

Technical Data Sheet

AMPCO[®] 21

Extruded and drawn rounds and rectangular bars



Nominal composition:

Aluminium	(Al)	13.1%
Iron	(Fe)	4.4%
Manganese	(Mn)	2.0%
Others		max. 0.5%
Copper	(Cu)	balance

Mechanical and physical properties	Units	Nominal Values		
		Ø ≤ 2"	Ø 2" – 3"	Rectangular bars
Tensile strength R _m	KSI	110	105	110
Yield strength R _{p 0.5}	KSI	61	59	61
Elongation in 2"	%	1	1	1
Brinell hardness	BHN 30	286	286	286
Rockwell hardness	HRC	29	29	29
Reduction of area ψ	%	0.5
Compressive strength R _{mc}	KSI	178	...	161
Compressive strength, 0.1 % perm. set	KSI	61	...	50
Proportional limit in compression R _{pc}	KSI	29
Shear strength R _{cm}	KSI	60
Modulus of elasticity E	KSI	16000	16000	16000
Charpy _{aK}	LBS.FT	2	2	2
Izod _{aK}	LBS.FT	2	2	2
Density ρ	LBS / IN ³	0.26		
Coefficient of expansion α	IN / IN / °F	9 · 10 ⁻⁶		
Thermal conductivity λ	CGS	0.109		
Electrical resistivity γ (1 mm ² section)	Microhms/ m	167		
Electrical conductivity	% I.A.C.S.	10		
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.

The increase in the Al and Fe content results in a material in which the hard gamma 2 phase (about 400 HB) is present.

By proper metallurgical control this hard constituent is uniformly distributed giving this alloy its ability to resist wear.

APPLICATIONS:

AMPCO METAL EXCELLENCE IN ENGINEERED ALLOYS

info@ampcometal.com

www.ampcometal.com

AMPCO® 21 is used for guide port bushings and wear strips replacing hardened steel and for some cams when no impact is involved. However, the largest single use is as die rings, inserts, forming rolls etc. in forming, bending or drawing operations, especially when stainless steel is the material being processed.



This material is also widely used as work support blades for the centreless grinding of steel rods.

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