



**CERTIFICATE OF APPROVAL OF MANUFACTURERS OF
MATERIALS**
No. FABDRAFT/001

This is to certify that the manufacture of the product identified below is in compliance with the applicable requirements of the RINA Rules for the Approval of Manufacturers of Materials.

<i>Description</i>	Normal strength and higher strength hull steel plates
<i>Type</i>	GRADES A - B - D - E - AH32 - AH36 - AH40 - DH32 - DH36 - DH40 - EH32 - EH36 - EH40 - FH32 - FH36
<i>Applicant</i>	NLMK DANSTEEL A/S HAVNEVEJ 33 3300 FREDERIKSVAERK DENMARK
<i>Manufacturer</i>	NLMK DANSTEEL A/S
<i>Place of manufacture</i>	HAVNEVEJ 33 3300 FREDERIKSVAERK DENMARK
<i>Reference standards</i>	RINA Rules for the approval of manufacturers of materials
<i>Reference documents</i>	-

Issued in **COPENHAGEN** on **November 17, 2016**. *This Certificate is valid until* **November 16, 2021**



Vincenzo Dario Barbaro

RINA Services S.p.A.
Vincenzo Dario Barbaro

This certificate consists of this page and 1 enclosure

FABDRAFT/001
CERTIFICATE OF APPROVAL OF MANUFACTURERS OF MATERIALS
Enclosure - Page 1 of 1

APPROVAL CONDITIONS

Steel making process and deoxidation practice: basic oxygen process, fully killed, fine grained steel.

Casting process: continuous casting.

Condition of supply and thickness as per below table.

Grade ⁽¹⁾	Fine Grain Elements ⁽²⁾	Delivery Conditions	Max. Thickness (mm)
Normal Strength Steel			
A, B	Al	AR	50 (Gr.B) 100 (Gr.A)
	Al or Al+Nb	N	100
D	Al or Al+Nb	N	100
E	Al or Al+Nb	N	60
High Strength Steel			
AH32 - DH32 - EH32	Al+NB	N	60
		TM	60
	Al+NB+V+Ti	TM	60
FH32	Al+NB+V+Ti	TM	60
AH36 - DH36 - EH36	Al+NB	N	60
		TM	60
	Al+NB+V+Ti	TM	60
FH36	Al+NB+V+Ti	TM	60
AH40 - DH40 - EH40	Al+NB	TM	60
	Al+NB+V+Ti	TM	60

1) The approval is valid also for equivalent structural steel grades according to EN 10025-2 and steel plates intended for boilers and pressure vessels according to EN 10028-2.

2) AR: As Rolled; N: Normalised; TM: Thermo-mechanical rolling.

Survey conditions:

The plates are to be in compliance in all respects with the relevant RINA rules and are to be tested accordingly.

General conditions for the approval

-The approval is granted on condition that the RINA Rules for the approval, manufacture, testing and certification of materials are complied with in all respects.

-RINA is to be notified of any change of materials, manufacturing process, quality control routines that may affect the validity of this certificate.