

# Technical Data Sheet

## AMPCO<sup>®</sup> 18.23

### Continuous Cast

**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	741
Yield strength $R_{p0.5}$	MPa	375
Elongation $A_5$	%	15
Brinell hardness	HBW 10/3000	204
Rockwell hardness	HRB	94
Reduction of area $\psi$	%	15
Proportional limit $R_p$	MPa	214
Compressive strength $R_{mc}$	MPa	1034
Proportional limit in compression $R_{pc}$	MPa	310
Shear strength $R_{cm}$	MPa	410
Modulus of elasticity $E$	GPa	110
Charpy $a_K$	J	15.0
Izod $a_K$	J	22
Fatigue (100'000'000 cycles) $\sigma_N$	MPa	241
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.

This heat-treated alloy is the ultimate in high-strength bronzes requiring good bearing characteristics and exceptional wear resistance.

It has greater toughness than grade AMPCO<sup>®</sup> 18.22 and better physical properties than grades AMPCO<sup>®</sup> 18 or AMPCO<sup>®</sup> 18.136. Its exceptional proportional limit gives it a maximum resistance to distortion, enabling the designer to take full advantage of its high physical properties.

**APPLICATIONS:**

AMPCO<sup>®</sup> 18.23 gives a successful performance under heavy loads and impact conditions and makes it a preferred material for heavy-duty worm gears and similar applications.