



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**
 Nach/According to/Selon

Certificato nr. MEST868523 / 2022 /
 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: 111009149 RELIANCE PROGRA
 Bestell
 Your order
 Commande

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

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



Conferma ordine nr: EI21015024
 Werks/Our Order/Ref nr.

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

Punzone del Collaudatore:
 Stempel des Werkssachverständigen
 Inspector's stamp/Polinçon de l'assesseur

MR

Avviso di Spedizione: D-VI22001450
 Lieferanzeige/Packing list/B.L.

Marca: APML
 Markenbezeichnung
 Brand / Nuance

Punzonatura: 316/316L
 Kennzeichnung
 Marking
 Marquage

SPECIFICHE :

Note:

Anforderungen / Requirements / Exigences

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)	(0)Section II Part A 2019 EDITION For products machined directly from bar refer to ASME SA479.
ASME SA193 2021 B8M CLASS 1 (1)	(1)Section II Part A 2021 EDITION
ASME SA276 2021 S31600/03 A (2)	(2)Section II Part A 2021 EDITION
ASME SA320 2021 B8M CLASS 1 CLASS1 (3)	(3)Section II Part A 2021 EDITION
ASME SA479 2021 S31600/03 A (4)	(4)Section II Part A 2021 EDITION
ASTM A182 2021 S31600/03 A (5)	(5)For products machined directly from bar refer also to ASTM A479.
ASTM A193 2020 B8M CLASS 1	
ASTM A262 PR. E 2015 316/316L (6)	(6)Reapproved 2021
ASTM A276 2017 S31600/03 A	
ASTM A314 2019 S31600/03	
ASTM A320 2018 B8M CLASS 1 CLASS1	
ASTM A370 2021 .	
ASTM A473 2021 S31600/03 (7)	(7)Chemical analysis only.
ASTM A479 2021 S31600/03 A	
MIL-S-862 B/1 316/316L	
NACE MR0103 2015 S31600/03 A (8)	(8)ANSI/NACE MR0103/ISO 17945 November 23, 2015
NACE MR0175 2015 S31600/03 A (9)	(9)ANSI/NACE MR0175/ISO 15156-3, third edition November 23,2015
QQ-S-763 F 316/316L A	

P.O.#: P123988
 R#: R172312
 ITEM#: 521534
 HEAT#: 287123
 BRANCH#: 875

Tolleranza: ASTM A484-20B TABLE 3

Tolerance/Allowance/Tolerance

Pos. nr. Pos. nr. Item nr. Ni. de poste	Oggetto Gegenstand Product description Descr. du produit	Dimensioni - In		Lunghezza - In Länge Length Longueur	Colata Schmelze Heat Coulée	Pezzi Stücke Pieces Pièces	Peso - LB Gewicht Weight Poids	Lotto nr. Losn. Lot nr. Lot nr.
		Abmessungen Dimensions Dimension						
0040	Round	13,0000		147/ 147	287123		5.677	129116300

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

Vicenza, 18/01/2022 VCQ052 - MEST868523	Direzione Qualità Quality Management/Quality Management/Gestion Qualité R.BERTELLI	Direzione Prodotto Produktmanagement/Product Management/Direction Product P.MESSORI	Pagina 1 di 3
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Provided by CPA

www.flowconditioner.com,info@cpacl.ca

3/17/22



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Etat de livraison

Produttore:
Hersteller/Werks/Usine productrice

ACCIAIERIE VALBRUNA S.P.A.

Ordine nr: 111009149 RELIANCE PROGRA
Bestell.
Your order
Commande

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

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



Conferma ordine nr: EI21015024
Works/Our Order/Ref nr.

Qualità: 316/316L
Workstate/Grade/Nuance

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

MR

Avviso di Spedizione: D-VI22001450
Lieferanweisung/Packing Instruk.

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	Provevita/ Probevita Specimens/Probevita Long. diam. Spass. Breite Diam. Dicke Width Diam. Thickness Long. diam. spass. Dicke	Posiz. Soglia Position Location Emplacement	°F	Snervamento Sonderung Yield Stress Limite élastique Rp 0,2% k.s.l.	Snervamento Sonderung Yield Stress Limite élastique	Resistenza Zugfestigkeit Tensile strength Résistance à traction Rm k.s.l.	Allungamento Bruchdehnung Elongation Allongement E 4d %	Strizione Einschränkung Reduction of area Ectation RA %	Resilienza Kerbschlagenergie Impact Value Resilience	Durezza Steife Hardness Dureté HB		
											min	max
Valori richiesti Anforderungen/Required values Valeurs demandées				30	-	75	-	40	-	50	-	140
A	12,5	68	L	39		115		59		77		166

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 Schmelz/Coulée	min - max	1,26 2,00	16,60 18,00	2,00 3,00	10,00 14,00	0,020 0,030	0,020 0,030	0,100	-	-	-	-	-
287123	C %	Si %	Mn %	Cr %	Mo %	Cu %	Ni %	Co %	P %	S %	N %	-	-
	0,016	0,39	1,74	16,81	2,07	0,55	10,09	0,152	0,029	0,024	0,099		

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 = 4,7 : 1
Material annealed 1976°F for 7 h /water cooled.
Material is DFARS Compliant

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

Controllo antimiscelanza con tecnica XRF/OES portatile : OK
Verwechslungsprüfung: durch XRF/OES Gerät geführt.
Antiskipping testing performed with XRF/OES portable : OK
Contrôle antimélange svt technique XRF/OES 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

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Vicenza, 18/01/2022 VQC052 - MEST868523	Direzione Qualità Quality Management/Qualität R.BERTELLI	Direzione Prodotto Product Management/Produkt Management/Direction P.MESSORI	Pagina 2 di 3
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Lieferscheine/Packing list/V.L.

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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 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.

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Vicenza, 18/01/2022 VCQ052 - MEST868523	Direzione Qualità Qualitätsmanagement/Quality Management/Gestion Qualité R.BERTELLI	Direzione Prodotto Produktmanagement/Product Management/Direction Produits P.MESSORI	Pagina 3 di 3