

# Technical Data Sheet

## AMPCO<sup>®</sup> 18.22

### Centrifugals

**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	793
Yield strength $R_{p0.5}$	MPa	407
Elongation $A_5$	%	10
Brinell hardness	HBW 10/3000	228
Rockwell hardness	HRB	98
Reduction of area $\psi$	%	8
Compressive strength $R_{mc}$	MPa	1069
Compressive strength, 0.1% perm. set	MPa	441
Proportional limit in compression $R_{pc}$	MPa	338
Shear strength $R_{cm}$	MPa	427
Modulus of elasticity E	GPa	110
Charpy $a_K$	J	11
Izod $a_K$	J	16.3
Fatigue (100'000'000 cycles) $\sigma_N$	MPa	248
Density $\rho$	g / cm <sup>3</sup>	7.45
Coefficient of expansion $\alpha$	10 <sup>-6</sup> / K	16.2
Thermal conductivity $\lambda$	W / m · K	59
Electrical conductivity $\gamma$	m / $\Omega$ · mm <sup>2</sup>	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<sup>®</sup> 18 is refined to produce a material AMPCO<sup>®</sup> 18.22 having substantially higher ultimate strength, yield strength and hardness.

**APPLICATIONS:**

AMPCO<sup>®</sup> 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.