



# CuZn25Al5Mn4Fe3-C

Manganese Bronze

Brand Name

**KUZRAL 4**

Standardization:

**DIN EN 1982 / CC762S / C86200**

## ALLOY DESCRIPTION

CuZn25Al5Mn4Fe3-C is a high-strength special brass alloy strengthened by the addition of aluminum, manganese and iron. It offers much higher tensile strength compared to tin bronzes. It is widely used in marine, heavy machinery and defense industry applications with its superior resistance to sea water and corrosive environments. Thanks to its manganese content, it exhibits a stable structure at high temperatures.

## CHEMICAL COMPOSITION (% WEIGHT)

Cu (%)	Zn (%)	Al (%)	Mn (%)	Fe (%)	Ni (%)
57.0-64.0	Remainder	4.0-6.0	3.0-5.0	2.0-4.0	max. 1.5

## MECHANICAL PROPERTIES (MIN.)

Tensile Strength ( $R_m$ )	<b>700 - 800 [N/mm<sup>2</sup>]</b>
Yield Strength ( $R_{p0.2}$ )	<b>400 - 500 [N/mm<sup>2</sup>]</b>
Elongation ( $A_5$ )	<b>min. 10 - 15 [%]</b>
Hardness (HBW)	<b>min. 150 - 200 [HB]</b>

## PHYSICAL PROPERTIES

Density	<b>7.50 [kg/dm<sup>3</sup>]</b>
Melting Temperature	<b>880 - 920 [°C]</b>
Elk. Conductivity	<b>5 - 7 [MS/m]</b>
Elasticity Modulus	<b>115 [kN/mm<sup>2</sup>]</b>

## CASTING METHODS

GS	<b>sand casting</b>
GM	<b>Permanent mold casting</b>
GZ	<b>Centrifugal casting</b>
GC	<b>continuous casting</b>

## AREAS OF APPLICATION

Worm Gears

Heavy Duty Bushings

Hydraulic Equipment

Ship Propeller Systems

Defense Industry Parts

## MACHINABILITY & CHARACTERISTICS

It offers approximately twice the tensile strength compared to tin bronzes. It shows excellent corrosion resistance against seawater, acid and alkaline environments. Although its machinability is at a satisfactory level, the use of hard cutting tools is recommended.

The technical information specified in this document reflects the standard reference values of international EN and DIN norms. Deviations may be observed depending on final production conditions.

**CORUM BRONZE**

E-mail : [info@corumbronz.com](mailto:info@corumbronz.com) | Web : [www.corumbronz.com](http://www.corumbronz.com)