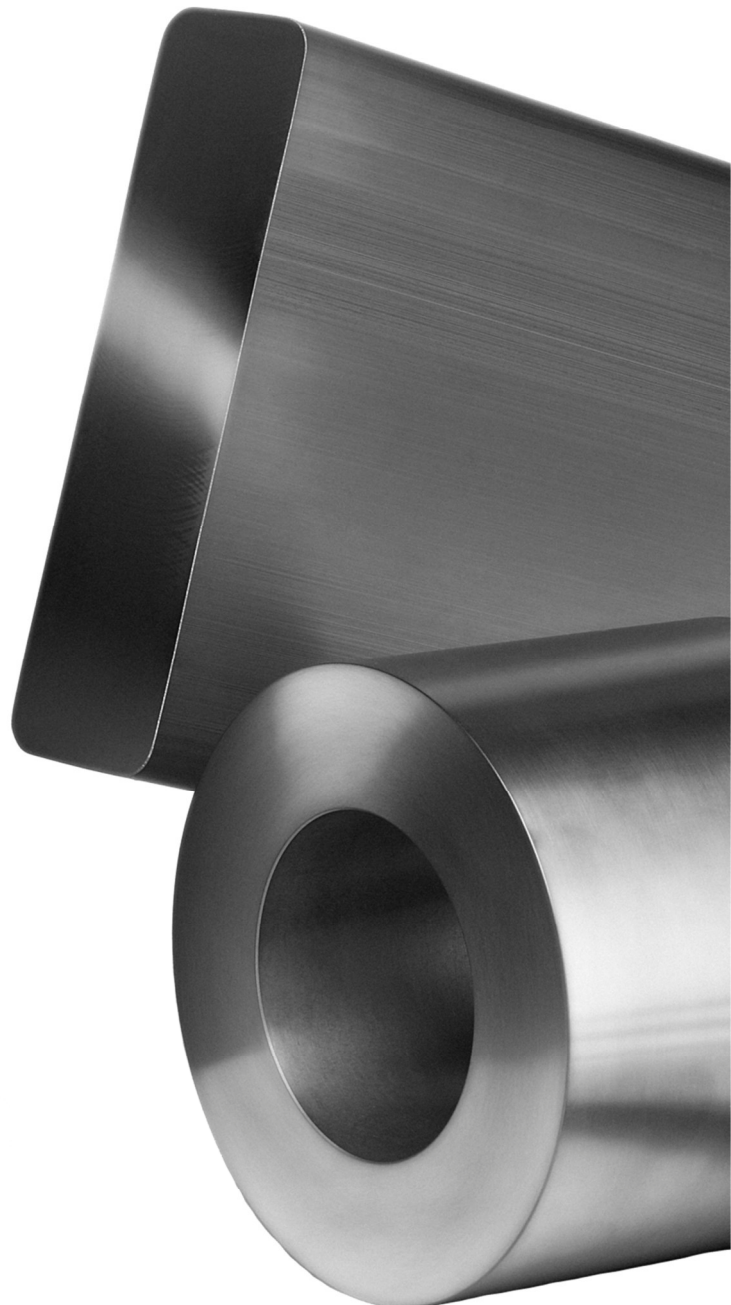


DATA SHEET: GPM-4.3.0-DB-012 Rev. 00 (replaced P-4.3-DB-012)

DISPAL[®] S250

The physical and mechanical properties depend on geometry and the production process. All mechanical properties are preliminary minimal values (average minus 3 Sigma) taken from specimen Ø30mm and for all other geometries only for reference.



PHYSICAL PROPERTIES

(At 20°C)

Property	Unit	Value
Density	g/cm ³	2.78 ± 5%
Electrical conductivity	MS/m	14.4 ± 0.5
	%IACS	24.8 ± 0.9
Heat capacity	J/gK	0.81 ± 0.02

THERMAL CONDUCTIVITY

Temperature (°C)	30	100	200	300	400
Value (W/mK)	122.7	119.3	116.6	113.6	108.4

COEFFICIENT OF THERMAL EXPANSION

Property	Unit	Value
CTE-value 20 to 100°C	10 ⁻⁶ /K	16.9 ± 0.5
CTE-value 20 to 200°C	10 ⁻⁶ /K	17.6 ± 0.5
CTE-value 20 to 300°C	10 ⁻⁶ /K	18.3 ± 0.5

THERMAL DATA'S

Solidus temperature = (571.9 ± 3)°C

Liquidus temperature = (780.5 ± 3)°C

MECHANICAL PROPERTIES

HEAT TREATMENT CONDITION F: (minimum values)

Property	Unit	Temperature					
		20°C	100°C	150°C	200°C	250°C	300°C
Tensile strength, Rm	MPa	334	308		235	150	103
Yield strength, Rp0,2	MPa	205	200		174	100	54
Elongation, A5	%	2.7	3.2		6.7	10.0	10.7
Young's modulus, E	GPa	95	73		68	60	49
Hardness	HV30	105	-	-	-	-	-

EXEMPLARY VALUES IN CONDITION F: (mean values)

Shear modulus, G	GPa	38	37	36	35	34	33
Poisson's ratio, μ		0.318	0.323	0.326	0.327	0.329	0.334

FATIGUE STRENGTH IN CONDITION F: (P50% rotary bending values for 5x10⁷ cycles)

Property	Unit	Temperature					
		20°C	100°C	150°C	200°C	250°C	300°C
σ_{bW}	MPa	108					