



Certificate No : MD00/2824/0007/7b

GÖPFERT AG
Armaturenfabrik und Metallgießerei
Industriestraße
25795 Weddingstedt
Germany

has been approved as a manufacturer in accordance with the requirements of Lloyd's Register for :-

Copper Alloy Castings for Valves, Liners, Bushes and Fittings

This approval is subject to compliance with the Rules for the Manufacture, Testing and Certification of Materials. The full details of the processes and grades to which this approval applies are given in the Appendix of this certificate.

Lloyd's Register is to be notified of any change that may affect the validity of this Certificate.

This Certificate is issued to the above manufacturer and is valid until the date given below.

Valid Until : 14 September 2019
Date of Issue : 13 February 2017

A handwritten signature in blue ink, appearing to read 'Clive Arnold', written over a horizontal line.

Clive Arnold
Senior Metallurgical Specialist to Lloyd's Register EMEA
A member of the Lloyd's Register group



Certificate No : MD00/2824/0007/7b
Appendix 1
GÖPFERT AG
Armaturenfabrik und Metallgießerei
Industriestraße
25795 Weddingstedt
Germany

| Long freezing range alloys | Alloy Type | Designation | tonnes Maximum |
|-----------------------------|------------------|---|------------------------------|
| | Phosphor bronze | CuSn10PbP* CuSn10P* CuSn11P | 0.50 0.50 0.50 |
| | Gunmetal | CuSn10Zn2 | 0.50 |
| | Leaded gunmetal | CuSn5Pb5Zn5 CuSn7Pb3Zn3* | 0.50 0.50 |
| | Leaded bronze | CuSn10Pb10 CuSn5Pb9 CuSn9Pb15* CuSn5Pb20 | 0.50 0.50 0.50 0.50 |
| Short freezing range alloys | Alloy Type | Designation | tonnes Maximum |
| | Aluminium bronze | Cu Al10Fe5Ni5 | 0.50 |

Approval covers alloy designations CuSn5Zn5Pb5-C, G-CuSn10Zn, CuSn10-C, CuAl10Fe5Ni5-C and CuSn5Zn5Pb2-C. Maximum casting weight 0.5 tonnes.

Valid Until : 14 September 2019
Date of Issue : 13 February 2017

Clive Arnold
Senior Metallurgical Specialist to Lloyd's Register EMEA
A member of the Lloyd's Register group