



## CERTIFICATO DI COLLAUDO - ABNAHMEPRUEFZEUGNIS - INSPECTION CERTIFICATE - CERTIFICAT DE RECEPTION

In conformità a: EN 10204 (2004), 3.1 / ISO 10474 (2013), 3.1

Certificato nr. MEST5E3782 / 2020 /  
 Prüfung/Test/Essa:

Cliente / Besteller/Purchaser/Client  
**VALBRUNA CANADA LTD**  
 8724 HOLTGATE CRESCENT  
 L5T 5Z1 - MILTON, ONT L5T 5Z1 - CA

Stato di fornitura Hot rolled - Annealed Peeled  
 Lieferzustand  
 Delivery state  
 Etat de livraison

Produttore  
 Hersteller/Item/Usine productrice

**ACCIAIERIE VALBRUNA S.P.A.**

Ordine nr: 911007748 47505 ASA ALLOY  
 Bestell  
 Your order  
 Commande

Tipo di Elaborazione: E+AOD  
 Erschmelzungsart  
 Melting process  
 Mode d'elaboration

Marchi di Fabbrica:  
 Zeichen des Lieferwerkes  
 Trade marks  
 Sigles de l'usine productrice



Conferma ordine nr: EI19008803  
 Wskn/Our Order/Ref nr

Qualità: 316/316L  
 Werkstoff/Grade/Nuance

Punzone del Collaudatore:  
 Stempel des Werksachverständiger  
 Inspector's stamp/Ponçon de l'essayeur

MR

Avviso di Spedizione: D-VI20015249  
 Lieferanzeige/Packing list/B.L.

Marca MVAPML ( MAXIVAL )  
 Markenbezeichnung  
 Brand / Nuance

Punzonatura: 316/316L  
 Kennzeichnung  
 Marking  
 Marquage

SPECIFICHE :	Note:
Anforderungen / Requirements / Exigences	Aufzeichnungen / Notes / Notes
ASA-MS-2 E 1.4404/316L A AMS-QQ-S-763 D 316/316L A API 6A 20 ANNEX M (0) ASME SA182 2019 S31600/03 A (1) ASME SA479 2019 S31600/03 A (2) ASTM A182 2020 S31600/03 A (3) ASTM A262 2015 PRACTICE E ASTM A276 2017 S31600/03 A ASTM A370 2019 . (4) ASTM A479 2019 S31600/03 A EN 10272 2016 1.4401 A EN 10272 2016 1.4404 A ISO 148-1 2016 ISO 6892-1 2019 NACE MR0175 2015 S31600/03 A (5)	(0)ISO 10423:2009 MODIFIED ERRATA 1 dated January 2011 (1)Section II Part A 2019 EDITION For products machined directly from bar refer to ASME SA479. (2)Section II Part A 2019 EDITION (3)For products machined directly from bar refer also to ASTM A479. (4)2019E1 (5)ANSI/NACE MR0175/ISO 15156-3, third edition November 23,2015

Tolleranza: ASTM A484-19 TABLE 7

Tolleranza/Allowance/Tolérance

Pos. nr.	Oggetto	Dimensioni - In	Lunghezza - Ft	Colata	Pezzi	Peso - LB	Lotto nr.
Pos. nr. Item nr. Nr. de poste	Gegenstand Product description Descript. du produit	Abmessungen Dimension Dimension	Länge Length Longueur	Schmelze Heat Coulée	Stückzahl Pieces Pièces	Gewicht Weight Poids	Losnr. Lot nr. Lot nr.
0140	Round	3,2500	17/ 18	281600	6	2.917	100905860

### TEST ALLO STATO DI FORNITURA

Test on delivery condition / Prüfung auf lieferbarem produkt / test a l'etat de fourniture / Prueba sobre el material así como entregado

