

APPROVAL OF MANUFACTURER CERTIFICATE

This is to certify:

That

Dongying Giayoung Precision Metal Co., Ltd.
DONGYING, SHANDONG, China

is an approved manufacturer of
Steel Castings

in accordance with
DNV GL rules for classification – Ships
DNV GL offshore standards

and the following particulars:

Application area	Castings for hull structures and equipment Castings for machinery Stainless steel castings
Steel type	Carbon and carbon-manganese, Austenitic stainless, See page 2
Casting method	Investment casting
Max. weight	See page 2
Max. wall thickness	See page 2
Heat treatment condition	See page 2
Additional approval conditions	See page 2

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 **2018-05-18**

for **DNV GL**

This Certificate is valid until **2021-06-30**.

DNV GL local station: **Qingdao**

Approval Engineer: **Enno Brück**

Thorsten Lohmann
Head of Section



Job Id: **263.11-005332-3**
 Certificate No: **AMMM00000E3**
 Revision No: **1**

Particulars of the approval

Castings for hull structure and equipment

Steel type	Grade ³⁾	Casting method ¹⁾	Max. weight [kg]	Delivery condition ²⁾
C and C-Mn	VL C400UW, VL C440UW, VL C480UW	IC	120	N, QT

Castings for machinery

Steel type	Grade ⁵⁾	Casting method ¹⁾	Max. weight [kg]	Delivery condition ²⁾
C and C-Mn	VL C400U, VL C440U, VL C480U, VL C520U	IC	120	N, QT

Stainless steel castings

Steel type	Grade ³⁾⁴⁾	Casting method ¹⁾	Max. weight [kg]	Delivery condition ²⁾
Austenitic	GX 2 CrNi 18 10 (304L)	IC	120	SHT
	GX 5 CrNi 19 9 (304)			
	GX 6 CrNiNb 19 10 (347)			
	GX 2 CrNiMo 19 11 2 (316L)			
	GX 5 CrNiMo 19 11 2 (316)			
	GX 5 CrNiMo 19 11 3 (317)			

Remarks:

- 1) IC: Investment casting
- 2) SHT: Solution Heat Treated (Solution Annealing)
N: Normalised
QT: quenched and tempered
- 3) Certification of any material applied to classed object shall fulfill the applicable material requirements in the DNV GL class rules
- 4) Incl. equivalent grades in acc. to other standards

Special conditions:

Including austenitic stainless steel for approved low-temperature applications