Technical Data Sheet

AMPCO® 21

Forgings

Nominal composition:

Aluminium	(Al)	13.1%
Iron	(Fe)	4.4%
Others		max. 2.5%
Copper	(Cu)	balance

Mechanical and physical properties	Units	Nominal Values
Tensile strength R_m	KSI	105
Yield strength $Rp_{0.5}$	KSI	59
Elongation in A_5	%	1
Brinell hardness	BHN 30	295
Rockwell hardness	HRC	31
Reduction of area ψ	%	0.5
Compressive strength R_{mc}	KSI	194
Shear strength R_{cm}	KSI	65
Modulus of elasticity	KSI	16000
Charpy $_{aK}$	LBS.FT	2
Izod $_{aK}$	LBS.FT	2
Density ρ	LBS / IN³	0.26
Coefficient of expansion α	IN / IN / °F	$9 \cdot 10^{-6}$
Thermal conductivity λ	CGS	0.1
Electrical resistivity γ (1 mm^2 section)	Microhms/ Meter	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® 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.
AMPCO® 21 is also widely used as work support blades for the centreless grinding of steel rods.