



QTR
Qualification Test Record
NORSOK M-650

QTR. No.:
GG-N-QTR-1300

Rev. No.: A

Manufacturer Name/address/ Web page: Gustav Grimm Edelstahlwerk GmbH & Co. KG
Ronsdorfer Str. 172-174
D - 42855 Remscheid www.gustav-grimm.de

Reference standard NORSOK M-650 Edition 4 - September 2011

Material designation and MDS No.: ASTM A 182, UNS S31803 / F51, MDS D44 Rev. 5
ASTM A 182, UNS S32205 / F60, MDS D44 Rev. 5

Manufacturing summary doc. No.: GG-N-MS-1310 - Forging blocks - 1.4462 (Type 22Cr Duplex) Rev. No.: B

Products and manufacturing process(es): **Forging blocks**
Thickness: 100 - 250 mm Maximum width: 700 mm
Production route: Forging by press

Mandatory conditions and sub-contractors: Heat treatment furnace No. 6
Heat treatment according to GG-N-DHTF-0000 and GG-N-HTI-1000 Rev. No.: B
Start material: Silbitz Guss GmbH **Metallographic examination and corrosion testing:** Germanischer Lloyd Prüflabor GmbH, Herne

Verification of heat treatment procedure GG-N-HTV-0002-TR01 Rev. No.: B
Date: 15. June 2015 Temperature: 1120°C

Other information: Delivery conditions:
➢ semi-finished products pre-machined
➢ no-finished surfaces

Qualification expires: **March 2021**

Tested and Qualified Thickness and Weight

Products and manufacturing process(es):	Test record No.	Tested thickness (mm)	Qualified thickness (mm)	Test piece weight (kg)	Qualified weight (kg)
Forging blocks	GG-N-QTR-1300	250 x 700 x L mm	250 x 700 x L mm	app. 1550 kg	all

Qualification/Acceptance signatures

Manufacturer: **Prepared by/Date:** Karsten Voigt 09.03.2016 **Checked by/Date:** Roland Winter 09.03.2016

The manufacturer and this QTR are evaluated and found to be in compliance with the requirements of NORSOK M-650 for supply of the above listed products and materials. This acceptance does not exempt any purchaser from his responsibility to ensure that this qualification is valid for his products within the essential variables of NORSOK M-650.

Qualified/Accepted by (company name/address): **AkerSolutions[™]**
Aker Engineering & Technology AS
Reg.nr. 979 817 552 **Signature/Date:** 20/05/2016
Erling Ryege