNV minimum values according DNV type approval certificate.

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