1) L: longitudinale/longs, T: transversale/quer, C: Tangenziale/along general

TEST	Provetta/ Probe/Tabl Spezialanforderungen Large diam Specs. Diam. Diam. Dicke Width Diam. Thickness Large diam. épais mm	°F	Posiz. Saggio Prüfung Location position	Snerimento Yield Stress Limite elastique Rp 0,2% k.s.t.	Snerimento Tensile Stress Limite elastique Rp 1% k.s.t.	Resistenza Zugfestigkeit Tensile strength Resistance à traction Rm k.s.t.	Allungamento Bruchdehnung Elongation Allongement A5 %	Strizione Zugverschiebung Reduction of area Striction Z %	Resilienza Kerbschlagenergie Impact value Resilience KV ftlbs	Durezza Härte Hardness Dureté HB
Valori richiesti Anforderungen/Required values Valeurs demandées		min max		29	34	73 102	40	-	73	140 215
A	10	68	L	39	44	81	59	63	152 158 161 163	

### TEST ALLO STATO DI FORNITURA

Test on delivery condition / Prüfung auf lieferbarem produkt / Test a l'etat de fourniture / Prueba sobre el material así como entregado

TEST	min	max
A Grain size for ASTM E112		5

QUALITY MANAGEMENT SYSTEM CERTIFIED BY LLOYD'S REGISTER ACCORDING TO ISO 9001 : 2015, IATF 16949 : 2016, AS 9100D

Vicenza, 06/07/2020 VCQ052 - MFS15E3782	Direzione Qualità Quality Management/Quality Management/Direction Qualité R.BERTELLI	Direzione Prodotto Produktmanagement/Product Management/Directon Produit P.MESSORI	Pagina 1 di 4
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C2688883

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## CERTIFICATO DI COLLAUDO - ABNAHMEPRUEFZEUGNIS - INSPECTION CERTIFICATE - CERTIFICAT DE RECEPTION

In conformità a: EN 10204 (2004), 3.1 / ISO 10474 (2013), 3.1

Certificato nr. MEST583782 / 2020 /

Nach/According to/Selon

Prüfung/Test/Essai

Cliente / Besteller/Purchaser/Client  
 VALBRUNA CANADA LTD  
 8724 HOLTGATE CRESCENT  
 L5T 5Z1 - MILTON, ONT L5T 5Z1 - CA

Stato di fornitura: Hot rolled - Annealed Peeled  
 Lieferzustand: Hot rolled - Annealed Peeled  
 Delivery state: Hot rolled - Annealed Peeled  
 Etat de livraison: Hot rolled - Annealed Peeled

Produttore:  
 Hersteller/ferVUsine productrice

**ACCIAIERIE VALBRUNA S.P.A.**

Ordine nr: 911007748 47505 ASA ALLOY

Bestell  
 Your order  
 Commande

Tipo di Elaborazione: E+AOD  
 Erhmelzungsart: E+AOD  
 Melting process: E+AOD  
 Mode d'elaboration: E+AOD

Marchi di Fabbrica:  
 Zeichen des Lieferwerkes  
 Trade marks  
 Sigles de fusine production



Conferma ordine nr: EI19008803

Werkz/Our Order/Ret nr.

Qualità: 316/316L  
 Werkstoff/Grade/Nuance: 316/316L

Punzone del Collaudatore:  
 Stempel des Werkstoffverständigen  
 Inspector's stamp/Position de l'essayeur

MR

Avviso di Spedizione: D-VI20015249

Lieferanzgabe/Packing list/B.L.

Marca: MVAPML ( MAXIVAL )

Markenbezeichnung  
 Brand / Nuance

Punzonatura: 316/316L

Kenzeichnung  
 Marking  
 Marquage

### Test on delivery condition

TEST	Provetta/ Probe Specimen/Éprouvette Larg./diam. Spess. Breda/Diam. Dicke Width/Diam. Thickness Larg. diam. épais mm	°F	Posiz. Saggio Position Location Orientation	1) L=longitudinale/längs T=trasversale/quer Q=Tangenziale/tangentia		Resistenza Zugfestigkeit Tensile strength Resistance à traction Rm k.s.l.	Allungamento Bruchdehnung Elongation Allongement E 4d %	Strizione Einschnürung Reduction of area Striction RA %	Resilienza Kerbschlagarbeit Impact Value Resilience	Durezza Härte Hardness Dureté HB
				Sneramento Streckgrenze Yield Stress Limite élastique Rp 0,2% k.s.l.	Sneramento Streckgrenze Yield Stress Limite élastique					
Valori richiesti		min		30	-	75	40	-	-	140
Anforderungen/Requisits Valeurs des spéc.		max				115				217
D	12,5	68	L	38		81	60	75		161

Mechanical properties according to ASTM A370.

