APPROVAL OF MANUFACTURER CERTIFICATE

Certificate No:
AMMM00000XW
Revision No:
6

This is to certify:

That

INDUSTEEL FRANCE SAS

118 route des Etaings BP 368, 42800 Chateauneuf Loire,
France

is an approved manufacturer of
Steelmaking and Rolled Steel Products

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

and the following particulars:

Product	**Plates**
Grade(s)	**See page 2**
Steelmaking	**Electric arc furnace, Ingot casting**
Deoxidation	**Killed**
Fine grain elements	**See page 2**
Heat treatment conditions	**See page 2**
Max. thickness/diam.	**See page 2**
Remarks	**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 classed object shall fulfill the material requirements in the applicable DNV class rules.

Issued at **Hamburg** on **2022-02-25**

This Certificate is valid until **2024-07-30**.
DNV local station: **France CMC**

Approval Engineer: **Christian Wildhagen**

for **DNV**
Digitally Signed By: Roehr, Stefan
Location: DNV GL Hamburg, Germany
Signing Date: 25.02.2022 , on behalf of

Thorsten Lohmann
Head of Section

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.

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 A32, NV D32, NV E32 NV A36, NV D36, NV E36	Plate	EAF, IC	Nb+V	250	N	Z35

Extra high strength steel

Grade	Product	Steel making[1)]	Fine grain elements	Max. thickness [mm]	Heat treatment condition[2)]	Z- quality
NV A620, NV D620, NV F620, NV A690, NV D690, NV E690 [3)]	Plate	EAF, IC	Al+V	215 < t ≤ 254	QT	Z35
NV AO620, NV DO620, NV FO620, NV AO690, NV DO690, NV EO690 [3)]	Plate	EAF, IC	Al+V	215 < t ≤ 254	QT	Z35
NV A620, NV D620, NV F620, NV A690, NV D690, NV E690, NV F690 [4)]	Plate	EAF, IC	Al+V	215	QT	Z35
NV AO620, NV DO620, NV FO620, NV AO690, NV DO690, NV EO690, NV FO690 [4)]	Plate	EAF, IC	Al+V	215	QT	Z35

Rolled steels for boiler and pressure vessels

Grade	Product	Steel making[1)]	Fine grain elements	Max. thickness [mm]	Heat treatment condition[2)]	Z- quality
NV 0.3Mo, NV 1Cr0.5Mo, NV 2.25Cr1Mo	Plate	EAF, IC	-	140	N, NT, QT	-

Steel for low temperature service

Grade	Product	Steel making[1)]	Fine grain elements	Max. thickness [mm]	Heat treatment condition[2)]	Z- quality
NV 5Ni	Plate	EAF, IC	-	140	N, NT, QT	-

Remarks:

1) EAF: Electric arc furnace
   IC: Ingot casting
2) N: normalised
   NT: normalized and tempered
   QT: quenched and tempered

3) Maximum heat input for weldability testing was 3 kJ/mm.
Ceq = 0.75 %, CET = 0.41% & Pcm=0.33% during weldabilty testing

4) Maximum heat input for weldability testing was 3.5 kJ/mm.
Ceq = 0.75 %, CET = 0.41% & Pcm=0.33% during weldabilty testing