

Technical Data Sheet

AMPCO® 18

Extruded and drawn rounds and rectangular bars

Nominal composition:

Aluminium	(Al)	10.5%
Iron	(Fe)	3.5%
Others		max. 0.5%
Copper	(Cu)	balance

Mechanical and physical properties	Units	Nominal Values			
		Ø ≤ 1/2"	Ø 1/2"- 1"	Ø 1"-3"	Rectang. bars
Tensile strength R _m	KSI	108	105	95	100
Yield strength R _{p 0.5}	KSI	55	53	49	51
Elongation in 2"	%	12	14	14	14
Brinell hardness	HBW 10/3000	202	192	187	192
Rockwell hardness	HRB	94	92	91	92
Reduction of area ψ	%	12	14	14	12
Compressive strength ultimate R _{mc}	KSI	147	145	142	142
Compressive strength, 0.1 % perm. set	KSI	...	91
Proportional limit in compression R _{pc}	KSI	36	35	32	34
Shear strength R _{cm}	KSI	65	65	62	62
Modulus of elasticity E (tension)	KSI	17000	17000	17000	17000
Charpy _{aK} keyhole	FT.LBS	8.85	10.32	10.3	9.58
Izod _{aK}	FT.LBS	14.01	16.22	16.22	14.75
Fatigue (100'000'000 cycles) σ _N	KSI	36	36	35	36
Density ρ	LBS / IN ³	0.269			
Coefficient of expansion α	IN / IN / °F	9.00 · 10 ⁻⁶			
Thermal conductivity λ	CGS	0.15			
Electrical resistivity γ (1mm ² section)	μΩ.cm	14.3			
Electrical conductivity	% I.A.C.S.	12			
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.

Compact grain structure and high physical properties result from proper phase distribution and hot working of AMPCO® 18 during the extrusion process. These qualities enable this alloy to perform successfully in an extremely wide range of difficult applications. It is an excellent bearing material characterized by good resistance to wear and fatigue.

APPLICATIONS:

AMPCO® 18 rod is produced with a good surface finish to commercial tolerances and can be used economically for volume-production applications.

AMPCO® 18 is ideally suited where high strength and hardness combined with wear and fatigue resistance are required. Some of the more common applications of this alloy are bushings, bearings, gears, worm wheels, valve seats and guides, hydraulic valve parts, pump rods, guide pin bushings, gibs and slides, etc.