DNV·GL

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Manoir Bouzonville S.A.S.U.
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REÇU LE
25 AOUT 2015
M.I. BOUZONVILLE

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Your reference	Your Letter of	Our reference	Extension	Date
		055954-15/OKoe	+49 40 3 61 49-4561	2015-07-31

Approval of your works for the manufacture of steel forgings (prolongation)

Dear Mrs. Dr. Mathieu,

Thank you for your company's commitment to manufacture products with GL certification.

We refer to our Surveyor's report on the inspection of your works performed on 2015-06-03 and to his confirmation that the results of continuous delivery tests witnessed by him are in full compliance with our Rules for Materials.

Therefore the preconditions for prolongation of approval of your works granted by our letter ref. no. 069750-12 dated 2012-06-19 are complied with.

The material grades, supply conditions and dimensions / weights covered by the approval are indicated in the approval annex.

The manufacturing details covered by the approval are as follows:

1. **Products**
   Die forgings made of unalloyed and low alloy steels intended for the manufacture of components and structural parts in machine construction and shipbuilding as well as die forgings made of creep-resistant martensitic stainless steels intended for the manufacture of components featuring elevated high-temperature strength for use in thermal engines and power plants (e.g. turbine blades) for applications considered to be subject to special approval

2. **Manufacturing process**
   Die Forging Process
   Inspection and preparation of raw material, reheating of raw material by reheating furnace, die forging process / upsetting process by hammers, screw presses and / or maxi presses, 1st inspection, cutting, heat treatment incl. normalizing, heating, quenching air / water / oil / emulsion and tempering, 2nd inspection, shot blasting, machining by milling machines, lathes and / or axis machining centres, non-destructive testing (NDT) such as ultrasonic testing (UT), magnetic particle inspection (MT), penetrant testing (PT) and / or visual inspection (VT), weight testing, marking, stamping, packaging, final inspection, despatch

3. **Prematerial suppliers**
   ASCOMETAL S.A.S.U. - Usine de Fos-sur-Mer (WZ 1098 HH), Nedstaal B.V. (WZ 1626 HH) or other material manufacturers which are approved for the relevant products

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4. **Fabrication welding**
   Not permitted

5. **Particulars**
   1) C- & C-Mn Steels and Alloy Steels (Cr, CrMo, and CrNiMo Steels) may be used conforming to recognized standards (e.g. EN 10083-2, EN 10083-3 and / or EN 10250-2) or other unalloyed and / or low alloy steels conforming to other standards or material specifications provided that their suitability has been confirmed on condition that these steels meet the required limit values of chemical composition in accordance with the GL-Rules for Metallic Materials, Chapter 2, Section 3.B, Table 3.2 as well as the required minimum mechanical and technological properties in accordance with the GL-Rules for Metallic Materials, Chapter 2, Section 3.B, Table 3.5 and 3.6 respectively.
   2) Subject to special approval, the requirements of die forgings made of creep-resistant martensitic stainless steel 1.4939 acc. to MAN B&W Q10.09431-5221 for applications considered to be subject to special approval stated in the relevant standard shall apply.

Our approval is granted under provision that all forgings intended to be used for the outfit of ships classed with our Society will comply with our Rules in all respects and will be tested in the presence of our Surveyor.

The quality of your company's manufactured products, within the valid approved scope, contributes to the safety and reputation of GL classed ships.

Your company has been added to the list of approved manufacturers, which is regularly published on the Internet. In order to view the appropriate data start the DNV GL website http://www.dnvgl.com , choose "Maritime", "Exchange & Tools", menu "GL Tools", select "Approval Finder", and then "Manufacturers of Materials".

Enclosed please find our certificate of approval no. **WZ 1551 HH 3**, valid until 2018-06-30, as well as the corresponding annex.

We thank you for your cooperation and wish your company every success.

Yours faithfully,

for DNV GL SE

Stefan Röhr

i.A. Oliver Krömer

DNV·GL

Annex to Certificate WZ 1551 HH 3

Ref. no.: 055954-15

Manufacturer: Manoir Bouzonville S.A.S.U.

