



Acciaierie Valbruna S.p.A.

35100 VICENZA (Italia) - Viale della scienza, 25 z.l.
 Telefono 0444.958211 - Fax 0444.983838
 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. MEST108480 / 2022 /

Nach/According to/Selon

Prüfung/Test/Essai

Cliente / Besteller/Purchaser/Client
 VA_BRUNA 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/Item/Usine productrice

ACCIAIERIE VALBRUNA S.P.A.

Ordine nr: 207009561 RELIANCE

Bestell
 Your order/
 Commande

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

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



Conferma ordine nr: EI22007851

Werkst/Our Order/Ref.nr.

Qualità: 316/316L
 Werkstoff/Grade/Nuance

Punzone del Collaudatore:
 Stempel des Werkstoffverstarligten
 Inspector's stamp/Emprison de l'essayeur

MR

Avviso di Spedizione: D-VI22026212
 Lieferanzettel/Packing list/B.L.

Marca: APLM
 Markenzeichnung
 Brand / Nuance

Punzonatura: 316/316L
 Kennzeichnung
 Marking
 Marquage

SPECIFICHE:

Note:

Anforderungen / Requirements / Exigences

Auzeichnungen / Notes / Notes

VSI 0/1 316/316L A
 AISI 316/316L
 AMS 5643 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 SA193 2021 B8M CLASS 1 (2)
 ASME SA276 2021 S31600/03 A (3)
 ASME SA320 2021 B8M CLASS 1 (4)
 ASME SA479 2021 S31600/03 A (5)
 ASTM A182 2021 S31600/03 A (6)
 ASTM A193 2020 B8M CLASS 1
 ASTM A262 PR. E 2015 316/316L (7)
 ASTM A276 2017 S31600/03 A
 ASTM A314 2019 S31600/03
 ASTM A320 2022 B8M CLASS 1 CLASS 1
 ASTM A370 2021
 ASTM A473 2021 S31600/03 (8)
 ASTM A479 2021 S31600/03 A
 MIL-S-862 B/1 316/316L
 NACE MR0103 2015 S31600/03 A (9)
 NACE MR0175 2015 S31600/03 A (A)
 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)Section II Part A 2021 EDITION

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

(7)Reapproved 2021

(8)Chemical analysis only.

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

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

P.O.#: P126008
 R#: R178208
 ITEM#: 521534
 HEAT#: 289554
 BRANCH#: 875

Tolleranza: ASTM A434-21 TABLE 3

Tolerance/Allowance/Tolérance

Pos. nr. Pos. nr. Item nr. No. de poste	Oggetto Gegenstand Product description Description de produit	Dimensioni - In Abmessungen Dimension Dimension	Lunghezza - In Länge Length Longueur	Colata Schmelze Heat Coulée	Pezzi Stücken Pieces Pièces	Peso - LB Gewicht Weight Poids	Lotto nr. Losn. Lot no. Lettre
0070	Round	13,0000	134/ 134		289554	5,179	213208130

TEST ALLO STATO DI FORNITURA

TEST	min	max
A Grain size for ASTM E112		1

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

Vicenza, 24/10/2022 VCO052 - MEST108480	Direzione Qualità Quality Management/Quality Management/Gestion Qualité R.BERTELLI	Direzione Prodotto Product Management/Product Management/Direction Produit P.MESSORI	Pagina 1 di 3
--	--	--	------------------

Provided by CPA

www.flowconditioner.com,info@cpacl.ca

2/2



Acciaierie Valbruna S.p.A.

36100 VICENZA (Italia) - Viale della scienza, 25 z.
Telefono 0444.968211 - Fax 0444.963886
Stab: 36100 BOLZANO (Italia) - Via A. Volta, 4/37
Telefono 0471.924111 - Fax 0471.924497

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

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

Certificato nr. MEST108480 / 2022 /
Prüfungsergebnis

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

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

Produttore:
Hersteller/Hersteller/producer

ACCIAIERIE VALBRUNA S.P.A.

Ordine nr. 207009561 RELIANCE

Bestell:
Your order:
Commande:

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

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



Conferma ordine nr. E122007851

Werk/Dur Order/Ref. nr.

