

CERTIFICATE OF STEEL MILLS FACILITY AND PROCESS APPROVAL

This is to certify that a representative of ABS did, at the request of

AKTIENGESELLSCHAFT DER DILLINGER HUETTENWERKE

WERKSTRASSE 1, D-66763 DILLINGEN, Germany

attend its facilities as indicated in the ABS Hamburg port office survey report number 6898188 dated 25 April 2025 in order to carry out a survey of the facilities and associated quality procedures. The facility is considered capable of manufacturing

Plate and Semi-finished product components for marine applications

in accordance with the ABS Approval letter (Reference WO0260476), ABS Rules, designated standards and ABS approved drawings. The approval is valid till 12 March 2030 subject to adherence to relevant ABS Rules and Survey requirements.



Marcus Cridland
Chief Metallurgist, ABS

ISSUE DATE: 25 April 2025
EXPIRY DATE: 12 March 2030

NOTE: This certificate evidences compliance with one or more of the Rules, Guides, standards or other criteria of ABS or a statutory, industrial or manufacturer's standards. It is issued solely for the use of ABS, its committees, its clients or other authorized entities. This Certificate is a representation only that the structure, item of material, equipment, machinery or any other item covered by this Certificate has met one or more of the Rules, Guides, standards or other criteria of ABS as of the date of issue. Parties are advised to review the Rules for the scope and conditions of classification and to review the survey records for a full description of any restrictions or limitation on the vessel's service or surveys. The validity, applicability and interpretation of this Certificate is governed by the Rules and standards of ABS who shall remain the sole judge thereof. Nothing contained in this Certificate or in any notation made in contemplation of this Certificate shall be deemed to relieve any designer, builder, owner, manufacturer, seller, supplier, repairer, operator or other entity of any warranty express or implied.



Work Order - WO0260476
Steel Mill and Quality Assurance System
Approval - Renewal
Certificate No. STML-0260476, QA-
6898188

Attention: AKTIENGESELLSCHAFT DER DILLINGER HUETTENWERKE (WCN:
064618)

The documents shown in the attached list are reviewed or filed for reference in accordance with the applicable requirements of the following and the facility is considered approved to manufacture products for hull application as outlined in the process/product approval.

- ABS RULES FOR MATERIALS AND WELDING PART 2 (2025)

Please note it is the responsibility of the facility to inform ABS of any changes to the manufacturing parameters and request periodic quality audit or renewal of approval prior to the five-year expiry date.

Refer to attachments, Process/Product Approval; Manufacturer Approval Certificate (STML-0260476); QA Certificate (QA-6898188).

For any clarifications, contact James Oehrle at JOehrle@eagle.org.

Very truly yours,

Gareth Burton
Senior Vice President of Engineering

Electronically Signed by: Satya Meruva

Documents List

Drawing No.	Rev. No.	Title	Status
26.03.2025	-	Information to be provided for Renewal of Approval	Reviewed
D150	1	Integrated Management Manual	Reviewed
STML-T2034139	-	Previous ABS Steel Mill Approval Certificate	Filed by ABS for Reference Only

Electronic copies of the documents, appropriately stamped, are available in the ABS MyFreedom™ Client Portal.

Process/Product Approval

Certificate No. STML-0260476

Product	Grade	Thickness	Fine Grain Practice	Casting Practice ¹	Delivery condition ¹
Approved Grades					
Plate	ABS – AQ*/DQ*/EQ*/FQ 70 Z35	254	AI	IC	Q&T
Steel Making Practice¹: EAF Deoxidation Practice: AI Killed Heat treatment Facility: In-House					
Plate	Non-ABS – API 2W Gr 50	101.6 mm	AI+Nb+Ti	CC	TMCP
Plate	Non-ABS – API 2W Gr 60	101.6 mm	AI+Nb+Ti	CC	TMCP
Steel Making Practice¹: BOF Deoxidation Practice: AI Killed Heat treatment Facility: In-House					
Plate	ABS – A*/B	51 mm	AI	CC / IC	AR
Plate	ABS – A*/B*/D	35 mm	AI	CC / IC	AR
Plate	ABS – AH32*/36	51 mm	AI, (AI+Nb)	CC	AR
Plate	ABS – AH*/DH32*/36	35 mm	AI, (AI+Nb)	CC	AR
Steel Making Practice¹: BOF & EAF Deoxidation Practice: AI Killed Heat treatment Facility: N/A					

