



Acciaierie Valbruna S.p.A.

36100 VICENZA (Italia) - Viale della scienza, 25 z.l.
 Telefono 0444.968211 - Fax 0444.968336
 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/Cliant
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/fabrik/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 fusine productrice



Conferma ordine nr: **EI21007232**
 Weksl/Oder/Ret/nr.

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

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

MR

Avviso di Spedizione: **D-VI21014702**
 Lieferanzettel/Packing list/B.L.

Marca: **APML**
 Markenbezeichnung
 Brand / Nuance

Punzonatura: **316/316L**
 Kennzeichnung
 Marking
 Marquage

SPECIFICHE :	Note:
Anforderungen / Requirements / Exigences	Autzeichnungen / 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/SO 17945 November 23, 2015
NACE MR0175 2015 S31600/03 A (8)	(8)ANSI/NACE MR0175/SO 15156-3, third edition November 23,2015
QQ-S-763 F 316/316L A	

Tolleranza: ASTM A484-20B TABLE 3							
Toleranz/Allowance/Tolérance							
Pos. nr. Pos. nr. Item nr. Nr. de poste	Oggetto Gegenstand Product description Déscrip. du produit	Dimensioni - In Abmessungen Dimension Dimension	Lunghezza - In Länge Length Longueur	Colata Schmelze Fusil Coulée	Pezzi Stückzahl Pieces Pièces	Peso - LB Gewicht Weight Poids.	Lotto nr. Losnr. Lot nr. Lot Nr.
0050	Round	15,0000	134/ 134	285359		6.905	100714321

P.O.#: P/23164
 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 VCO052 - MEST754879	Direzione Qualità Qualitätsmanagement/Quality Management/Qualité R.BERTELLI	Direzione Prodotto Produktmanagement/Product Management/Direction Produit P.MESSORI	Pagina 1 di 3

8/28/21
 AVS



Acciaierie Valbruna s.p.a.

36100 VICENZA (Italia) - Viale della scienza, 25 z.l.
 Telefono 0444.888211 - Fax 0444.963838
 Stab.: 36100 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/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/Bem./Ame productino

ACCIAIERIE VALBRUNA S.P.A.

Ordine nr: 106006785 RELIANCE PROGRA
 Bestell
 Your order
 Commande

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

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



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

Qualità: 316/316L
 Werkstoff/Grade/Nuance

Punzona del Collaudatore:
 Stempel des Werksachverständigen
 Inspector's stamp/Pançon de l'essayeur

MR

Avviso di Spedizione: D-VI21014702
 Lieferanzeige/Peckung Ist/B.L.

Marca: APM.L
 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	Prova/ta / Probe/ta Specimen/Specimen Lap/Item Spec. Weld Dim. Disc Weld Dim. Thickness Lap/Item, mm	°F	Posiz. Saggio Position Defacement	Snervamento Biegeprobe Yield Stress Limite elastico Rp 0,2% k.s.l.	Snervamento Zugprobe Yield Stress Limite elastique	Resistenza Zugstrecke Tensile strength Resistance a la traction Rm k.s.l.	Allungamento Bruchdehnung Elongation Allongement E 4d %	Strizione Einschränkung Reduction of area Étriction RA %	Resilienza Kerbschlagarbeit Impact Value Resilience	Durezza Härte Hardness Dureté HB		
											min	max
	Valori richiesti			30	-	75	-	40	-	50	-	140
	Aufwandswerte/Required values Valeur demandée					115						223
A	12,5	68	L	39		81	59		75			169

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												
Ca/Fe	Heat	min	-	1,25	16,50	2,00	-	10,00	-	-	0,020	-
Schmelze/Coufée		max	0,030	1,00	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 %	
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	16	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 in Anlag erfüllt
 The material has been furnished in accordance with the requirements
 Le matériel a été livré conforme aux exigences

Controllo antimiscelanza con tecnica XRF/OES portatile : OK
 Verwechslungsprüfung, 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 visuel et dimensionne 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



Acciaierie Valbruna S.p.A.

36100 VICENZA (Italia) - Viale della scienza, 25 z.l.
 Telefono 0444.968211 - Fax 0444.963836
 Stab.: 36100 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/Test/Éessai

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
 État de livraison

Produttore:
 Hersteller/Werk/Usine productrice

ACCIAIERIE VALBRUNA S.P.A.

Ordine nr. 106008785 RELIANCE PROGRA
 Bestell
 Your order
 Commande

Tipo di Elaborazione: E+AOD
 Erzeugnisart
 Making process
 Mode d'alaboration

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



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

Qualità: 316/316L
 Werkstoff/Grade/Nuance

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

MR

Avviso di Spedizione: D-VI21014702
 Lieferanzeige/Packing list/B.L.

Marcia: APM L
 Markenbezeichnung
 Brand / Nuance

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.
 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 Product.

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/Direction Qualite
 R.BERTELLI

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

Pagina
 3 di 3