



Acciaierie Valbruna S.p.A.

36100 VICENZA (Italia) - Viale della scienza, 25 z.i.
 Telefono 0444.968211 - Fax 0444.968836
 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. MEST602059 / 2020 /
 Prüfung/Test/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/Item/Usine productrice

ACCIAIERIE VALBRUNA S.P.A.

Ordine nr: 006008124 P121040-875 ENC
 Bestell
 Your order
 Commande

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

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



Conferma ordine nr: EI20005681
 Works/Our Order/Ref. nr.

Qualità: 316/316L
 Werkstoff/Grade/Nuance

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

MR

Avviso di Spedizione: D-VI20018896
 Lieferanzeige/Packing list/B.L.

Marca: APLM
 Markenbezeichnung
 Brand / Nuance

Punzonatura: 316/316L
 Kennzeichnung
 Marking
 Marquage

SPECIFICHE :

Note:

Anforderungen / Requirements / Exigences

Auzeichnungen / Notes / Notes

VSI 0. 315/316L 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 2019 B&M CLASS 1	
ASTM A262 2015 PRACTICE E	
ASTM A276 2017 S31600/03 A	
ASTM A314 2019 S31600/03	
ASTM A320 2018 B&M CLASS 1 CLASS1	
ASTM A370 2019 . (6)	(6)2019E1
ASTM A473 2019 S31600/03 (7)	(7)Chemical analysis only.
ASTM A479 2019 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	

Tolleranza: ASTM A484-19 TABLE 3

Tolleranza/Allowance/Tolerance

Pos. nr. Pos. nr. Item nr. Nr. de piece	Oggetto Gegenstand Produit description Descr. de produit	Dimensioni - in		Lunghezza - in Länge Length Longueur	Colata Schmelze Heat Caudes	Pezzi Stückzahl Pieces Pieces	Peso - LB Gewicht Weight Poids	Lotto nr. Losnr. Lot nr. Lot nr.
		Abmessungen Dimension Dimension						
0010	Round	15,0000		133/ 133	283524		6.843	105C10560

P.O.#: P121040

R#: R162565

ITEM#: 527249

HEAT#: 283524

BRANCH#: 875

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

Vicenza, 02/09/2020 VCC052 - MEST602059	Direzione Qualità Qualitätsmanagement/Quality Management/Gestion Qualite R. BERTELLI	Direzione Prodotto Produktmanagement/Product Management/Direction Produit P. MESSORI	Pagina 1 di 3
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ACCIAIERIE VALBRUNA S.P.A.

Ordine nr: 006008124 P121040-875 ENC
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Tipo di Elaborazione: E+AOD
Erschmelzungsart
Melting process
Méthode d'élaboration

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



Conferma ordine nr: EI20005681
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Punzone del Collaudatore:
Stempel des Werkstoffverständigen
Inspector's stamp/Poinçon de l'essayeur

MR

Avviso di Spedizione: D-VI20018896
Lieferanzeige/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 a l'état de fourniture / Prueba sobre el material así como entregado

1) L=Longitudinale/längs, T=transversale/quers, Q=Querschiele/tangentiale

TEST	Provetta / Probes as Specimen/Eproovett Larg. diam. Spax. Brite Diam. Dicke Width Diam. Thickness Larg. diam. spax. mm	°F	Posiz. Saggio Position Empfänger	Snervamento Streckgrenze Yield Stress Limite elastique Rp 0,2% k.s.l.	Snervamento Streckgrenze Yield Stress Limite elastique	Resistenza Zugfestigkeit Tensile strength Résistance à traction Rm k.s.l.	Allungamento Bruchdehnung Elongation Allongement		Strizione Einschnürung Reduction of area Striction RA %	Resilienza Kerbschlagarbeit Impact Value Resilience	Durezza Härte Dureté HB	
							E 4d %	%				
Valori richiesti Anforderungen/Required values Valeurs demandées		min max		30	-	75 115	-	40	-	50	-	140 223
A	12,5	68 L		39		81		61		74		168

TEST ALLO STATO DI FORNITURA

Test on delivery condition / Prüfung auf lieferbarem produkt / Test a l'état de fourniture / Prueba sobre el material así como entregado

TEST	min	max
A Grain size for ASTM E112		1

Mechanical properties according to ASTM A370.

Analisi chimica

Chemische Zusammensetzung/Chemical Analysis/Analyse chimique

Colata / Heat Schmelze/Guëlee	min - max	1,00 2,00	1,25 2,00	16,50 18,00	2,00 3,00	10,00 14,00	0,020 0,030	0,020 0,030	0,100	-	-	-
283524	C %	Si %	Mn %	Cr %	Mo %	Cu %	Ni %	Co %	P %	S %	N %	
	0,030	1,00	2,00	18,00	3,00	1,00	14,00	0,040	0,030	0,100	-	-
283524	0,024	0,30	1,85	16,93	2,08	0,57	10,17	0,122	0,030	0,025	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 i. Anlage erfüllt
The material has been furnished in accordance with the requirements
Le matériel a été fourni conforme aux exigences

Controllo antimiscelanza: OK
Verwechslungsprüfung spezialanalytisch durchgeführt
Anti-mixing testing performed OK
Contrôle antimélange fait r.a.s.

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

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

Vicenza, 02/09/2020
VCCQ52 - MEST602059

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, 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.

WSPEDATC1360F201611002770041720204

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Vicenza, 02/09/2020
 VCC052 - MEST602059

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 Qualitätsmanagement/Quality Management/Gestion Qualité
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Direzione Prodotto
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Pagina
 3 di 3