

# Wieland-GB1

CuSn12Ni2-C-GC | Cast bronze

## Material designation

EN CuSn12Ni2-C-GC  
CC484K

UNS –

## Chemical composition\*

Cu 85 %

Sn 12 %

Ni 2 %

\*Reference values in % by weight

## Material properties and typical applications

**Wieland-GB1** is a very wear-resistant, tough-hard and corrosion-resistant material. It is mainly used in worm and spiral gears, fittings and pump castings, couplings, nuts subjected to high loads and in construction elements subjected to cavitation.

## Physical properties\*

Electrical conductivity MS/m 6  
%IACS 10

Thermal conductivity W/(m·K) 50

Thermal expansion coefficient (0–300 °C) 10<sup>-6</sup>/K 17.9

Density g/cm<sup>3</sup> 8.9

Modulus of elasticity GPa 100

\*Reference values at room temperature

## Types of delivery

The BU Extruded Products supplies bars, wire, sections and tubes. Please get in touch with your contact person regarding the available delivery forms, dimensions and tempers.

## Fabrication properties

### Forming

Machinability 70 %  
(CuZn39Pb3 = 100 %)

Capacity for being cold worked not possible

Capacity for being hot worked not possible

### Heat treatment

Melting range 830–1010 °C  
Thermal stress relieving 250–400 °C  
1–3 h

## Corrosion resistance

Cast alloys belong to the most corrosion-resistant copper alloys. They exhibit excellent resistance to atmospheric influences, carbonic acid and saline water. Also important is their resistance to seawater and their insensitivity to stress corrosion cracking.

## Mechanical properties, reference values

	Tensile strength R <sub>m</sub> MPa	Yield strength R <sub>p0.2</sub> MPa	Elongation A %	Hardness HBW
Continuous casting	300	180	10	95

## Product standards

Cast alloys EN 1982