

BGH Edelstahl Siegen GmbH

BGH Edelstahl Siegen GmbH Industriestraße 9 57076 Siegen

ASA Alloys Inc.
20 Challenger Crescent
T8H 2R1 Sherwood Park, Alberta
Kanada
Zeugnis-Nr. 402543 Rev.2 06.04.2021
Certificate no.
No. de certificat

 Bescheinigung über Werkstoffprüfung nach DIN EN 10204
 Certificate of material tests according to DIN EN 10204 **3.1**
 Certificat des essais des matériaux selon DIN EN 10204

 Die Lieferung entspricht den vereinbarten Lieferbedingungen.
 Delivery in accordance with the agreed terms of delivery.
 La livraison correspond aux conditions de livraison convenues.

 Zeichen des Lieferwerkes Stempel des Werkstoffverständigen
 Trade mark Inspector's stamp
 Signe du fournisseur Poinçon de l'inspecteur

 Kunden-Bestell-Nr. **P049165**
 Customer order no.
 Cde. no. du client

 BGH-Auftrags-Nr. **814388-001-01**
 BGH works no.
 BGH référence


Erzeugnisform Product		Stab, rund, geschmiedet, geschält Round bars, forged, peeled									
Werkstoff / Quality		UNS S31603 - Type 316/316L									
Anforderungen Requirements		ASTM A 479 / A479M -19 ANSI/NACE MR 0175 / ISO15156-3 2015 ANSI/NACE MR 0175 / ISO15156-1 2015									
Besichtigung und Maßnachprüfung Inspection and dimensional control Inspection et contrôle de dimension ohne Beanstandung without objection				Erschmelzung/Nachbehandlung Melting process/secondary refining Mode d'élaboration/traitement ultérieur E - AOD/LF				Verwechslungsprüfung (spectroanalytisch) Identification test (spectral-analysis) examen d'identification (analyse spectrale) ohne Beanstandung without objection			
Pos. Item Poste	Anzahl Quantity Quantité	Abmessung Dimension Dimensions							Gewicht Weight Poids	Schmelz-Nr. Heat-No. No. de coulée	
1	3	596.9 mm dia. x 1897 - 1900 mm (23.50" dia.)							12720 kg	732218	
Schmelze Heat %	C	Si	Mn	P	S	Cr	Mo	Ni			
732218	0,016	0,43	1,89	0,030	0,0010	17,00	2,04	11,17			
Wärmebehandlungszustand Condition of heat treat		lösungsgeglüht solution annealed									
Probe-Nr. Test-No.	Lage Loc.	Temp. °C	Rp0,2 N/mm ²		Rm N/mm ²	A4 %	Z %	Kerbschlagarbeit Impact value	Probenform Shape of test piece	Härte Hardness	
Soll/Req.	L	RT	>=170		>=485	>=30	>=40				
740R1	L	RT	283		573	56,7	75				
<p>Grain size acc. ASTM E 112: 3</p> <p>The UT examination according to ASTM A 745 / ASME SA-745, QL 4 was done: without objection</p> <p>Visual surface control was done: without objection</p> <p>Radioactivity inspection without objection, the measured value is below the detection limit of 0.1 Bq/g.</p>											
Anlagen Encl. Annexe Hardness Testing Report - 292648				Siegen, den Place and date Lieu et date 18.09.2020				Abnahmebeauftragter Inspector representative Inspecteur de réception Langer			
Das Zeugnis wurde maschinell erstellt und ist auch ohne Unterschrift gültig. This certificate was generated by data system and it is valid without signature as well. Ce certificat a été établi sur système informatique et est valable sans signature aussi.											

CLIENT: **ASA ALLOYS INC.**
#100, 112 Strathmoor Drive
Sherwood Park, Alberta T8H 2B7

DATE: **March 23, 2021**
 INVOICE #:
 JOB #:
 P.O. #: **PO49165**

EQUIPMENT OWNER: **ASA ALLOYS INC.**
 LOCATION: **ASA ALLOYS INC.**

WORK ORDERS: **37905**

TECHNIQUE DETAILS

PROCEDURE #: **HTP-01, Rev.1**
 TEST METHOD: **ASTM A1038-2017**
 ACCEPTANCE STANDARD: **NACE MR0175**

EQUIPMENT

Manufacturer: **BAQ** Type: **alphadur mini** Serial #: **ADM-1423**
 Last Calibration: **Jul-07-2020** Calibration Due: **Jul-07-2021**

SURFACE CONDITION: Bare Metal Ground Machined Blasted Painted Welded Loose Scale Removed
 MATERIAL TYPE: **316 SS** MATERIAL THICKNESS: SURFACE TEMP:

ITEMS TESTED

Ultrasonic contact impedance hardness testing was performed on the following.

Qty 1 - 316 SS bar stock

LOCATION	CN #	HEAT #	REMARKS	Accept	Reject
As per attached photos	402543	732218	BGH Edelstahl GmbH	✓	

TEST RESULTS & COMMENTS

All readings were within the acceptable limit of < 237 BHN.

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SIGNATURES * Client representative's signature indicates acceptance of the reports and results. Nortech Advanced NDT Ltd. is liable for examination costs only.

CLIENT REPRESENTATIVE* (PRINT/SIGN) /

Technician (PRINT) Murray Nethery

CGSB:

CGSB REG#: 9638

SNT-TC-1A:

Technician (SIGN)

Bar OD



Comments	Accept	Reject
Area 1: 222 BHN (20 HRC)	✓	
Area 2: 216 BHN (18 HRC)	✓	
Area 3: 198 BHN (15 HRC)	✓	

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CLIENT REPRESENTATIVE* (PRINT/SIGN) /
Technician (PRINT) Murray Nethery

CGSB:

CGSB REG#: 9638

SNT-TC-1A:

Technician (SIGN)

Bar radius



Comments	Accept	Reject
Area 4: 176 BHN (<15 HRC)	✓	

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CLIENT REPRESENTATIVE* (PRINT/SIGN) /

Technician (PRINT) Murray Nethery

CGSB:

CGSB REG#: 9638

SNT-TC-1A:

Technician (SIGN)