



Acciaierie Valbruna S.p.A.

36100 VICENZA (Italia) - Viale della scienza 25 n.1
 Telefono 0444.963211 - Fax 0444.963935
 Stab.: 39100 BOLZANO (Italia) - Via A. Volta 4/37
 Telefono 0471.924111 - Fax 0471.924497

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

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

Certificato nr. MEST475846 / 2019 /
Prüfung/Text/Etrial

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

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

Produttore:
Hersteller/Usine productrice

ACCIAIERIE VALBRUNA S.P.A.

Ordine nr. 909007688
Bestell
 Yell order
 Commande

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

Marchi di Fabbrica:
Zeichen des Lieferanten
 Trade marks
 Signes de l'usine productrice



Conferma ordine nr. EI19007813
Werkauf Order/Rechn.

Qualità 316/316L
Werkstoff/Grade/Qualität

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

MR

Aviso di Spedizione: D-VI19027754
Verpackung/Packing Invoice

Marca: APLM
Markenbezeichnung
 Brand / Marque

Punzonatura: 316/316L
Kenzeichnung
 Marking
 Marquage

SPECIFICHE :

Anforderungen / Requirements / Exigences

Note:

Anforderungen / Notes / Notes

- VSI 0 316/316L A
- AISI 316/316L
- AMS 5648 M S31600 A
- AMS 5653 H S31603 A
- AMS-QQ-S-763 D 316/316L A
- ASME SA182 2017 S31600/03 A (0)
- ASME SA193 2017 B8M CLASS 1 (1)
- ASME SA276 2017 S31600/03 A (2)
- ASME SA320 2017 B8M CLASS1 (3)
- ASME SA479 2017 S31600/03 A (4)
- ASTM A182 2019 S31600/03 A (5)
- ASTM A193 2017 B8M CLASS 1
- ASTM A262 2015 PRACTICE E
- ASTM A276 2017 S31600/03 A
- ASTM A314 2019 S31600/03
- ASTM A320 2018 B8M CLASS1
- ASTM A370 2019 (E)
- ASTM A473 2001 S31600/03 (7)
- ASTM A479 2018 S31600/03 A
- MIL-S-882 B/1 316/316L
- NACE MR0103 2015 S31600/03 A (8)
- NACE MRC175 2015 S31600/03 A (8)
- QQ-S-763 F 316/316L A

- (0)Section I Part A 2017 EDITION For products machined directly from bar refer to ASME SA479.
- (1)Section II Part A 2017 EDITION
- (2)Section II Part A 2017 EDITION
- (3)Section II Part A 2017 EDITION
- (4)Section II Part A 2017 EDITION
- (5)For products machined directly from bar refer also to ASTM A479.
- (6)2015E1
- (7)Chemical analysis only
- (8)ANSI/NACE MR0103/ISO 15945 November 23, 2015
- (9)ANSI/NACE MR0175/ISO 15156-3, third edition November 23, 2015

Tolleranza: STM A484-12A TABLE 3

Pos. nr. <small>Part. nr. Lot. nr. 19. de point</small>	Oggetto <small>Designation Product description Design. de produit</small>	Tolleranze / Allowances / Tolerances		Lunghezza - In <small>Length Longueur</small>	Diametro <small>Outer Diameter</small>	Pezzo <small>Quantity Pieces</small>	Peso - LB <small>Weight Poids</small>	Codice nr. <small>Lot Lot. nr.</small>
		Dimensioni - In <small>Dimensions Dimension</small>						
0010	Round	11,0000		144/ 144	281223		4,008	9127-0250

P.O.#: P120458
 R#: R158470
 ITEM#: 509382
 HEAT#: 281223
875

Provided by: ENCORE METALS DIVISION OF RMCI

ANS



Acciaierie Valbruna S.p.A.

36100 VICENZA (Italia) - Viale della scienza, 25 z.
 Telefono 0444.988211 - Fax 0444.983835
 Stab.: 39100 BOLZANO (Italia) - Via A. Volta, 4/37
 Telefono 0471.924111 - Fax 0471.924497

CERTIFICATO DI COLLAUDO - ABNAHMEPRUEFZEUGNIS - INSPECTION CERTIFICATE - CERTIFICAT DE RECEPȚION

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

Certificato nr. MEST475846 / 2019 /
 Prüfungs/Testschein

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

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

Produttore:
 Hersteller/Hersteller/Producent

ACCIAIERIE VALBRUNA S.P.A.

Ordine nr. 909007688
 Bestell-/Purchase/Commande

Tipo di Elaborazione: E-A0D
 Erzeugnisart: Working process: Mode de fabrication

Marchi di Fabbrica:
 Zeichen des Lieferanten:
 Trade marks:
 Siglas de fabrica producida



Conferma ordine nr. EI19007813
 Warenauftrag/Order/Ref. nr.

Qualità: 316/316L
 Werkstoff/Grade/Type

Punzone del Collaudatore:
 Stempel des Werkstoffversuchsprüfer:
 Inspector's stamp/Prințipon de fabricare



Avviso di Spedizione: D-VI19027754
 Lieferanweisung/Packing Instruk.

