Technical Data Sheet

Durolight® S2

Typical characteristics

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

Typical industries

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

	Test method	Unit	Guideline value
Mechanical properties			
Density	ISO 1183	g / cm³	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
Impact strength ⊥ (Charpy) RT	ISO 179	kJ / m²	200

	Test method	Unit	Guideline value
Shear strength II RT	DIN EN 60893	MPa	25
Thermal properties			
Thermal conductivity ⊥ RT		W / (m * K)	≈ 0,38 [2) 3)]
Thermal conductivity ⊥ -50°C		W / (m * K)	≈ 0,35 [2) 3)]
Thermal conductivity ⊥ -196		W / (m * K)	≈ 0,27 [2) 3)]
Physical properties			
Water absorption (method 1)	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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