



Acciaierie Valbruna S.p.A.

36100 VICENZA (Italia) - Viale della scienza, 25 z.l.
 Telefono 0444.968211 - Fax 0444.963836
 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. MEST007039 / 2023 /

Nach/According to/Selon

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/Item/Usine productrice

ACCIAIERIE VALBRUNA S.P.A.

Ordine nr: 210009694 RELIANCE BAR PR
 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 fusine productrice



Conferma ordine nr: EI22010617

Werks/Our Order/Ref nr.

Qualità: 316/316L

Werkstoff/Grade/Nuance

Punzone del Collaudatore:

Stempel des Werksachverständigen
 Inspector's stamp/Poinçon de l'essayeur

MR

Avviso di Spedizione: D-VI23001353

Lieferanzeige/Packing list/B.L.

Marca: APML

Markenbezeichnung
 Brand / Nuance

Punzonatura: 316/316L

Kennzeichnung
 Marking
 Marquage

SPECIFICHE :

Note:

Anforderungen / Requirements / Exigences

Anzeichnungen / Notes / Notes

VSI 0/1 316/316L A

AISI . 316/316L

AMS 5648 M S31600 A

AMS 5653 J S31603 A

AMS-QQ-S-763 D 316/316L A

ASME SA182 2021 S31600/03 A (0)

ASME SA193 2021 B8M CLASS 1 (1)

ASME SA276 2021 S31600/03 A (2)

ASME SA320 2021 B8M CLASS 1 (3)

ASME SA479 2021 S31600/03 A (4)

ASTM A182 2022 S31600/03 A (5)

ASTM A193 2022 B8M CLASS 1

ASTM A262 PR. E 2015 316/316L (6)

ASTM A276 2017 S31600/03 A

ASTM A314 2019 S31600/03

ASTM A320 2022 B8M CLASS 1 CLASS1

ASTM A370 2022

ASTM A473 2021 S31600/03 (7)

ASTM A479 2021 S31600/03 A

MIL-S-862 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 2021 EDITION For products machined directly from bar refer to ASME SA479.

(1)Section II Part A 2021 EDITION

(2)Section II Part A 2021 EDITION

(3)Section II Part A 2021 EDITION

(4)Section II Part A 2021 EDITION

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

(6)Reapproved 2021

(7)Chemical analysis only.

(8)ANSI/NACE MR0103/ISO 17945 November 23, 2015

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

P.O.#: PI26312
 R#: R179254
 ITEM#: 509382
 HEAT#: 290490
 BRANCH#: 875

Tolleranza: ASTM A484-22 TABLE 3

Toleranz/Allowance/Tolerance

Pos. nr. Pos. nr. Item nr. Nr. de poste	Oggetto Gegenstand Product description Descrip. du produit	Dimensioni - In Abmessungen Dimension Dimension	Lunghezza - In Länge Length Longueur	Colata Schmelze Heat Coulée	Pezzi Stückzahl Pieces Pièces	Peso - LB Gewicht Weight Poids	Lotto nr. Losnr. Lot nr. Lot nr.
0010	Round	11,0000	137/ 137	290490	1	3.766	216509660

TEST ALLO STATO DI FORNITURA

TEST	min	max
A Grain size for ASTM E112		3

Provided by CPA

www.flowconditioner.com.info@cpacl.ca

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

Vicenza, 18/01/2023

VQ0012 - MEST007039

Direzione Qualità
 Qualitätsmanagement/Quality Management/Gestion Qualité

R.BERTELLI

Direzione Prodotto
 Produktmanagement/Product Management/Direction Produit

P.MESSORI

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3/24



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ACCIAIERIE VALBRUNA S.P.A.

Ordine nr: 210009694 RELIANCE BAR PR
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Tipo di Elaborazione: E+AOD
 Erhmelzungsart
 Melting process
 Mode d'elaboration

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



Conferma ordine nr: EI22010617
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Avviso di Spedizione: D-VI23001353
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Marca: APLM
 Markenbezeichnung
 Brand / Nuance

Punzonatura: 316/316L
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Test on delivery condition per ASTM A370

TEST	Provetta/ Pretestab Specimen/Eprovetta Larg. diam. Spess. Brelle Diam. Dicke Weich Diam. Thickness Larg. diam. epais mm	°F	Posiz. Saggio Probenage Location Emplacement U	Snervamento Streckgrenze Yield Stress Limite elastique Rp 0,2% k.s.i.	Snervamento Streckgrenze Yield Stress Limite elastique	Resistenza Zugfestigkeit Tensile strength Resistance à traction Rm k.s.i.	Allungamento Bruchdehnung Elongation Allongement E 4d %	Strizione Einschnürung Reduction of area Striction RA %	Resilienza Kerbschlagarbeit Impact Value Resilience	Durezza Härte Hardness Dureté HB
Valori richiesti Anforderungen/Required values Valeurs demandées						115				223
B	12,5	68	L	38		81	61	72		160

Mechanical properties according to ASTM A370.

Analisi chimica

Chemische Zusammensetzung/Chemical Analysis/Analyse chimique

Colata /Heat Schmelze/Couloée	min	max	1,25	16,50	2,00	10,00	0,020	0,030	0,100	-	-	-	-	-
C %	Si %	Mn %	Cr %	Mo %	Cu %	Ni %	Co %	P %	S %	N %	-	-	-	-
290490	0,020	0,46	1,42	16,77	2,05	0,39	10,01	0,168	0,030	0,024	0,077	-	-	-

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 = 4,2 : 1
 Material solution annealed 1976°F for 6 h /
 water cooled.
 ET ACC. TO EN 10088-3 TAB.1
 UT ACC. TO ASTM A388
 Material is DFARS Compliant

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

Controllo antimescolanza con tecnica XRF/QES portatile : OK
 Verwechslungsprüfung: durch XRF/QES Gerät geführt : OK
 Antimixing testing performed with XRF/QES portable : OK
 Contrôle antimélange svr technique XRF/QES portable : OK

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, 18/01/2023 VCCQ12 - MEST007039	Direzione Qualità Qualitätsmanagement/Quality Management/Gestion Qualité R.BERTELLI	Direzione Prodotto Produktmanagement/Product Management/Direction Product P.MESSORI	Pagina 2 di 3
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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.
Maximal and/or Vaipus 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.

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

Vicenza, 18/01/2023
VCQ012 - MEST007039

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R.BERTELLI

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