

Technical Data Sheet

AMPCO 18 - 136

Sand and Centrifugal Castings

Nominal composition

Aluminium (Al)	10.50 %
Iron (Fe)	3.50 %
Others	0.50 % max.
Copper (Cu)	balance

Mechanical and physical properties	Units	Sand Castings	Centrifugals
1) Tensile strength R_m	MPa	620 (586)	689 (620)
2) Yield strength $R_{p0.2}$	MPa	269 (248)	289 (262)
3) Elongation A_5	%	18 (15)	20 (16)
4) Brinell hardness	HB 30	166 (140)	170 (146)
5) Rockwell hardness	HRB	86 (78)	87 (80)
6) Reduction of area ψ	%	18	20
7) Compressive strength R_{mc}	MPa	965	979
8) Proportional limit in compression R_{pc}	MPa	221	221
9) Shear strength R_{cm}	MPa	379	386
10) Modulus of elasticity E	GPa	110	110
11a) Charpy a_K	J	19	22
11b) Izod a_K	J	27	30
12) Fatigue (100'000'000 cycles) σ_N	MPa	207	214
13) Density ρ	g / cm^3	7.45	
14) Coefficient of expansion α	$10^{-6} / K$	16.2	
15) Thermal conductivity λ	$W / m \cdot K$	59	
16a) Electrical conductivity γ	$m / \Omega \cdot mm^2$	7.5	
16b) Electrical conductivity I.A.C.S	%	13	
17) Specific heat C_p	$J / g \cdot K$	0.42	

Indicated values are nominals. Minima are given in brackets. Assurances given with respect to properties or uses are subject to written approval from AMPCO.

AMPCO 18 - 136 is variation of AMPCO 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 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.

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