

# Technical Data Sheet

## AMPCO<sup>®</sup> 18.136

### 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	620
Yield strength $R_{p0.5}$	MPa	269
Elongation $A_5$	%	18
Brinell hardness	HBW 10/3000	166
Rockwell hardness	HRB	86
Reduction of area $\psi$	%	18
Compressive strength $R_{mc}$	MPa	965
Proportional limit in compression $R_{pc}$	MPa	221
Shear strength $R_{cm}$	MPa	379
Modulus of elasticity E	GPa	110
Charpy $_{ak}$	J	19
Izod $_{ak}$	J	27
Fatigue (100'000'000 cycles) $\sigma_N$	MPa	207
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 / $\Omega \cdot mm^2$	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.

AMPCO<sup>®</sup> 18.136 is a variation of AMPCO<sup>®</sup> 18 specifically heat-treated to increase the impact resistance by 40 % (see Charpy values) and the elastic limit in compression by 10 % without affecting the tensile strength of the alloy.

**APPLICATIONS:**

This AMPCO<sup>®</sup> 18.136 has been tailor-made for steel mill applications as slippers and screw-down nuts and for similar applications where an extreme wear pressure is combined with important impact loading.