List 3: Forgings

Grade	Key	Supply Condition (1)	max. Thickness, mm	max. Weight	Remarks
C22E acc. to EN 10083-2	GE	N, Q+T	400	800 kg	
C22R acc. to EN 10083-2	GE	N, Q+T	400	800 kg	
C35 acc. to EN 10083-2	GE	N, Q+T	400	800 kg	
C35E acc. to EN 10083-2	GE	N, Q+T	400	800 kg	
C35R acc. to EN 10083-2	GE	N, Q+T	400	800 kg	
C40 acc. to EN 10083-2	GE	N, Q+T	400	800 kg	
C40E acc. to EN 10083-2	GE	N, Q+T	400	800 kg	
C40R acc. to EN 10083-2	GE	N, Q+T	400	800 kg	
C45 acc. to EN 10083-2	GE	N, Q+T	400	800 kg	
C45E acc. to EN 10083-2	GE	N, Q+T	400	800 kg	
C45R acc. to EN 10083-2	GE	N, Q+T	400	800 kg	
28Mn6 acc. to EN 10083-2	GE	N, Q+T	400	800 kg	
S235J2G3 acc. to EN 10250-2	GE	N	400	800 kg	
S235JRG2 acc. to EN 10250-2	GE	N	400	800 kg	
S355J2G3 acc. to EN 10250-2	GE	N	400	800 kg	
34Cr4 acc. to EN 10083-3	GE	Q+T	400	800 kg	
34CrS4 acc. to EN 10083-3	GE	Q+T	400	800 kg	
37Cr4 acc. to EN 10083-3	GE	Q+T	400	800 kg	
37CrS4 acc. to EN 10083-3	GE	Q+T	400	800 kg	
41Cr4 acc. to EN 10083-3	GE	Q+T	400	800 kg	
41CrS4 acc. to EN 10083-3	GE	Q+T	400	800 kg	
25CrMo4 acc. to EN 10083-3	GE	Q+T	400	800 kg	
25CrMoS4 acc. to EN 10083-3	GE	Q+T	400	800 kg	
34CrMo4 acc. to EN 10083-3	GE	Q+T	400	800 kg	
34CrMoS4 acc. to EN 10083-3	GE	Q+T	400	800 kg	
42CrMo4 acc. to EN 10083-3	GE	Q+T	400	800 kg	
42CrMoS4 acc. to EN 10083-3	GE	Q+T	400	800 kg	
30CrNiMo8 acc. to EN 10083-3	GE	Q+T	400	800 kg	
34CrNiMo6 acc. to EN 10083-3	GE	Q+T	400	800 kg	
1.4939 acc. to MAN B&W Q10.09431-5221	GE	Q+T	250	500 kg	for applications considered to be subject to special approval

Key: FA Fibre Flow Forging FF Hammer Forging GE Die Forging HZ Prematerial ST Forged Bars

(1):
AC, AF, AR = as cast, as forged, as rolled
CR = controlled rolled
F = ferritized
HF = hot formed
N = normalized
N+T = normalized + tempered
Q+T = quenched + tempered
SH = surface hardened
S+Q = solution annealed + quenched
TM = thermomechanically rolled

(2):
CC = continuous casting
IC = ingot casting

DNV·GL

Approval of Material Manufacturers
Zulassung von Werkstoffherstellern

This is to certify that the works of
Hiermit wird bescheinigt, dass die Firma

MANOIR BOUZONVILLE S.A.S.U.
BOUZONVILLE, FRANCE

has been subjected to an approval test in accordance with GL Rules with satisfactory results and is approved for the manufacture of the following products:
einer Zulassungsprüfung nach den Vorschriften des GL unterzogen wurde und für die Herstellung folgender Erzeugnisse zugelassen ist:

Forgings for Machine Construction and Shipbuilding in accordance with the GL-Rules for Metallic Materials, Chapter 2, Section 3.B

Forgings for Boilers, Pressure Vessels, Process Equipment & Pipelines in accordance with the GL-Rules for Metallic Materials, Chapter 2, Section 3.E

This approval is granted provided that all products intended to be used for the construction of ships or installations classed with DNV GL comply in every respect with GL Rules and Requirements.
Die Zulassung erfolgt unter der Voraussetzung, dass alle Erzeugnisse, die zum Bau von Schiffen und Anlagen mit Klasse der DNV GL SE bestimmt sind, die Vorschriften des GL in jeder Hinsicht erfüllen.

Certificate of approval No. WZ 1551 HH 3
Zulassungsbescheinigung Nr.

This Certificate is valid until: 2018-06-30
Diese Bescheinigung ist gültig bis:

Part of the approval is our letter of approval ref. no. 055954-15 of 2015-07-31.
Bestandteil der Zulassung ist das Zulassungsanschreiben, Tgb.-Nr. 055954-15 vom 2015-07-31.

Hamburg, 2015-07-31

DNV GL SE

Stefan Röhr

i.A.
Oliver Krömer