

Technical Data Sheet

AMS 4880

Horizontal Continuous Castings

Nominal composition:

Aluminium	(Al)	10.0%
Iron	(Fe)	2.5%
Nickel	(Ni)	5.0%
Manganese	(Mn)	1.0%
Others		max. 0.8%
Copper	(Cu)	balance

Mechanical and physical properties	Units	Nominal Values
Tensile strength R_m	MPa	724
Yield strength $R_{p0.5}$	MPa	431
Elongation A_5	%	9
Brinell hardness	HBW 10/3000	223
Rockwell hardness	HRB	97
Reduction of area ψ	%	6
Compressive strength R_{mc}	MPa	1069
Compressive strength, 0.1 % perm. set	MPa	421
Shear strength R_{cm}	MPa	414
Modulus of elasticity E	GPa	108
Charpy a_K	J	9
Fatigue (100'000'000 cycles) σ_N	MPa	238
Density ρ	g / cm ³	7.53
Coefficient of expansion α	10 ⁻⁶ / K	16.2
Thermal conductivity λ	W / m · K	46
Electrical conductivity γ	m / Ω · mm ²	5
Electrical conductivity	% I.A.C.S.	9
Specific heat c_p	J / g · K	0.45

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

The patented process gives AMS 4880 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:

AMS 4880 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..

Specification: AMS 4880 for castings