



Technical Data Sheet

AMPCO 674 and AMPCO 673

Manganese bronze alloys

Description

These are wrought zinc-manganese-silicon-lead-copper alloys which are widely specified for a variety of bearing and/or corrosive applications: bushings, gears, cams, nuts and bolts, connector rods, idler shafts and other shafting, worm gears, feed fingers, lead nut screws, etc.

Both alloys have excellent capacity for hot forming, with hot forgeability ratings of 100. Ampco 674 exhibits a machinability rating of 25%, while Ampco 673 has a considerably higher rating of 80%.

This significant difference in the two materials is in the higher lead content of Ampco 673 which increases that alloy's machinability but decreases its tensile and yield values.

Specifications

Ampco 674	Ampco 673
UNS C-67400	UNS C-67300

Nominal Chemistry

Ampco 674	Ampco 673
Cu 57.5	Cu 60.0
Zn 37.0	Zn 34.0
Mn 2.5	Mn 2.5
Al 1.6	Pb 2.2
Si 0.7	Si 1.0
Pb 0.4	

Mechanical Properties

(Based on nominal test bar values)

	Ampco	Ampco
Tensile Strength	620	517
Yield Strength	400	379
Elongation (% in	12	15
Hardness BHN (3000 kg)	183	153

Physical Properties

	Ampco 674	Ampco 673
Density (lbs/cu in)	.292	.300
Specific Gravity (kg/dm ³)	8.08	8.35
Coef. of Thermal Expansion (1/°C)	19.8 x 10 ⁻⁶	18.9 x 10 ⁻⁶
Thermal Conductivity (W/m.°K @20°C)	100	83
Electrical Conductivity (% IACS @ 20°C)	23	18
Thermal Capacity (J/g.°K @ 20°C)	.38	.38
Modulus of Elasticity E (GPa)	110	110
Modulus of Rigidity (GPa)	41	41

