

Technical Data Sheet

Durolight[®] S2

Product characteristics

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

Product industries

- LNG engines - Cryogenic Insulation
- Pipelines
- Subsea
- Healthcare

	Test method	Unit	Guideline value
Mechanical properties			
Density	ISO 1183	g / cm ³	1,95
Flexural strength ¹⁾ ⊥ 0°C	ISO 178	MPa	350
Flexural strength ¹⁾ ⊥ +50°C	ISO 178	MPa	300
Flexural strength ¹⁾ ⊥ +100°C	ISO 178	MPa	200
Flexural strength ¹⁾ ⊥ +150°C	ISO 178	MPa	110
Flexural strength ¹⁾ ⊥ -50°C	ISO 178	MPa	450
Flexural strength ¹⁾ ⊥ -150°C	ISO 178	MPa	600 ²⁾
Flexural strength ¹⁾ ⊥ -196°C	ISO 178	MPa	700 ²⁾
Flexural strength ¹⁾ ⊥ -100°C	ISO 178	MPa	510
Modulus of elasticity in flexion ¹⁾ ⊥ 0°C	ISO 178	MPa	18000
Compressive strength ⊥ 0°C	ISO 604	MPa	450
Compressive strength ⊥ +50°C	ISO 604	MPa	400
Compressive strength ⊥ +100°C	ISO 604	MPa	250
Compressive strength ⊥ +150°C	ISO 604	MPa	180
Compressive strength ⊥ -50°C	ISO 604	MPa	550
Compressive strength ⊥ -100°C	ISO 604	MPa	650
Compressive strength ⊥ -150°C	ISO 604	MPa	750 ²⁾
Compressive strength ⊥ -196°C	ISO 604	MPa	850 ²⁾
Tensile strength II RT	ISO 527	MPa	180

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Print: 06/05/2024 • Release: 20/09/2023 • Version: 1.0

PIM-Version: 385 • PIM-ID: 716643 • PIM-Code: 385-41-7.7-2.4.4.9-20



	Test method	Unit	Guideline value
Impact strength \perp (Charpy) RT	ISO 179	kJ / m ²	200
Shear strength II RT	DIN EN 60893	MPa	25
Thermal properties			
Thermal conductivity \perp RT		W / (m * K)	≈ 0,38 ^{2) 3)}
Thermal conductivity \perp -50°C		W / (m * K)	≈ 0,35 ^{2) 3)}
Thermal conductivity \perp -196		W / (m * K)	≈ 0,27 ^{2) 3)}
Physical properties			
Water absorption (method I)	ISO 62	%	< 0,2

= perpendicular to the lamination II = parallel to the lamination

¹⁾ Sample size 80 x 10 x 4 mm, support distance 64 mm, tension zone unmachined

²⁾ Extrapolated value

³⁾ Thermal conductivity calculated by means of reference measurements on samples of 300 x 200 x 10 mm

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