APPROVAL OF MANUFACTURER CERTIFICATE

Certificate No:
AMMM00000XX
Revision No:
5

This is to certify:

That

INDUSTEEL BELGIUM SA

266, rue de Chatelet, 6030 Charleroi,
Belgium

is an approved manufacturer of
Steelmaking and Rolled Steel Products

in accordance with
DNV rules for classification – Ships
DNV-OS-B101 – Metallic materials
DNV class programme – DNV-CP-0242 Semi-finished steel products
DNV class programme – DNV-CP-0243 Rolled steel products – non stainless steel

and the following particulars:

Application area	**High strength steel,** **Extra high strength steel,** **Z-grade steels (plates with through thickness properties),** **Steel for low temperature service,** **Stainless steel**
Products	**Plates and sheets,** **See page 2 ff.**
Manufacturing method	**Electric arc furnace, continuous casting**
Max. thickness / diameter	**See page 2 ff.**
Heat treatment condition	**See page 2 ff.**
Additional approval conditions	**See page 2 ff.**

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 classed object shall fulfill the material requirements in the applicable DNV class rules.

Issued at **Hamburg** on **2024-01-16**

This Certificate is valid until **2026-12-31**.
DNV local unit: **Belgium CMC**

Approval Engineer: **Enno Brück**

for **DNV**

This document has been digitally signed and will therefore not have handwritten signature
Christian Wildhagen

Particulars of the approval

High strength steel

Grade	Product	Steel making [1)]	Fine grain elements	Max. thickness [mm]	Heat treatment condition [2)]	Z-quality
NV A40	Plate	EAF, CC	Al, Al+V	10	N	-
NV D40, NV E40	Plate	EAF, CC	Al+Nb, Al+V	40	N	-
NV D40, NV E40	Plate	EAF, CC	Al+Nb, Al+V	40	QT	-

Extra high strength steel

Grade [6)7)]	Product	Steel making [1)]	Fine grain elements	Max. thickness [mm]	Heat treatment condition [2)]	Z-quality
NV FO620, NV FO690	Plate	EAF, CC	Al, Al+V	75	QT	Z25
NV F620, NV F690						

Stainless steel

Grade [4)]	Product	Steel making [1)]	Fine grain elements	Max. thickness [mm]	Heat treatment condition [2)]	Z-quality
NV 304 L, NV 316 L, NV 316 L N, NV 317 L	Plate	EAF, CC	-	30	SHT	-
NV 304 L N	Plate	EAF, CC	-	56	SHT	-
UNS S31803	Plate	EAF, CC	-	45	SHT	-

Steels acc. to other standards [5)]

Grade	Product	Steel making [1)]	Fine grain elements	Max. thickness [mm]	Heat treatment condition [2)]	Z-quality
Acc. to EN 10088-2						
X2CrNiMoN 22-5-3	Plate	EAF, CC	acc. to standard	45	SHT	-

Steel for low temperature service

Grade	Product	Steel making [1]	Fine grain elements	Max. thickness [mm]	Heat treatment condition [2]	Z-quality
NV 9Ni [3]	Plate	EAF, CC	-	50	QT	-

Remarks:

1) EAF: Electric arc furnace
   CC: Continuous casting
2) N: normalised
   QT: quenched and tempered
   SHT: solution heat treated (solution annealed)
3) Qualified max. heat input. 2.0 kJ/mm
4) Including equivalent grades to other standards
5) Possible application and certification of any material to classed object is subject to case by case approval
6) Qualified max. heat input. 2.6 kJ/mm. C_{eq} = 0.62 during weldability testing
7) For t ≤ 50 mm, Ni_{min}: 1,32%
   For 50 ≤ t ≤ 75, Ni_{min}: 1.77 %