

# eco SD4

Lead-free special brass

## Material designation

|     |                  |
|-----|------------------|
| EN  | not standardized |
| UNS | not standardized |

## Chemical composition\*

|    |            |
|----|------------|
| Cu | 58 %       |
| Mn | 2 %        |
| Al | 1.5 %      |
| Pb | ≤ 0.1000 % |
| Si | 0.5 %      |
| Zn | balance    |

\*Reference values in % by weight

## Physical properties\*

|   |                     |           |
|---|---------------------|-----------|
| Electrical conductivity                   | MS/m<br>%IACS       | 7.8<br>13 |
| Thermal conductivity                      | W/(m·K)             | 81.7      |
| Thermal expansion coefficient (20–300 °C) | 10 <sup>-6</sup> /K | 20.4      |
| Density                                   | g/cm <sup>3</sup>   | 8.1       |
| Modulus of elasticity                     | GPa                 | 93        |

\*Reference values at room temperature

## Corrosion resistance

Special brass generally exhibits excellent corrosion resistance due to alloying additions. Eco SD4 is characterized by good resistance to organic substances and neutral or alkaline compounds.

## Product standards

not standardized

## Material properties and typical applications

Eco SD4 is a special brass with very high wear resistance due to silicides embedded in the structure. This alloy is used for slide bearings and valve guides as well as for construction components in mechanical engineering. Eco SD4 is also highly suitable for hot stamped parts requiring higher mechanical strength and higher wear resistance.

The material is lead free according to RoHS and ELV.

## 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 tempsers.

## Fabrication properties

### Forming

|                                   |           |
|-----------------------------------|-----------|
| Machinability (CuZn39Pb3 = 100 %) | 45 %      |
| Capacity for being cold worked    | poor      |
| Capacity for being hot worked     | excellent |

### Joining

|                                |      |
|--------------------------------|------|
| Resistance welding (butt weld) | good |
| Inert gas shielded arc welding | good |
| Gas welding                    | fair |
| Hard soldering                 | poor |
| Soft soldering                 | poor |

### Surface treatment

|                |      |
|----------------|------|
| Polishing      |      |
| mechanical     | good |
| electrolytic   | poor |
| Electroplating | fair |

### Heat treatment

|                          |                     |
|--------------------------|---------------------|
| Melting range            | 875–910 °C          |
| Hot working              | 600–700 °C          |
| Soft annealing           | 500–650 °C<br>1–3 h |
| Thermal stress relieving | 350–450 °C<br>1–3 h |

## Mechanical properties

The mechanical properties are equivalent to Wieland-S40 / CW713R.

## Trademarks

wieland ecoline