



APPROVAL OF MANUFACTURER CERTIFICATE

Certificate No:
AMMM00002AE
Revision No:
1

This is to certify:

That

Aalberts Surface Technologies GmbH
Lindenmaierstrasse 19, 88471 Laupheim,
Germany

is an approved manufacturer of
Heat treatment

in accordance with

DNV rules for classification – Ships
DNV-OS-B101 – Metallic materials
DNV rules for classification – High speed and light craft

and the following particulars:

Application area	Heat treatment workshop
Heat treatment process	See page 2
Product type	Steel Forgings
Steel type	Carbon and carbon-manganese, Alloy
Max. Weight	2 500 kg
Max. wall thickness	300 mm
Remarks	Approved as Independent Heat Treatment Company, 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 **2022-07-11**

This Certificate is valid until **2024-11-01**.

DNV local station: **Augsburg**

Approval Engineer: **Christian Wildhagen**



for **DNV**

Digitally Signed By: Wenning, Martin

Location: DNV Hamburg, Germany

Signing Date: 13.07.2022 , 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.



Form code: AM 311

Revision: 2021-03

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Particulars of the approval

Approval scope for Independent Heat Treatment Company

Item	Description	
Product type	Steel Forgings	
Steel Type	Carbon and carbon-manganese, Alloy	
Maximum Loading Weight	No. H0 to H8:	1000 kg
	No. GNA 1 to GNA 2:	1800 kg
	No. GNA 3 to GNA 6:	2500 kg
	No. GNA 7 to GNA 8:	2500 kg
	No A4 to A8, A17 and A18:	1000 kg
	No. SB	750 kg
Max. Thickness	Carbon, carbon-manganese:	300 mm
	Alloy:	300 mm
Heat Treatment Type	No. H0 to H8:	Carburizing, case hardening, carbonitriding, hardening, annealing
	No. GNA 1:	Annealing, tempering, stress relieving
	No. GNA 2 to GNA 8:	Nitriding, nitrocarburizing, annealing, stress relieving
	No. A4 to A8, A17, A18:	Tempering
	No. SB:	Carbonitriding
Furnace Details	Protective gas furnace, Working zone (mm):	
	No. H0 to H8:	Length 1100, Width 700, Height 900
	Nitriding furnace, Working zone (mm):	
	No. GNA 1 to 2:	Length 1100, Width 700, Height 900
	No. GNA 3 to 8	Length 1820, Width 1220, Height 1005
	Salt bath, Working zone (mm):	
	No. SB	Width: 900, Height: 900
Heat Treatment Procedure(s)	PB-09-0044	
Temperature Uniformity Survey Procedure(s)	AA-09-06-0044	