Technical Data Sheet

AMPCO® M4

Forgings plates

Chemistry may vary as necessary to reach properties.

Mechanical and physical properties	Units	Nominal Values	
		Thickn. ⩽ 6"	Thickn. 6" - 8"
Tensile strength R_m	KSI	113	108
Yield strength $Rp_{0.5}$	KSI	66	61
Elongation in 2"	%	4	3
Brinell hardness	BHN 30	260	250
Rockwell hardness	HRC	26	25
Reduction of area ψ	%	4	3
Compressive strength R_{mc}	KSI	174	159
Compressive strength, 0.1 % perm. set	KSI	104	98
Shear strength R_{cm}	KSI	76	75
Modulus of elasticity E	KSI	17400	16000
Charpy $_{aK}$	LBS.FT	3.7	3
Fatigue (100'000'000 cycles) σ_N	KSI	36	35
Density ρ	LBS / IN³	0.269	
Coefficient of expansion α	IN / IN / °F	$9 \cdot 10^{-6}$	
Thermal conductivity λ	BTU / FT.HR. °F	73	
Electrical resistivity γ (1mm² section)	Microhms/ m	208	
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..