Marca: APML
 Markenbezeichnung:
 Brand/Nummer

Punzonatura: 316/316L
 Kennzeichnung:
 Marking:
 Marking

TEST ON DELIVERY CONDITION / PRÜFUNG AUF LIEFERBEREITEM PRODUKT / TEST A l'ETAT DE FOURNITURE / PRUEBA SOBRE EL MATERIAL ASI COMO ENTREGADO

TEST	PROVOLA / PRESENTA Spec. Mark/Erzeugnis: Liefer. Char. Data: Werkstoff, Technische Lsg. Ben. nach DIN	°F	Post. Segge Marken Erzeugnis	Snervamento Streckgrenze Yield Stress Limite elastic. Rp 0,2%	Snervamento Streckgrenze Yield Stress Limite elastic.	Resistenza Zugfestigkeit Tensile strength Resistencia a tracción Rm	Allungamento Drehmaß/Bruch Elongation Alargamiento	Strizione Schrumpung Reduction of area Stricción	Resilienza Kerbschlagenergie Impact energy Resiliencia	Durezza Härte Hardness Dureza HB
A	12.5	68	L	39	-	115	63	75	-	169

TEST ALLO STATO DI FORNITURA

TEST	min	max
A Grain size for ASTM E112		4

Mechanical properties according to ASTM A370.

Analisi chimica

Colore / Moist Appearance/Color	min - max	1.25 2.00	10.50 18.00	2.00 3.00	10.00 14.00	0.020 0.030	0.020 0.030	0.020 0.030	0.020 0.030	0.020 0.030	0.020 0.030
	C %	Si %	Mn %	Cr %	Mo %	Cu %	Ni %	Co %	P %	S %	N %
281223	0,020	0,47	1,79	13,55	2,04	0,47	10,11	0,114	0,029	0,022	0,095

Corrosion test in 16% sulfuric acid and copper sulfate solutions

Test standard: ASTM A282-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 = 4,2 : 1
 Material annealed 1940°F for 5h/water cooled.
 Material is DFARS Compliant

Sono state soddisfatte tutte le condizioni richieste Die gestellten Anforderungen sind erfüllt. The material has been furnished in accordance with the requirements. Le materiali si sono conformati alle esigenze	Controllo antimiscelanza: OK Verwechslungsprüfung: zufrieden/positiv durchgeführt Antiwelding testing performed: OK Controlle and miscelanza test: OK	Controllo visivo e dimensionale: soddisfa le esigenze Baugruppung und Ausmaßprüfung: ohne Beanstandung Visual inspection and dimensional check satisfactory Controlle visivo e dimensionale: satisfaisant
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Melted 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 through Portal System when it leaves the production plant.

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

Vicenza, 21/10/19 VCC052 - MEST475846	Direzione Qualità Quality Management/Qualitätsmanagement/Quality Control R. BERTELLI	Direzione Prodotto Production Management/Produktmanagement/Production Control P. MESSORI	Pagina 2 di 3
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Provided by: ENCORE METALS DIVISION OF RMCI



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 Nach/According to/En/

Certificato nr. MEST475846 / 2019 /
 PrüfungsZert/Essai

Cliente / Besteller/Purchaser/Cliant
VALBRUNA CANADA LTD
 5724 HOLLGATE CRESCENT
 L5T 5Z1 - MILTON, ONT L5T 5Z1 - CA

Stato di fornitura: Forged - Annealed Peeled
 Lieferzustand
 Delivery state
 Estado de entrega

Produttore:
 Hersteller/Hersteller producer

ACCIAIERIE VALBRUNA S.P.A.

Ordine nr. 909007688
 Bestell-/
 Your order
 Commande

Tipo di Elaborazione: E-ACD
 Endbearbeitung
 Working process
 Mode d'elaboration

Marchi di Fabbrica:
 Zeichen des Werks/Markens
 Trademarks
 Signes de l'usine producer



Conferma ordine nr. EI19007813
 Works/Our Order/Ref. nr.

Qualità: 316/316L
 Werkstoff/Grade/nuance

Punzione del Collaudatore:
 Signatures Werkstoffüberwacher/pen
 Inspector's stamp/Pointon de l'essayeur



Avviso di Spedizione: D-VI19027754
 Lieferenzettel/Packing list/BL

Marca: APML
 Markenbezeichnung
 Brand/nuance

Punzonatura: 316/316L
 Kennzeichnung
 Marking
 Marquage

The Quality Management System is also Certified according Pressure Equipment Directive 2014/68/EU Annex 1, chap. 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.
 Maximal 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.

Provided by: ENCORE METALS DIVISION OF RMCL

QUALITY MANAGEMENT SYSTEM CERTIFIED BY LLOYD'S REGISTER ACCORDING TO ISO 9001: 2015, IATF 16949: 2016, AS 9100D			
Vicenza, 21/10/19 VQC052 - MEST475848	Direzione Qualità Quality Management/Quality Management/Qualität R.BERTELLI	Direzione Prodotto Product Management/Product Management/Produktion P.MESSORI	Pagina 3 di 3