



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

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

Certificato nr. **MEST879709 / 2022 /**
 Prüfung/Test/Essai

Cliente / 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/Item/Usine productrice

ACCIAIERIE VALBRUNA S.P.A.

Ordine nr: **112009227 RELIANCE PROGRA**
 Bestell
 Your order
 Commanda

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: **EI21016478**
 Werks/Our Order/Ref. nr.

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

Punzone del Collaudatore:
 Stempel des Werkssachverständigen
 Inspector's stamp/Poinçon de l'essayeur

MR

Avviso di Spedizione: **D-VI22003297**
 Lieferanzeige/Packing list/V.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 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 CLASS1 (3)
 ASME SA479 2021 S31600/03 A (4)
 ASTM A182 2021 S31600/03 A (5)
 ASTM A193 2020 B8M CLASS 1
 ASTM A262, PR. E 2015 316/316L (6)
 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)
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.#: **P124380**
 R#: **R172937**
 ITEM#: **S09318**
 HEAT#: **286913**
 BRANCH#: **8TS**

Tolleranza: ASTM A484-20B TABLE 3

Toleranz/Allowance/Tolerance

Pos. nr. Pos. nr. Item nr. Nr. de poste	Oggetto Gegenstand Product description Description du produit	Dimensioni - In		Lunghezza - In Länge Length Longueur	Colata Schmelze Heat Coutée	Pezzi Stückzahl Pieces Pièces	Peso - LB Gewicht Weight Poids	Lotto nr. Losnr. Lot nr. Lot nr.
		Abmessungen Dimension Dimension						
0060	Round	8,5000		218/ 218	286973		3.583	120015030

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

Vicenza, **04/02/2022**
 VCQ052 - MEST879709

Direzione Qualità
 Qualitätsmanagement/Quality Management/Qualité
R.BERTELLI

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

Pagina
 1 di 3



Acciaierie Valbruna S.p.A.

36100 VICENZA (Italia) - Viale della scienza, 25 z.l.
Telefono 0444.868211 - Fax 0444.983836
Stab.: 39100 BOLZANO (Italia) - Via A. Volta, 4/37
Telefono 0471.924111 - Fax 0471.924497

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Erechmalzungsart
Melting process
Mode d'elaboration

Marchi di Fabbrica:
Zeichen des Lieferwerkes
Tråd märke
Siglas de Usine productrice



Conferma ordine nr: EI21016478
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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	Proveita/ Probehöhe Speidmaße/Probehöhe Long. diam. Spé. / Breite Diam. Dicke Widn Diam. Thickness Larg. diam. épais mm	°F	Posiz. Saggio Position Saisonnement	Snervamento Biegeprobe Yield stress Limite élastique Rp 0,2% k.s.l.	Snervamento Zugprobe Yield stress Limite élastique	Résistenza Zugfestigkeit Tensile strength Résistance à traction Rm k.s.l.	Allungamento Bruchdehnung Elongation Allongement		Strizione Beschönung Reduction of area Striction	Resilienze Kerbschlagarbeit Impact Value Resilience	Durezza Härte Hardness Dureté HB	
							E 4d %	RA %				
Valori richiesti Anforderungen/Required values Valeurs demandées		min max		30	-	75 115	-	40	-	50	-	140 223
A	12,5	68	L	39		83		58		72		165

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 /Roost Schmelze/Douille	min	max	1,09	1,25	16,50	2,00	10,00	0,020						
	0,030	2,00	2,00	18,00	3,00	1,00	14,00	0,040	0,030	0,100				
	C %	SI %	Mn %	Cr %	Mo %	Cu %	NI %	Co %	P %	S %	N %			
286973	0,016	0,58	1,69	16,58	2,05	0,68	10,00	0,152	0,029	0,028	0,091			

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 band 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 = 7,0 : 1
Material annealed 1976°F for 5 h / water cooled.
Material is DFARS Compliant

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

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

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

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Vicenza, 04/02/2022 VCC052 - MEST879709	Direzione Qualità Qualitätsmanagement/Quality Management/Gestion Qualité R. BERTELLI	Direzione Prodotto Produktmanagement/Produkt Management/Dirección Producto 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 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.

VCCQ052/MEST879709

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Vicenza, 04/02/2022

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Pagina
3 di 3