

Technical Data Sheet

AMPCO[®] 18.22

Sand Castings

Nominal composition:

Aluminium	(Al)	10.5%
Iron	(Fe)	3.5%
Others		max.0.5%
Copper	(Cu)	balance

Mechanical and physical properties	Units	Nominal Values
Tensile strength R_m	MPa	724
Yield strength $R_{p0.5}$	MPa	379
Elongation A_5	%	8
Brinell hardness	HBW 10/3000	223
Rockwell hardness	HRB	97
Reduction of area ψ	%	6
Compressive strength R_{mc}	MPa	1069
Proportional limit in compression R_{pc}	MPa	345
Shear strength R_{cm}	MPa	414
Modulus of elasticity E	GPa	110
Charpy a_K	J	8
Izod a_K	J	13.5
Fatigue (100'000'000 cycles) σ_N	MPa	248
Density ρ	g / cm ³	7.45
Coefficient of expansion α	10 ⁻⁶ / K	16.2
Thermal conductivity λ	W / m · K	59
Electrical conductivity γ	m / Ω · mm ²	7.5
Electrical conductivity	% I.A.C.S.	13
Specific heat c_p	J / g · K	0.42

Assurances given with respect to properties or uses are subject to written approval from AMPCO METAL.

By varying the heat treatment and by close control of all operations, the characteristic duplex structure of AMPCO[®] 18 is refined to produce a material AMPCO[®] 18.22 having substantially higher ultimate strength, yield strength and hardness.

APPLICATIONS:

AMPCO[®] 18.22 has been developed to meet the exact requirements of the aircraft industry for an alloy having increased physical properties, hardness and sufficient elongation to withstand important impacts and loads. It is recommended for use as bushings, bearings liners, inserts, piston parts, nuts and slides, etc.