



Acciaierie Valbruna S.p.A.

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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
 Nach/According to/Sehon

Certificato nr. MEST626054 / 2020 /
 Prüfung/Test/Essai

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

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

Produttore:
 Hersteller/Hersteller/Usine productrice

ACCIAIERIE VALBRUNA S.P.A.

Ordine nr: 008008205 Stock - Canada
 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: EI20007233
 Werks/Our Order/Ref. nr.

Qualità: 316/316L
 Werkstoff/Grade/Nuance

Punzone del Collaudatore:
 Stempel des Werksachverständigen
 Inspector's stamp/Plaque de l'essayeur

MR

Avviso di Spedizione: D-VI20023138
 Lieferanzeige/Packing list/VBL

Marca: APLM
 Markenbezeichnung
 Brand / Nuance

Punzonatura: 316/316L
 Kennzeichnung
 Marking
 Marquage

SPECIFICHE:

Anforderungen / Requirements / Exigences

Note:

Aufzeichnungen / Notes / Notes

VSI 0. 316/316L A
 AISI 316/316L
 AMS 5648 M S31600 A
 AMS 5653 J S31603 A
 AMS-QQ-S-763 D 316/316L A
 ASME SA182 2019 S31600/03 A (0)
 ASME SA193 2019 B8M CLASS 1 (1)
 ASME SA276 2019 S31600/03 A (2)
 ASME SA320 2019 B8M CLASS 1 CLASS1 (3)
 ASME SA479 2019 S31600/03 A (4)
 ASTM A182 2020 S31600/03 A (5)
 ASTM A193 2019 B8M CLASS 1
 ASTM A262 2015 PRACTICE E
 ASTM A276 2017 S31600/03 A
 ASTM A314 2019 S31600/03
 ASTM A320 2018 B8M CLASS 1 CLASS1
 ASTM A370 2020 . (6)
 ASTM A473 2019 S31600/03 (7)
 ASTM A479 2020 S31600/03 A
 MIL-S-882 B/1 316/316L
 NACE MR0103 2015 S31600/03 A (8)
 NACE MR0175 2015 S31600/03 A (9)
 QQ-S-763 F 316/316L A

(0)Section II Part A 2019 EDITION For products machined directly from bar refer to ASME SA479.

(1)Section II Part A 2019 EDITION

(2)Section II Part A 2019 EDITION

(3)Section II Part A 2019 EDITION

(4)Section II Part A 2019 EDITION

(5)For products machined directly from bar refer also to ASTM A479.

(6)2019E1

(7)Chemical analysis only.

(8)ANSI/NACE MR0103/ISO 17946 November 23, 2015

(9)ANSI/NACE MR0175/ISO 15156-3, third edition November 23,2015

Tolleranza: ASTM A484-20B TABLE 3

Tolerance/Allowance/Tolerance

Pos. nr. Item no. No. de poste	Oggetto Gegenstand Product description Descript. du produit	Dimensioni - In Abmessungen Dimension Dimension	Lunghezza - In Länge Length Langueur	Colata Schmelze Heat Coulée	Pezzi Stücke Pieces Pièces	Peso - LB Gewicht Weight Poids	Lotto nr. Lohn. Lot no. Lot no.
0040	Round	8,5000	130/ 136	283933		4,427	117808020

P.O.#: P182 307
 R#: R165145
 ITEM#: 509378
 HEAT#: 283933
 BRANCH#: 875

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

Vicenza, 19/10/2020
 VCCQ52 - MEST626054

Direzione Qualità
 Qualitätsmanagement/Quality Management/Direction Qualité
 R.BERTELLI

Direzione Prodotto
 Produktmanagement/Product Management/Direction Produit
 P.MESSORI

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 Hersteller/LiervUsine productrice

ACCIAIERIE VALBRUNA S.P.A.

Ordine nr: **008008205 Stock - Canada**
 Bestell
 Your order
 Commande

Tipo di Elaborazione: **E+AOD**
 Erweichungsart
 Milling process
 Mode d'elaboration

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



Conferma ordine nr: **EI20007233**
 Werks/Our Order/Ref. nr.

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

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

MR

Avviso di Spedizione: **D-VI20023138**
 Lieferanzeige/Packing list/V.L.

Marca: **APML**
 Markenbezeichnung
 Brand / Nuance

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

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	Provetta/ Probe Specimen/Éprouvette Leg. diam. Spess. Beile Diam. Dicke With. Diam. Thickness Leg. diam. epais. mm	°F	Posiz. Saggio Proveeplace Location Emploiment n	Snervamento Biechgrenze Yield Stress Limite élastique Rp 0,2% k.s.f.	Snervamento Biechgrenze Yield Stress Limite élastique	Resistenza Zugfestigkeit Tensile strength Resistance à traction Rm k.s.f.	Allungamento Bruchdehnung Elongation Allongement E 4d %	Strizione Einziehung Reduction of area Striction %	RA %	Resilienza Kerbschlagarbeit Impact Value Resilience	Durezza Härte Hardness Dureté HB
	Valori richiesti Anforderungen/Required values Valeurs demandées			30	-	75 115	- 40	-	50	-	140 223
A	12,5	68	L	38		81	56		72		167

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		4

Mechanical properties according to ASTM A370.

Analisi chimica

Chemische Zusammensetzung/Chemical Analysis/Analyse chimique

Colata /Heat Schmelze/Coulée	min	-	1,25	16,50	2,00	-	10,00	-	-	0,020	-	-	-	-	-
	max	0,030	1,00	2,00	3,00	1,00	14,00	-	0,040	0,030	0,100	-	-	-	-
	C %	Si %	Mn %	Cr %	Mo %	Cu %	Ni %	Co %	P %	S %	N %				
283933	0,014	0,49	1,86	16,61	2,05	0,59	10,08	0,157	0,031	0,027	0,079				

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

Produced without class I-II Ozone depleting substances.
 Solution heat treated free from continuous carbide network.
 Micro and macro etch test: OK.
 Reduction ratio = 7,6 : 1
 Material annealed 1940°F for 4h/water cooled.
 Material is DFARS Compliant

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

Controllo antimiscelanza: OK
 Verwechslungsprüfung: spektralanalytisch durchgeführt
 Antimixing testing performed: OK
 Contrôle antimélange fait: r.a.s.

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

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

Vicenza, 19/10/2020 VCQ052 - MEST626054	Direzione Qualità Qualitätsmanagement/Quality Management/Direction Qualité R.BERTELLI	Direzione Prodotto Produktmanagement/Product Management/Direction Produit P.MESSORI	Pagina 2 di 3
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 Zeichen des Lieferwerkes
 Trade marks
 Signes de l'usine productrice



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Punzonatura: 316/316L
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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.
 Maxval 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, 19/10/2020
 VCQ052 - MEST626054

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