Qualità: 316/316L
Werkstoff/Grade/Note:

Punzione del Collaudatore:
Stempel des Werkstoffverständigen
Inspector's stamp/Pointon de l'essayeur

MR

Avviso di Spedizione: D-VI22026212
Lieferanzeige/Packing list/B.L.

Marca: APLM
Markenbezeichnung:
Brand / Nuance:

Punzioneatura: 316/316L
Kürzelbezeichnung:
Marking:
Marquage:

Test on delivery condition per ASTM A370

TEST	Provenza/Provenance Spezifikation/Specification Laufzeit/Run time Stahl-Diagn. Code Werk-Diagn. Technische Log. diam. spez. mm	°F	Posz. Saggio Frischlage Lagerung Empfangen fr	Sneramento Drehspannung Tensile Stress Limite élastique Rp 0,2% k.s.i.	Sneramento Drehspannung Tensile Stress Limite élastique	Resistenza Zugfestigkeit Tensile strength Resistance à traction Rm k.s.i.	Alungamento Bruchdehnung Elongation Allongement E 4d %	Strizione Einschnürung Reduction of area Striction RA %	Resilienza Kerbschlagarbeit Impact Value Resilience	Durezza Härte Hardness Dureté HB
	Valori richiesti Anforderung/Requisit values Valeur requises		min max	30 -	75 115	- 40	- 50	- -	140 223	
C	12,5	68	L	46	86	53	74	165		

Mechanical properties according to ASTM A370.

Analisi chimica

Colora / Mezi Schmelze/Gouée	min max	1,00 0,030	1,00 2,00	16,00 18,00	2,00 3,00	10,00 14,00	0,020 0,030	0,000 0,000	0,000 0,000	0,000 0,000	
C %	SI %	Mn %	Cr %	Mo %	Cu %	Ni %	Co %	P %	S %	N %	
289554	0,014	0,47	1,77	16,68	2,10	0,57	10,05	0,133	0,027	0,028	0,074

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 (°)	∅ spindle (mm)	Result of visual inspection at 20 x magnification after bend test	Result
Intergranular corrosion	Sensitization	15	boil	80	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 = 4,7 : 1
Material annealed 1976°F for 10,5 h water cooled
SURFACE QUALITY WITH MAX DEFECT DEPTH 1% DIAMETER
UT ACC. TO ASTM A388
Material is DFARS Compliant

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

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

Controllo visivo e dimensionale; soddisfa le esigenze
Besichtigung und Ausmessung; ohne Beanstandung
Visual inspection and dimensional check 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.

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

Vicenza, 24/10/2022 VCC052 - MEST108480	Direzione Qualità Quality Management/Qualität Management/Gestion Qualité R. BERTELLI	Direzione Prodotto Product Management/Produkt Management/Direction Produit P. MESSORI	Pagina 2 di 3
--	--	---	------------------



Acciaierie Valbruna S.p.A.

36100 VICENZA (Italia) - Viale della scienza, 25 z.l.
Telefono 0444.968211 - Fax 0444.863636
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. MEST108480 / 2022 /
Prüfung/Text/Essai

Cliente / Besteller/Purchaser/Client
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/Usine producer

ACCIAIERIE VALBRUNA S.P.A.

Ordine nr: 207009561 RELIANCE
Bestell
Your order
Commande

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

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



Conferma ordine nr: EI22007851
Werk/Our Order/Ref. nr.

Qualità: 316/316L
Werkstoff/Grade/Nuance

Punzone del Collaudatore:
Stempel des Werkstoffverständigen
Inspector's stamp/Plaqueon de l'assesseur

MR

Avviso di Spedizione: D-V/22026212
Lieferanzeige/Packing list/B.L.

Marca: APML
Markenbezeichnung
Brand / Nuance

Punzonatura: 316/316L
Kornzeichnung
Marking
Wardridge

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 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 : 2015, AS 9100D

Vicenza, 24/10/2022 VCCQ052 - MEST108480	Direzione Qualità Quality Management/Quality Management/Gestion Qualité R. BERTELLI	Direzione Prodotto Produktmanagement/Product Management/Directeur Produit P. MESSORI	Pagina 3 di 3
---	---	--	------------------