Impact testing according to ISO 148-1

Tensile testing according to ISO 6892-1

### Analisi chimica

Chemische Zusammensetzung/Chemical Analysis/Analyse chimique											
Coista / Heat	min	-	-	16,50	2,00	-	10,00	-	-	-	-
Schmelze/Coulee	max	0,030	1,00	16,30	2,50	1,00	13,00	0,045	0,030	0,100	-
	C %	Si %	Mn %	Cr %	Mo %	Cu %	Ni %	P %	S %	N %	
281600	0,014	0,49	1,46	16,70	2,08	0,44	10,04	0,031	0,025	0,069	

### Corrosion test in 16% sulfuric acid and copper sulfate solutions

Test standard: ASTM A262-Practice E

Test	Heat treatment before test	Length of Period (h)	Test temp (°C)	Bend Angle (°)	Ø spindle (mm)	Result of visual inspection at 20 x magnification after bend test	Result
Intergranular corrosion	Sensitization	15	boil	180	5	Absence of cracks	SATISFACTORY

### Corrosion test in 16% sulfuric acid and copper sulfate solutions

Test standard: UNI EN ISO 3651-2 Method A

Test	Heat treatment before test	Length of Period (h)	Test temp (°C)	Bend Angle (°)	Ø spindle (mm)	Result of visual inspection at 20 x magnification after bend test	Result
Intergranular corrosion	Sensitized T1	20	boil	90	5	Absence of cracks	SATISFACTORY

Furnace calibrated according to API 6A REV 20th ED ANNEX M.

Reduction ratio = 5,7 : 1

Material solution annealed 1976°F for 2h/water cooled.

Material is DFARS Compliant

QUALITY MANAGEMENT SYSTEM CERTIFIED BY LLOYD'S REGISTER ACCORDING TO ISO 9001 : 2015, IATF 16949 : 2016, AS 9100D

Vicenza, 06/07/2020 VCQ052 - MEST583782	Direzione Qualità Qualitätsmanagement/Quality Management/Gestion Qualifs R.BERTELLI	Direzione Prodotto Produktmanagement/Product Management/Direction Produits P.MESSORI	Pagina 2 di 4
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8724 HÖLGATE CRESCENT  
L5T 5Z1 - MILTON ONT L5T 5Z1 - CA

Stato di fornitura: **Hot rolled - Annealed Peeled**  
Lieferzustand  
Delivery state  
Etat de livraison

Produttore:  
Hersteller/Item/Usine productrice

**ACCIAIERIE VALBRUNA S.P.A.**

Ordine nr. **911007748 47505 ASA ALLOY**  
Bestell  
Your order  
Commande

Tipo di Elaborazione: **E+AOD**  
Erschmelzungsart  
Melting process  
Mode d'elaboration

Marchi di Fabbrica:  
Zeichen der Lieferwerke:  
Trade marks  
Sigles de l'usine productrice



Conferma ordine nr. **EI19008803**  
Werk/Our Order/Ref nr.

Qualità: **316/316L**  
Werkstoff/Grade/Nuance

Punzone del Collaudatore:  
Stempel des Sachverständigen  
Inspector's stamp/Pointon de l'essayeur

**MR**

Avviso di Spedizione: **D-VI20015249**  
Lieferanzeige/Packing list/B.L.

Marca: **MVAPML ( MAXIVAL )**  
Markenbezeichnung  
Brand / Nuance

Punzonatura: **316/316L**  
Kennzeichnung  
Marking  
Marquage

**Allegati / Anlagen / Enclosure / Attachments :**  
UT20004016

Sono state soddisfatte tutte le condizioni richieste  
Die gestellten Anforderungen sind in Anlage erfüllt  
The materia has been furnished in accordance with the requirements  
Le matériel a été trouvé conforme aux exigences

Controllo antimiscelazione: **OK**  
Verwechslungsprüfung: **spectralanalytisch durchgeführt**  
Antimixing testing performed: **OK**  
Contrôle antimélange fait: **OK**

Controllo visivo e dimensionale: **soddisfa le esigenze**  
Besichtigung und Ausmessung: **ohne Beanstandung**  
Visual inspection and dimensional checks: **satisfactory**  
Contrôle visuel et dimensionnel: **satisfaisant**

Melted, poured and manufactured in Italy No welding or weld repair Material free from Mercury contamination

We declare that the finished product is checked for radioactive contamination by the portal system when it leaves the production plant.

