Technical Data

AMPCO® 863

Continuous cast manganese bronze

Description

Ampco 863 gives high strength and corrosion resistance which makes this alloy ideal for heavy duty construction markets.

It will outperform and outlast ordinary bronzes and should be used also for bearings, worm gears, cams**,** connector rods, lead screw nuts, etc.

Superior corrosion resistance and high strength lends this alloy to many construction and agricultural equipment applications.

Segmented bushings and sleeve bearings are the main applications of **Ampco 863.**

The consistent superiority of Ampco 863 alloy over commercial bronze is due, in large part, to the unique distribution of alloy microstructure, often referred to as the "Ampco-Phase." Only Ampco alloys offer this metallurgical advantage.

Chemistry

Copper 62%, Aluminum 6%, Manganese 3%, Iron 3%, Zinc 26%

Mechanical Properties

Tensile Strength (KSI)	105
Yield Strength 0.5% elong. (KSI)	53
Elongation (% in 2'')	18
Hardness BHN (3000 kg)	225
Rockwell Hardness (by conversion) (HRB)	95
Reduction of area (%)	15
Proportional Limit (KSI)	28
Impact-Charpy (keyhole) (FT.LBS)	9
Izod (FT.LBS)	12
Modulus of Elasticity (tension), (KSI)	16000
Fatigue (100'000'000 cycles) (KSI)	20
Ultimate of compression (KSI)	140
Elastic Limit of compression (KSI)	60

Physical Properties

Density (lbs./in.^{3})	.283
Specific Gravity (kg/dm^3)	7.83
Specific Heat (BTU/LB.°F at 68°F)	.09
Coefficient of Thermal Expansion (IN./IN./°F) (68-572°F)	12 x 10^{-6}
Electrical Conductivity (% IACS) at 68°F	10
Electrical Resistivity (Microhms/Meter @ 68°F)	172
Thermal Conductivity (Btu/sq.ft./ft./hr./°F @68ºF)	71
Magnetic Permeability	1.09

Specification

ASTM	B505

For further information, contact:
Ampco Metal Incorporated
1117 E. Algonquin Road
Arlington Heights, IL 60005
Phone: 847-437-6000
Fax: 847-437-6008