



Copper Alloy Castings For Valves, Liners, Bushes And Fittings

Manufacturer	Metallguss Sulingen GmbH
Address	Schwafoerdener Weg 50, Sulingen, 27232, Germany
Type	Long Freezing Range Alloys Short Freezing Range Alloys
Scope of Approval	Copper Alloy Castings for Valves, Liners, Bushes and Fittings Long freezing range alloys: Phosphor bronze, Gunmetal, Leaded gunmetal and Leaded bronze, details as per Appendix. Short freezing range alloys: Copper 30% Nickel, Copper 10% Nickel and Aluminium bronze, details as per Appendix.

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 on subsequent pages of this certificate.

This certificate is issued to the named manufacturer, and is valid until the expiry date specified. Lloyd's Register is to be notified of any change that may affect the validity of this certificate, and reserves the right to cancel or withdraw this certificate.



71 Fenchurch Street, London, EC3M 4BS, United Kingdom

Clive Arnold

Lead Metallurgist: Metallurgical Assurance to Lloyd's Register EMEA
A member of the Lloyd's Register group

Lloyd's Register Group Limited, its affiliates and subsidiaries and their respective officers, employees or agents are, individually and collectively, referred to in this clause as 'Lloyd's Register'. Lloyd's Register assumes no responsibility and shall not be liable to any person for any loss, damage or expense caused by reliance on the information or advice in this document or howsoever provided, unless that person has signed a contract with the relevant Lloyd's Register entity for the provision of this information or advice and in that case any responsibility or liability is exclusively on the terms and conditions set out in that contract.



Copper Alloy Castings For Valves, Liners, Bushes And Fittings

Copper Alloy Castings for Valves, Liners, Bushes and Fittings	Phosphor bronze	Grades	Maximum Weight	Units
-	-	CuSn10B	0.61	Tonnes
-	-	CuSn12	0.61	Tonnes
-	-	CuSn11P	0.61	Tonnes
-	-	CuSn10PbP	0.61	Tonnes
-	-	CuSn10P	0.61	Tonnes
-	-	CuSn10	0.61	Tonnes
Copper Alloy Castings for Valves, Liners, Bushes and Fittings	Gunmetal	Grades	Maximum Weight	Units
-	-	CuSn10Zn	0.61	Tonnes
-	-	CuSn10Zn2	0.61	Tonnes
-	-	CuSn5Zn5Pb5	0.61	Tonnes
-	-	CuSn7Zn2Pb3	0.61	Tonnes
Copper Alloy Castings for Valves, Liners, Bushes and Fittings	Leaded gunmetal	Grades	Maximum Weight	Units
-	-	CuSn7Zn4Pb7	0.61	Tonnes
-	-	CuSn7Zn2Pb3	0.61	Tonnes
-	-	CuSn7Pb3Zn3	0.61	Tonnes
-	-	CuSn6Zn4Pb2	0.61	Tonnes
-	-	CuSn5Pb5Zn5	0.61	Tonnes



71 Fenchurch Street, London, EC3M 4BS, United Kingdom

Lloyd's Register Group Limited, its affiliates and subsidiaries and their respective officers, employees or agents are, individually and collectively, referred to in this clause as 'Lloyd's Register'. Lloyd's Register assumes no responsibility and shall not be liable to any person for any loss, damage or expense caused by reliance on the information or advice in this document or howsoever provided, unless that person has signed a contract with the relevant Lloyd's Register entity for the provision of this information or advice and in that case any responsibility or liability is exclusively on the terms and conditions set out in that contract.





Copper Alloy Castings For Valves, Liners, Bushes And Fittings

Copper Alloy Castings for Valves, Liners, Bushes and Fittings	Leaded bronze	Grades	Maximum Weight	Units
-	-	CuSn9Pb15	0.61	Tonnes
-	-	CuSn7Pb15	0.61	Tonnes
-	-	CuSn5Pb9	0.61	Tonnes
-	-	CuSn10Pb10	0.61	Tonnes
-	-	CuSn5Pb20	0.61	Tonnes
Copper Alloy Castings for Valves, Liners, Bushes and Fittings	Copper 30% nickel	Grades	Maximum Weight	Units
-	-	CuNi30Cr	0.61	Tonnes
-	-	CuNi30Cr2FeMnSi	0.61	Tonnes
-	-	CuNi30Fe1Mn1NbSi	0.61	Tonnes
-	-	CuNi30Nb	0.61	Tonnes
-	-	CuNi30Fe1Mn1	0.61	Tonnes
Copper Alloy Castings for Valves, Liners, Bushes and Fittings	Copper 10% nickel	Grades	Maximum Weight	Units
-	-	CuNi10Fe1Mn1	0.61	Tonnes
-	-	CuNi10Nb	0.61	Tonnes
Copper Alloy Castings for Valves, Liners, Bushes and Fittings	Aluminium bronze	Grades	Maximum Weight	Units
-	-	CuAl11Ni	0.61	Tonnes
-	-	CuAl11Fe6Ni6	0.61	Tonnes



71 Fenchurch Street, London, EC3M 4BS, United Kingdom

Lloyd's Register Group Limited, its affiliates and subsidiaries and their respective officers, employees or agents are, individually and collectively, referred to in this clause as 'Lloyd's Register'. Lloyd's Register assumes no responsibility and shall not be liable to any person for any loss, damage or expense caused by reliance on the information or advice in this document or howsoever provided, unless that person has signed a contract with the relevant Lloyd's Register entity for the provision of this information or advice and in that case any responsibility or liability is exclusively on the terms and conditions set out in that contract.





Copper Alloy Castings For Valves, Liners, Bushes And Fittings

-	-	CuAl9Ni	0.61	Tonnes
-	-	CuAl9Ni7	0.61	Tonnes
-	-	CuAl10Fe5Ni5	0.61	Tonnes

Additional Remarks

Weld repair and heat treatment not covered by this scope of approval.

Long freezing range alloys - grades for approved applications only: CuSn10PbP, CuSn10P, CuSn10, CuSn10B, CuSn10Zn, CuSn7Pb3Zn3 and CuSn9Pb15.

Short freezing range alloys - grades for approved applications only: CuNi30Cr, CuNi30Nb, CuNi10Nb, CuAl9Ni, CuAl9Ni7 and CuAl11Ni.

The certification of these grades is only permissible when the application in a project has been specifically approved by a Lloyd's Register plan appraisal.



71 Fenchurch Street, London, EC3M 4BS, United Kingdom

Lloyd's Register Group Limited, its affiliates and subsidiaries and their respective officers, employees or agents are, individually and collectively, referred to in this clause as 'Lloyd's Register'. Lloyd's Register assumes no responsibility and shall not be liable to any person for any loss, damage or expense caused by reliance on the information or advice in this document or howsoever provided, unless that person has signed a contract with the relevant Lloyd's Register entity for the provision of this information or advice and in that case any responsibility or liability is exclusively on the terms and conditions set out in that contract.