Product	Grade	Thickness	Fine Grain Practice	Casting Practice ¹	Delivery condition ¹
Plate	ABS – AH*/DH*/EH 32*/36	25 mm	Al, (Al+Nb), (Al+Nb+Ti)	CC	TMCP
Plate	ABS – AH*/DH*/EH40	25 mm	Al, (Al+Nb), (Al+Nb+Ti)	CC	TMCP
Plate	ABS – AH*/DH*/EH*/FH 32*/36	100 mm	Al, (Al+Nb), (Al+Nb+Ti)	CC	TMCP+AC
Plate	ABS – AH*/DH*/EH*/FH40	100 mm	Al, (Al+Nb), (Al+Nb+Ti)	CC	TMCP+AC
Plate	ABS – AQ*/DQ*/EQ43 Z35	100 mm	Al, (Al+Nb),	CC / IC	TMCP
Plate	ABS – AQ*/DQ*/EQ47 Z35	80 mm	Al, (Al+Nb)	CC / IC	TMCP
Plate	ABS – AQ*/DQ*/EQ*/FQ51 Z35	70 mm	Al, (Al+Nb)	CC	TMCP
Plate	ABS – A*/B*/D*/E	51 mm	Al, (Al+Nb)	CC / IC	N
Plate	ABS – AH*/DH32*/36 Z35	100 mm	Al, (Al+Nb), (Al+Nb+Ti)	CC / IC	CR
Plate	ABS – AH*/DH*/EH 32*/36 Z35	150 mm	Al, (Al+Nb)	CC / IC	N
Plate	ABS – V-057	51 mm	Al, (Al+Nb)	CC / IC	N
Plate	ABS – AQ*/DQ*/EQ43 Z35	100 mm	Al	CC / IC	Q&T
Plate	ABS – AQ*/DQ*/EQ*/FQ43 Z35	200 mm	Al, (Al+Nb), (Al+V)	CC / IC	Q&T
Plate	ABS – AQ*/DQ*/EQ*/FQ51 Z35	150 mm	Al	CC / IC	Q&T
Plate	ABS – AQ*/DQ*/EQ63 Z35	120 mm	Al	CC / IC	Q&T
Steel Making Practice¹: BOF & EAF					

Product	Grade	Thickness	Fine Grain Practice	Casting Practice ¹	Delivery condition ¹
Deoxidation Practice: Al Killed					
Heat treatment Facility: In-house					
Plate	ABS – AQ*/DQ*/EQ*/ FQ70 Z35	210 mm	Al	CC / IC	Q&T
Semi-finished product - Plate for chord	EQ70	38.5 mm	Al	CC	N
Slab Supplier: SAARSCHMIEDE GMBH FREIFORMSCHMIEDE (WCN 847353)					
Heat treatment Facility: In-house					

* Approval of these grades is based on qualification tests carried out on the higher grade.

Note 1:

- a. BOF: Basic Oxygen Furnace
- b. EAF: Electric Arc Furnace
- c. CC: Continuous Casting
- d. IC: Ingot Casting
- e. AR: As Rolled
- f. CR: Control Rolled
- g. N: Normalized
- h. TMCP: Thermo-Mechanically Controlled Process
- i. TMCP+AC: Thermo-Mechanically Controlled Process w/Accelerated Cooling
- j. Q&T: Quenched & Tempered