

Approval of Material Manufacturers
Zulassung von Werkstoffherstellern



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

**VITKOVICE HEAVY MACHINERY A.S.
OSTRAVA - VÍTKOVICE
CZECH REPUBLIC**

has been subjected to an approval test in accordance with the Society's Rules with satisfactory results and is approved for the manufacture of the following products:

einer Zulassungsprüfung nach den Vorschriften des Germanischen Lloyd unterzogen wurde und für die Herstellung folgender Erzeugnisse zugelassen ist:

**Forgings for Machine Construction and Shipbuilding
according to GL Rules for Metallic Materials,
Chapter 2, Section 3, B.**

**Forgings for Crankshafts
according to GL Rules for Metallic Materials,
Chapter 2, Section 3, C.**

**Steel Castings for Machine Construction and Shipbuilding
according to GL Rules for Metallic Materials,
Chapter 2, Section 4, B.**

This approval is granted provided that all products intended to be used for the construction of ships or installations classed with Germanischer Lloyd comply in every respect with the Society's Rules and Requirements.

Die Zulassung erfolgt unter der Voraussetzung, dass alle Erzeugnisse, die zum Bau von Schiffen und Anlagen mit Klasse des Germanischen Lloyd bestimmt sind, die Vorschriften des Germanischen Lloyd in jeder Hinsicht erfüllen

Certificate of approval No.
Zulassungsbescheinigung Nr.

WZ 315 HH 9

This Certificate is valid until.
Diese Bescheinigung ist gültig bis

2017-05-31

Part of the approval is our letter of approval ref. no. 069104-14 of 2014-12-04.
Bestandteil der Zulassung ist das Zulassungsanschreiben, Tgb.-Nr 069104-14 vom 2014-12-04

Hamburg, 2012-05-07

Germanischer Lloyd


Marcus von Busch


Stefan Röhr

Ref. no.: 069104-14



Manufacturer: Vitkovice Heavy Machinery a.s.

List 3: Forgings

Grade	Key	Supply Condition (1)	max. Thickness, mm	max. Weight	Remarks
Unalloyed and low alloy steel forgings acc. to EN 10250-2, EN 10250-3, EN 10083-2, EN 10083-3, EN 10084; Crank throws in grade S34MnV acc. to MAN B&W spec. P182-1/1986	FF, GE	*, **)		120.000 kg	*) Unalloyed and low alloyed steel forgings: Heat treated according to customer specifications; **) Crank throws: Normalized and tempered

Key: FA Fibre Flow Forging

FF Hammer Forging

GE Die Forging

HZ Prematerial

ST Forged Bars

List 4: Cast Steel

Grade	Key	Supply Condition (1)	max. Wall Thickness, mm	max. Weight	Casting Method (2)	Remarks
DIN 1681, DIN 17182, DIN 17245, EN 10213, SEW 510	SA	*)		150.000 kg	sand casting	*) Heat treated according to customer specifications

Key: -A Austenitic cast steel

KZ Cast steel for low temp

NR Stainless cast alloy

SA Cast steel for common use

SO Special cast alloy

WF Cast steel for elevated temp.

(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