



Acciaierie Valbruna S.p.A.

36100 VICENZA (Italia) - Viale della scienza, 25 z.i.
 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. MEST742974 / 2021 /
 Prufung/Tour/Essai

Cliente / Besteller/Purchaser/Cliant:
 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/Werks/Usine productrice

ACCIAIERIE VALBRUNA S.P.A.

Ordine nr: 105008747 RELIANCE PROGRA
 Bestell
 Your order
 Commande

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

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



Conferma ordine nr: EI21006255
 Werks/Our Order/Ref. nr.

Qualità: 316/316L
 Werkstoff/Grade/Nuance

Purzone del Collaudatore:
 Stempel des Werkstoffverständiger
 Inspector's stamp/Person de l'assayeur

MR

Avviso di Spedizione: D-VI21012802
 Lieferanzeige/Packing list/B.L.

Marca: APLM
 Markenbezeichnung
 Brand / Nuance

Punzonatura: 316/316L
 Kennzeichnung
 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 J S31603 A
 AMS-QQ-S-763 D 316/316L A
 ASME SA182 2019 S31600/03 A (3)
 ASME SA193 2019 B8M CLASS 1 (1)
 ASME SA276 2019 S31600/03 A (2)
 ASME SA320 2019 B8M CLASS 1 CLASS1 (3)
 ASME SA479 2019 S31600/03 A (4)
 ASTM A182 2020 S31600/03 A (5)
 ASTM A193 2019 B8M CLASS 1
 ASTM A262 PR. E 2015 316/316L
 ASTM A276 2017 S31600/03 A
 ASTM A314 2019 S31600/03
 ASTM A320 2018 B8M CLASS 1 CLASS1
 ASTM A370 2020 (6)
 ASTM A473 2019 S31600/03 (7)
 ASTM A479 2020 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 2019 EDITION For products machined directly from bar refer to ASME SA479.

(1)Section II Part A 2019 EDITION

(2)Section II Part A 2019 EDITION

(3)Section I: Part A 2019 EDITION

(4)Section I: Part A 2019 EDITION

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

(6)2019E1

(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.#: P123518
 R#: R169329
 ITEM#: 509382
 HEAT#: 285416
 BRANCH#: 875

Tolleranza: ASTM A484-20B TABLE 3

Tolleranz/Afflowanz/Toleranco

Pos. nr. Pos. Nr. Item No. Nr. de partie	Oggetto Gegenstand Produit/Objet/Quin Cetulle, de produit	Dimensioni - in		Lunghezza - in Länge Length Longueur	Colata Schmelze Melt Coulée	Pezzi Stückzahl Pieces Pièces	Peso - LB Gewicht Weight Poids	Lotto nr. Lose Nr. Lot No. Lot
		Abmessungen Dimension Dimension	Abmessungen Dimension Dimension					
0050	Round	11,0000		198/ 198	285416		5.428	104017450

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

Vicenza, 20/05/2021 VCO052 - MEST742974	Direzione Qualità Quality Management/Quality Management/Direction Qualité R. BERTELLI	Direzione Prodotto Produktmanagement/Product Management/Direction Produit P. MESSORI	Pagina 1 di 3
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Scanned 9/29/2021

ANS



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Produttore:
Hersteller/Hersteller/Manufacturer

ACCIAIERIE VALBRUNA S.P.A.

Ordine nr. 105008747 RELIANCE PROGRA
Bestell-/Your order/
Commande

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

Marchi di Fabbrica:
Zeichen des Lieferanten/
Trade marks:
Siglas de fusine productrice



Conferma ordine nr: EI21006255
Werkst/Our Order/Ref. nr.

Qualità: 316/316L
Werkstoff/Grade/Nuance

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

MR

Avviso di Spedizione: D-VI21012802
Lieferanfrage/Packing list/B.L.

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 à l'état de fourniture / Prueba sobre el material así como entregado														
TEST	Provatt./Provasas/ Specimen/Epruveito Log diam Spess. Bore Diam, Thick Weld Diam, Thickness Log. diam, spall (mm)	Posiz. Suggia/ Position/ Location/ Lieu (mm)	°F	Snervamento Stressgrenze Yield Stress Limite élastique Rp 0,2% k.s.t.	Snervamento Stressgrenze Yield Stress Limite élastique	Resistenza Zugtragkraft Tensile strength Résistance à traction Rm k.s.t.	Allungamento Zugdehnung Elongation Allongement E 4d %	Strizione Einziehungs- Reduction of area Striction %	Resilienza Kerbschlagarbeit Impact Value Resilience RA %	Durezza Härte Hardness Dureté HB	Valori richiesti Anforderungen/Required values Valeurs demandées			
												min	max	
A	12,5	68	L	30	-	75	-	40	-	50	-	140	223	167

TEST ALLO STATO DI FORNITURA			
Test on delivery condition / Prüfung auf lieferbarem Produkt / Test à l'état 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 Schmelze/Coulee	min - max	0,030	1,00	1,25 2,00	16,50 18,00	2,00 3,00	- 1,00	10,00 14,00	- -	0,020 0,030	- 0,100	- -
285416	C %	Si %	Mn %	Cr %	Mo %	Cu %	Ni %	Co %	P %	S %	N %	
	0,022	0,47	1,72	16,76	2,07	0,98	10,04	0,147	0,029	0,029	0,090	

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
Intergranular corrosion	Sensitization	16	boil	180	5	Absence of cracks
						SATISFACTORY

Produced without class II Ozone depleting substances.
Solution heat treated free from continuous carbide network.
Micro and macro etch test: OK.
Material annealed 1940°F for 5h/water cooled.
Reduction ratio = 4,6 : 1
Material is DFARS Compliant

Sono state soddisfatte tutte le concizioni richieste Die gestellten Anforderungen sind erfüllt. The material has been furnished 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 gelüht. Anlimine testing performed with XRF/OES portable: OK Contrôle d'intimelangeoart 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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QUALITY MANAGEMENT SYSTEM CERTIFIED BY LLOYD'S REGISTER ACCORDING TO ISO 9001 : 2015, IATF 16949 : 2016, AS 9100D			
Vicenza, 20/05/2021 VQQ052 - MEST742974	Direzione Qualità Qualitätsmanagement/Quality Management/Gestion Qualité R.BERTELLI	Direzione Prodotto Produktmanagement/Product Management/Direction Produit 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, 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.

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

Vicenza, 20/05/2021
VCC052 - MEST742974

Direzione Qualità
Qualitätsmanagement/Quality Management/Gestion Qualité
R. BERTELLI

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

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