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Acciaierie Valbruna S.p.A.

36100 VICENZA (Italia) - Viale della scienza, 25 z.l.
Telefono 0444.968211 - Fax 0444.968386
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. MEST754879 / 2021 /
Prüfung/Tests/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/Usine productrice

ACCIAIERIE VALBRUNA S.P.A.

Ordine nr: 106008785 RELIANCE PROGRA
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 l'usine productrice



Conferma ordine nr: EI21007232
Works/Our Order/Réf. 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-VI21014702
Lieferanfrage/Packing list/B.L.

Marca: APML
Markenbezeichnung
Brand / Nuance

Punzonatura: 316/316L
Kennzeichnung
Marking
Marquage

SPECIFICHE:	Note:
Anforderungen / Requirements / Exigences	Auzeichnungen / 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 2019 B8M CLASS 1 (1)	(1)Section II Part A 2019 EDITION
ASME SA276 2019 S31600/03 A (2)	(2)Section II Part A 2019 EDITION
ASME SA320 2019 B8M CLASS 1 CLASS1 (3)	(3)Section II Part A 2019 EDITION
ASME SA479 2019 S31600/03 A (4)	(4)Section II Part A 2019 EDITION
ASTM A182 2020 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	
ASTM A276 2017 S31600/03 A	
ASTM A314 2019 S31600/03	
ASTM A320 2018 B8M CLASS 1 CLASS1	
ASTM A370 2020 .	
ASTM A473 2019 S31600/03 (6)	(6)Chemical analysis only.
ASTM A479 2020 S31600/03 A	
MIL-S-862 B/1 316/316L	
NACE MR0103 2015 S31600/03 A (7)	(7)ANSI/NACE MR0103/ISO 17945 November 23, 2015
NACE MR0175 2015 S31600/03 A (8)	(8)ANSI/NACE MR0175/ISO 15156-3, third edition November 23, 2015
QQ-S-763 F 316/316L A	

Tolleranza: ASTM A484-20B TABLE 3

Pos. nr. Pos. nr. Item nr. Nr. de poste	Oggetto Gegenstand Product description Description du produit	Tolleranze/Allowance/Tolerance		Lunghezza - In Länge Length Longueur	Colata Schmelze Heat Coke	Pezzi Stückzahl Pieces Pièces	Peso - LB Gewicht Weight Poids	Lotto nr. Losn. Lot nr. Lot Nr.
		Dimensional - In Abmessungen Dimension Dimension						
0050	Round	15,0000		134/ 134	285359		6.905	100714321

P.O.#: P123164
R#: R168709
ITEM#: 527249
HEAT#: 285359
BRANCH#: 875

QUALITY MANAGEMENT SYSTEM CERTIFIED BY LLOYD'S REGISTER ACCORDING TO ISO 9001 : 2015, IATF 16949 : 2016, AS 9100D			
Vicenza, 09/06/2021 VCC052 - MEST754879	Direzione Qualità Qualitätsmanagement/Quality Management/Gestion Qualité R.BERTELLI	Direzione Prodotto Produktmanagement/Product Management/Direction Produit P.MESSORI	Pagina 1 di 3

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8/28/21



Acciaierie Valbruna S.p.A.

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

Certificato nr. MEST754879 / 2021 /
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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/fabrik/Usine productrice

ACCIAIERIE VALBRUNA S.P.A.

Ordine nr. 106008785 RELIANCE PROGRA
 Bestell. Your order Commando

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

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



Conferma ordine nr. EI21007232
 Works/Our Order/Ref. nr.

Qualità: 316/316L
 Works/Qualität/Grade/Qualité

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

MR

Avviso di Spedizione: D-VI21014702
 Lieferanzeige/Pecking 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 Lieferbetriebsprodukt / Test a l'état de fourniture / Prueba sobre el material así como entregado

TEST	Proveital / Probezeit Spezifikation / Spezifikation Lapangan Spesifikasi Diseño Clases, Dicks Werte, Dimensionen Long. diam. spez. mm	°F	Pozice, Soglad Position- Lageort Explicaciones	Snerwamento Bewehrung Yield Stress Limite elasticog Rp 0,2% k.s.t.	Snerwamento Bewehrung Yield Stress Limite elasticog k.s.t.	Resistenza Zugfestigkeit Tensile strength Resistance a traction Rm k.s.t.	Allungamento Bruchdehnung Elongation Allongement E 4d %	Strizione Einschnürung Reduction of area Striction %	RA %	Resilienza Hartheitswert Impact Value Resilience	Durezza Härte Hardness Dureza HB
	Valori richiesti Anforderungen/Requiers values Valeurs demandées			30	-	75 115	- 40	- -	50	-	140 223
A	12,5	68	L	39		81	59		75		169

TEST ALLO STATO DI FORNITURA

Test on delivery condition / Prüfung auf Lieferbetriebsprodukt / Test a 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

Cobalt / Feest Schmelze/Coulée	min max	1,00	1,25 2,00	16,00 18,00	2,00 3,00	1,00	10,00 14,00	-	0,040	0,020 0,030	0,100	-	-	-	-
	C %	Si %	Mn %	Cr %	Mo %	Cu %	Ni %	Co %	P %	S %	N %	-	-	-	-
285359	0,022	0,38	1,83	16,85	2,02	0,48	10,09	0,151	0,031	0,021	0,085	-	-	-	-

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.
 Material annealed 1940°F for 7h/water cooled.
 Reduction ratio = 9,6 : 1
 Material is DFARS Compliant

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

Controllo antimiscelazione con tecnica XRF/OES portatile : OK
 Vorwchlungprüfung, durch XRF/OES Gerät gelüht.
 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 checks: satisfactory
 Contrôle visual et dimensionnel: satisfaisant

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

Vicenza, 09/06/2021 VCO052 - MEST754879	Direzione Qualità Qualitätsmanagement/Quality Management/Qualité R.BERTELLI	Direzione Prodotto Produktmanagement/Product Management/Direction Produit P.MESSORI	Pagina 2 di 3
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Produttore:
 Hersteller/Werks/Usine productrice

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Ordine nr: 106008785 RELIANCE PROGRA
 Bestell
 Your order
 Commande

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

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



Conferma ordine nr: EI21007232
 Werke/Our Order/Ref. nr.

Qualità: 316/316L
 Werkstoff/Grade/Variance

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

MR

Avviso di Spedizione: D-VI21014702
 Lieferanweisung/Packing Instruction

Marca: APM L
 Markenbezeichnung
 Brand / Marque

Punzonatura: 316/316L
 Kennzeichnung
 Marking
 Marquage

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.
 Maxvel 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 8100D			
Vicenza, 09/06/2021 VC0052 - MEST754879	Direzione Qualità Qualitätsmanagement/Quality Management/Qualität R.BERTELLI	Direzione Prodotto Produktmanagement/Product Management/Direction Produit P.MESSORI	Pagina 3 di 3