

APPROVAL OF MANUFACTURER CERTIFICATE

This is to certify:

That

VISVANA San. Ith.Ihr.Tic. Ltd. Sti.
Türkoba Mah. Atatürk Cad. No:232/1
Büyükçekmece/İstanbul,
Turkey

is an approved manufacturer of
Copper Alloy Castings

in accordance with
DNV GL rules for classification – Ships

and the following particulars:

Application area	Castings for valves, fittings and general application
Alloy type	Leaded gunmetal
Manufacturing method	Sand casting
Max. weight	See page 2
Max. wall thickness	See page 2
Heat treatment condition	As cast

Manufacturer(s) approved by this certificate is/are accepted to deliver according to DNV GL, DNV and GL rules. Materials to be applied to DNV GL classed object shall fulfill the material requirements in the applicable DNV GL class rules.

Issued at **Hamburg** on **2020-05-08**

for **DNV GL**

This Certificate is valid until **2023-05-07**.

DNV GL local station: **Istanbul**

Approval Engineer: **Christian Wildhagen**

Thorsten Lohmann
Head of Section

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Job Id: **263.11-010590-1**
Certificate No: **AMMM00002RK**

Particulars of the approval

Castings for valves, fittings and general application

Alloy type	Grade ³⁾	Casting method ¹⁾	Max. weight [kg]	Max. wall thickness [mm]	Heat treatment condition ²⁾
Leaded gunmetal	Cu Sn5 Zn5 Pb5	SC	500	50	AC
	Cu Sn7 Zn2 Pb3	SC	500	50	AC
	Cu Sn7 Zn4 Pb7	SC	500	50	AC
	Cu Sn6 Zn4 Pb2	SC	500	50	AC

Remarks:

- 1) SC: Sand Casting
- 2) AC: As cast
- 3) Incl. equivalent grades in acc. to other standards