

## Technical Data Sheet

# Durolight<sup>®</sup> S

### Typical characteristics

- Low thermal conductivity and high mechanical strength
- Glass-reinforced thermoset SMC high-pressure laminate developed for applications at cryogenic temperatures

### Typical industries

- Impianti di propulsione a LNG – isolamento criogenico
- Oleodotti
- Subsea
- Healthcare
- Idrogeno

	Test method	Unit	Guideline value
<b>Mechanical properties</b>			
Density	ISO 1183	g / cm <sup>3</sup>	1,85
Flexural strength $\perp$ 0°C	ISO 178	MPa	140
Flexural strength $\perp$ +50°C	ISO 178	MPa	125
Flexural strength $\perp$ +100°C	ISO 178	MPa	110
Flexural strength $\perp$ +150°C	ISO 178	MPa	80
Flexural strength $\perp$ -50°C	ISO 178	MPa	160
Flexural strength $\perp$ -100°C	ISO 178	MPa	175
Flexural strength $\perp$ -150°C	ISO 178	MPa	190 <sup>1)</sup>
Flexural strength $\perp$ -196°C	ISO 178	MPa	205 <sup>1)</sup>
Modulus of elasticity in flexion $\perp$ 0°C	ISO 178	MPa	9000
Compressive strength $\perp$ 0°C	ISO 604	MPa	250
Compressive strength $\perp$ +50°C	ISO 604	MPa	220
Compressive strength $\perp$ +100°C	ISO 604	MPa	190
Compressive strength $\perp$ +150°C	ISO 604	MPa	160
Compressive strength $\perp$ -50°C	ISO 604	MPa	280
Compressive strength $\perp$ -100°C	ISO 604	MPa	310
Compressive strength $\perp$ -150°C	ISO 604	MPa	335 <sup>1)</sup>
Compressive strength $\perp$ -196°C	ISO 604	MPa	360 <sup>1)</sup>
Tensile strength II 0°C	ISO 527	MPa	75

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	Test method	Unit	Guideline value
Impact strength <sup>⊥</sup> (Charpy) RT	ISO 179	kJ / m <sup>2</sup>	75
Shear strength II RT	DIN EN 60893	MPa	20
<b>Thermal properties</b>			
Flammability	UL 94	/	V0 / 3mm
Smoke density & toxicity, class	NF F 16-101	/	F0
Fire test, class	NF P 92-501	/	M1
Thermal conductivity <sup>⊥</sup> RT		W / (m * K)	≈ 0,3 <sup>1) 2)</sup>
Thermal conductivity <sup>⊥</sup> -50°C		W / (m * K)	≈ 0,27 <sup>1) 2)</sup>
Thermal conductivity <sup>⊥</sup> -196		W / (m * K)	≈ 0,21 <sup>1) 2)</sup>
<b>Physical properties</b>			
Water absorption (4mm thickness)	ISO 62	%	0,2

= perpendicular to the lamination II = parallel to the lamination

<sup>1)</sup> Extrapolated value

<sup>2)</sup> Thermal conductivity calculated by means of reference measurements on samples of 300 x 200 x 10 mm

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