Technical Data Sheet

AMPCO® M4

Forged rounds

Chemistry may vary as necessary to reach properties.

Mechanical and physical properties	Units	Nominal Values
Tensile strength R_m	KSI	116
Yield strength $Rp_{0.2}$	KSI	72
Elongation A_5	%	5
Brinell hardness	HBW 10/3000	260
Rockwell hardness	HRC	26
Reduction of area ψ	%	12
Compressive strength R_{mc}	KSI	192
Compressive strength, 0.1 % perm. set	KSI	100
Shear strength R_{cm}	KSI	78
Modulus of elasticity E	GPa	124
Charpy $_{aK}$	LBS.FT	5
Fatigue (100'000'000 cycles) σ_N	KSI	51
Density ρ	LBS / IN³	0.27
Coefficient of expansion α	10^{-6} / °F	9
Thermal conductivity λ	CGS	0.1
Electrical resistivity γ (1mm² section)	m / Ω · mm²	4.8
Electrical conductivity	% I.A.C.S.	8.2
Specific heat c_p	BTU / LB. °F	0.107

Assurances given with respect to properties or uses are subject to written approval from AMPCO METAL.

The patented process gives AMPCO® M4 mechanical properties beyond the range of commercial nickel-aluminium bronzes, comparable to beryllium copper at a lower cost and without the beryllium copper industrial hygiene requirements.

APPLICATIONS:

AMPCO® M4 was initially developed as an aircraft specification alloy for gears in retractable landing assemblies, engine spacer bearings and other similar applications. It is rapidly growing in use where higher mechanical properties at elevated temperatures together with corrosion-resistant properties are required.

Typical applications include aircraft landing gear bearings and bushings, bending dies (shoes and mandrels) for the tube bending industry, gear wheels and wear/guide plates, etc..