

# Technical Data Sheet

## AMPCO<sup>®</sup> 18.23

### 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 $R_m$	KSI	105
Yield strength $R_{p 0.5}$	KSI	53
Elongation in 2"	%	14
Brinell hardness	BHN 30	202
Rockwell hardness	HRB	94
Reduction of area $\psi$	%	14
Proportional limit $R_p$	KSI	31
Compressive strength ultimate $R_{mc}$	KSI	150
Proportional limit in compression $R_{pc}$	KSI	45
Shear strength $R_{cm}$	KSI	58
Modulus of elasticity E	KSI	16000
Charpy $a_K$	LBS.FT	10
Izod $a_K$	LBS.FT	15
Fatigue (100'000'000 cycles) $\sigma_N$	KSI	34
Density $\rho$	LBS / IN <sup>3</sup>	0.269
Coefficient of expansion $\alpha$	IN / IN / °F	$9 \cdot 10^{-6}$
Thermal conductivity $\lambda$	CGS	0.141
Electrical resistivity $\gamma$ (1mm <sup>2</sup> section)	Microhms/ Meter	133
Electrical conductivity	% I.A.C.S.	13
Specific heat $c_p$	BTU / LB · °F	0.1

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.