

**APPROVAL OF MANUFACTURER
CERTIFICATE**

Certificate No:
AMMM000016F
Revision No:
1

This is to certify:

That

**Deutsche Edelstahlwerke Specialty Steel GmbH & Co. KG
Siegen Works
Siegen, Germany**

is an approved manufacturer of
Steelmaking and Rolled Steel Products

in accordance with
**DNV GL rules for classification – Ships
DNVGL-OS-B101 – Metallic materials**

and the following particulars:

Product	Rolled Round Bars Semi-finished products
Steelmaking	Electric Arc Furnace (EAF), Electroslag Remelting (ESR), Ingot Casting, Continuous Casting
Grade(s)	Carbon, Carbon-Manganese, Alloy, Ferritic Stainless, Martensitic Stainless, Austenitic Stainless, 22Cr Duplex Stainless, VL K1, VL K2 and VL K3
Max. diameter	See page 2
Heat treatment condition	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 **2019-07-12**

This Certificate is valid until **2022-05-31**.

DNV GL local station: **Essen**

Approval Engineer: **Stefan Röhr**



for **DNV GL**
Digitally Signed By: Wildhagen, Christian
Location: DNV GL Hamburg, Germany
Signing Date: 2019-08-08, on behalf of

Thorsten Lohmann
Head of Section



Job Id: 263.11-005676-3
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Particulars of the approval

Semi-finished products

Steel type	Product	Steel making ¹⁾	Max weight [kg]	Max. thickness [mm]	Heat treatment condition ²⁾
C and C-Mn	Ingot castings	EAF, IC	40 000	-	AC
C and C-Mn	Ingot castings	EAF, ESR, IC	19 000	-	AC
C and C-Mn	Continuous cast billets	EAF, IC	-	265	AC
Alloy	Ingot castings	EAF, IC	40 000	-	AC
Alloy	Ingot castings	EAF, ESR, IC	19 000	-	AC
Alloy	Continuous cast billets	EAF, CC	-	265	AC
Stainless Steel	Ingot castings	EAF, IC	40 000	-	AC
Stainless Steel	Ingot castings	EAF, ESR, IC	19 000	-	AC
Stainless Steel	Continuous cast billets	EAF, CC	-	265	AC

Rolled round bars

Steel type	Product	Steel making ¹⁾	Max. thickness [mm]	Heat treatment condition ²⁾
C and C-Mn ³⁾	Round bars	EAF, ESR, IC, CC	89	AR
Alloy ⁴⁾	Round bars	EAF, ESR, IC, CC	89	AR
Ferritic Stainless ⁵⁾	Round bars	EAF, ESR, IC, CC	89	acc. to standard
Austenitic Stainless ⁵⁾	Round bars	EAF, ESR, IC, CC	89	SHT
Martensitic Stainless ⁵⁾	Round bars	EAF, ESR, IC, CC	89	QT
Austenitic-Ferritic (22Cr duplex) ⁵⁾	Round bars	EAF, ESR, IC, CC	89	SHT
VL K1, VL K2, VL K3	Round bars	EAF, ESR, IC, CC	89	AR, AS

Remarks:

- ¹⁾ EAF: Electric Arc Furnace; ESR: Electroslag Remelting, CC: Continuous Casting; IC: Ingot Casting
- ²⁾ AC: as cast; AR: As rolled; QT: Quenched and tempered; SHT: Solution annealed; SA: Spheroidized Annealed
- ³⁾ Acc. to EN 10083-2, EN 10084, ISO 683-1, ISO 683-3
- ⁴⁾ Acc. to EN 10083-3, EN 10084, ISO 683-2, ISO 683-3
- ⁵⁾ Acc. to EN 10088-3