



Marine & Offshore

Certificate number: 12474/B1 BV

File number: MAT 1391/02

Product code: 90131

This certificate is not valid when presented without the full attached schedule composed of 7 sections

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APPROVAL CERTIFICATE for MATERIALS

This certificate is issued to

INDUSTEEL BELGIUM SA - GROUPE ARCELORMITTAL
CHARLEROI - BELGIUM

for the type of product

STAINLESS STEEL ROLLED PRODUCTS

Hot rolled plates made of austenitic stainless steel grades 304/304L/304LN, 316/316L/316LN
Hot rolled plates made of steel grade CryEls0 201LN

Requirements:

Bureau Veritas Rules for the Classification of Steel Ships

This certificate is issued to attest that Bureau Veritas Marine & Offshore did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.

This certificate will expire on: 24 May 2022

For Bureau Veritas Marine & Offshore,

At BV ANTWERP, on 13 Jan 2021,

Nele Appels



This certificate remains valid until the date stated above, unless cancelled or revoked, provided the conditions indicated in the subsequent page(s) are complied with and the product remains satisfactory in service. This certificate will not be valid if the applicant makes any changes or modifications to the approved product, which have not been notified to, and agreed in writing with Bureau Veritas Marine & Offshore. Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on board vessels to which the amended regulations or standards apply. This certificate is issued within the scope of the General Conditions of Bureau Veritas Marine & Offshore available on the internet site www.veristar.com. Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against Bureau Veritas Marine & Offshore for any liability arising out of errors or omissions which may be contained in said document, or for errors of judgement, fault or negligence committed by personnel of the Society or of its Agents in establishment or issuance of this document, and in connection with any activities for which it may provide.

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION :

Hot rolled plates.

Steel grade	Dimension range	Delivery condition
304/304L/304LN	Thickness up to 50mm	Solution annealing treatment at 1050°C min. followed by water or air quenching
316/316L/316 LN	Thickness up to 50mm	Solution annealing treatment at 1050°C min. followed by water or air quenching
CryElso 201 LN	Thickness up to 25mm	Solution annealing treatment at 1050°Cmin. followed by water or air quenching

Steelmaking by Electric Arc Furnace. Ladle treatment by Vacuum Oxygen Decarburization (VOD) and Vacuum Arc degassing (VAD), Thyssen Niederrhein (TN), as applicable. Continuous casting.

2. DOCUMENTS AND DRAWINGS :

2.1-Documents issued by Industeel Belgium SA - Group Arcelor:

- "Industeel Belgium" dated September 2015, Ref.P008F Rev.14 dated 08/09/2014, "Steel making process" Rev.0 dated February 2017, Ref.P0806F Rev.04 dated 23/01/2017, Ref.P0905F Rev.05 dated 22/06/2014, Ref.P0957F Rev.11 dated 12/09/2013, Ref.P0962F Rev.03 dated 21/03/2011, Ref.P0955F Rev.10 dated 21/03/2011, Ref.P1050F Rev.06 dated 18/06/2014, Ref.P1003F Rev.06 dated 18/06/2014.

- Document NR 480 Section 2 – 201LN BV Marine dated December 2020.

2.2-Chemical composition (weight %) on ladle for steel grade 201LN CryElso:

C	Si	Mn	P	S	Cr	Ni	Cu
0.03 max.	0.75 max.	6.4 max. 7.5 max.	0.045 max.	0.015 max.	16.0 min. 17.0 max.	4.0 min. 5.0max.	1.0 max.
N	Ti	Mo					
0.15 min. 0.20 max.	0.1 max.	0.75 max.					

2.3-Mechanical properties for steel grade 201LN CryElso:

	Yield strength		Tensile strength	Elongation	Charpy V-notch impact test
	Rp0,2 (N/mm ²)	Rp1,0 (N/mm ²)	(N/mm ²)	A5(%)	Average absorbed energy (J) (Test temp.)
201LN	310 min.	370 min.	655 - 850	45min.	Trans. 35 J min. (at -196 °C)

3. TEST REPORTS :

3.1-Documents issued by Industeel Belgium:

- "Bureau Veritas Approval Program for Material CLC 18.8 N+" and dated 2002.

3.2-Documents issued by Industeel Belgium SA - Group Arcelor:

- "Approval test program on 304LN according to BV Marine requirements" with results dated May 2015.

- "Approval test program on 316L according to BV marine requirement" dated 18/05/2017.

- "Mechanical properties and chemical composition-316L" dated 14/04/2017; "Mechanical properties and chemical composition-304L" dated 17/05/2017.

- Document NR 480 Section 2 – 201LN BV Marine dated December 2020, tests Ref.348787 and Ref.348790 dated 16/12/2020.

3.3-Report Ref.CET0183144_PV_partiel_01-b dated 30/07/2020 issued by Cetim.

4. APPLICATION / LIMITATION :

As per Bureau Veritas Rules for Classification.

5. PRODUCTION SURVEY REQUIREMENTS :

5.1-The hot rolled plates are to be supplied by Industeel Belgium SA - Group Arcelor in compliance with the type and the requirements described in this certificate.

5.2-This type of product is within the category IBV of Bureau Veritas Rule Note NR320.

5.3-BV product certificate is required.

6. MARKING OF PRODUCT :

As per Bureau Veritas Rules for Classification.

7. OTHERS :

This certificate replaces approvals from No.12474/A0 BV to No.12474/B0 BV; No.AP/B-01-03-127 and No.AP/B-01-02-100.

***** END OF CERTIFICATE *****