CuAl10Fe3Mn2-C

Aluminum Bronze

Brand Name
CUPRAL 3

Standardization:
DIN EN 1982 / CC332G / C95400

ALLOY DESCRIPTION

CuAl10Fe3Mn2-C is a high performance Aluminum Bronze alloy strengthened with iron and manganese additions. While the addition of iron significantly increases the mechanical properties by reducing the grain size, the addition of manganese ensures the stability of the structure at high temperatures. With its excellent wear and corrosion resistance, it is used extensively in heavy industry, construction machinery and marine applications.

CHEMICAL COMPOSITION (% WEIGHT)

Cu (%)	Al (%)	Fe (%)	Mn (%)	Ni (%)	Zn (%)
Remainder	9.0-11.5	2.0-4.5	1.5-3.5	max. 1.5	max. 0.5

MECHANICAL PROPERTIES (MIN.)

Tensile Strength (R_m)	**600 - 700 [N/mm²]**
Yield Strength ($R_{p0.2}$)	**270 - 350 [N/mm²]**
Elongation (A_5)	**min. 10 - 15 [%]**
Hardness (HBW)	**min. 140 - 170 [HB]**

PHYSICAL PROPERTIES

Density	**7.50 [kg/dm³]**
Melting Temperature	**1010 – 1050 [°C]**
Elk. Conductivity	**7 - 9 [MS/m]**
Elasticity Modulus	**120 [kN/mm²]**

CASTING METHODS

GS	**sand casting**
GM	**Permanent mold casting**
GZ	**Centrifugal casting**
GC	**continuous casting**

AREAS OF APPLICATION

- Construction Machinery Bushings
- Heavy Load Bearings
- Hydraulic Cylinder Components
- Ship Propeller Hubs
- High Temperature Parts

MACHINABILITY & CHARACTERISTICS

This alloy, whose grain structure becomes thinner thanks to the iron additive, offers superior wear resistance along with high toughness. It is extremely resistant to corrosive environments, especially sea water and impact loads. It is a reliable engineering material preferred in heavy machinery, mining and construction equipment.

CORUM BRONZE

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