The Quality Management System is also Certified according Pressure Equipment Directive 2014/68/EU Annex 1, chapt. 4.3 by TÜV and LLOYD'S  
Any act of tampering, modification, alteration, counterfeiting and/or falsification and/or any other action which modifies the contents of this test certificate shall constitute a violation of applicable civil and criminal laws. Acciaierie Valbruna shall protect its rights and interests before any competent court, authority and jurisdiction.  
Maxival and/or Valplus grades/products are manufactured with ladle techniques to control composition, distribution, size and shape of non-metallic inclusions for improved machinability.  
The supplied product conforms to requirements expressly requested by the purchaser and conforms to requirements specified by certified norms and standards. Should the product be used for more severe, critical and/or in any case different applications than those the material is generally intended for, any different and/or supplementary requirements shall be specifically demanded, at least, upon order of the Product by the Purchaser. Acciaierie Valbruna SpA shall not be responsible for any improper use of the Products.

QUALITY MANAGEMENT SYSTEM CERTIFIED BY LLOYD'S REGISTER ACCORDING TO ISO 9001 : 2015, IATF 16949 : 2016, AS 9100D

Vicenza, **06/07/2020**

Direzione Qualità  
Quality Management/Quality Management/Direction Qualité

**R.BERTELLI**

Direzione Prodotto  
Product Management/Product Management/Direction Produit

**P.MESSORI**

Pagina  
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**Acciaierie  
Valbruna S.p.A.**

36100 VICENZA (Italia) - Viale della scienza, 25 z.i.  
Stab.: 39100 BOLZANO (Italia) - Via A. Volta, 4

CERTIFICATO Certificate - Zeugnis - Certificat N° UT20004016

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**CONTROLLO CON ULTRASUONI**

Ultrasonic testing - Ultraschallprüfung - Controle par ultrasons

mod. UT02

MEST583782 / 2020 /

**Cliente : VALBRUNA CANADA LTD**

Customer

**Lotto nr : 100905860**

Mill order

MARCA Grade	DIMENSIONI - In Size	COLATA Heat	BARRE Bars	PESO Weight	LUNGHEZZA - Ft Length	
MVAPML	Round 3,2500	281600	N. 6	LB : 2,917	17	18
T. TERMICO Heat Treatment	ESECUZIONE Condition		RUGOSITA' Roughness		TOLLERANZA Tolerance	
Annealed	Peeled		µm		AS™ M A484-19 TABLE 7	

**Istruzione : PROC CND 016**

Work Instruction

**Criteri Accettabilità : API 6A PSL3**

Acceptance Criteria

**ELETTRONICA : GE USIP 40**

Equipment

**ACCOPIANTE : WATER + 0253 SA**

Couplant

**VEL.CONTROLLO :**

**30 m/min**

Testing Speed

TRASDUTTORI Probes	TIPO ONDA Type of wave	FREQUENZA (MHZ) Frequency	DIMENSIONI (MM) Dimension	ANGOLO Angle	TARATURA Calibration
P12-2.5MHZ	LONGITUDINAL	2.5	12	0°	

**CONTROLLO AUTOMATICO**

Automating inspection

**CONTROLLO MANUALE**

Manual inspection

**NOTE :**

Notes

**CONFORME [X]**

Compliant

**CONFORME IN DEROGA [ ]**

See Deviation

**NON CONFORME [ ]**

Not Compliant

**ISPEZIONATO DA**

Inspected by

**VERIFICATO DA**

Verified by

**APPROVATO DA**

approved by

**G.Parlato**

ISO 9712  
LEV. 2  
IND1901054

**COLLAUDATORE**

Inspector - Abnahmesachsvers: -  
Inspecteur

**FIRMA**

12/06/2020

Date - Date

**FIRMA**

**FIRMA**

C268883  
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