



Acciaierie Valbruna S.p.A.

36100 VICENZA (Italia) - Viale della scienza, 25 z.l.
 Telefono 0444.968211 - Fax 0444.983836
 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. **MEST754878 / 2021 /**
 Prüfung/Tesi/Essen

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/Fabrik/Usine productrice

ACCIAIERIE VALBRUNA S.P.A.

Ordine nr: **106008785 RELIANCE PROGRA**

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

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



Bestell
 Your order
 Commande

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

Punzone del Collaudatore:
 Stempel des Wechsachverständigen
 Inspector's stamp/Policeon de l'essayeur

MR

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

Marca: **APML**
 Markenbezeichnung
 Brand / Nuance

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

SPECIFICHE :

Nota:

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 2019 S31600/03 A (0)
 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 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)
 ASTM A479 2020 S31600/03 A
 MIL-S-882 B/1 316/316L
 NACE MR0103 2015 S31600/03 A (7)
 NACE MR0175 2015 S31600/03 A (8)
 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 II Part A 2019 EDITION
 (4)Section II Part A 2019 EDITION
 (5)For products machined directly from bar refer also to ASTM A479.
 (6)Chemical analysis only.
 (7)ANSI/NACE MR0103/ISO 17945 November 23, 2015
 (8)ANSI/NACE MR0175/ISO 15156-3, third edition November 23,2015

Toileranza: ASTM A484-20B TABLE 3

Tolleranza/Allowance/Tolerance

Pos. nr. Pos. nr. Nr. de poste	Oggetto Generalized Product description Descr. de produit	Dimensioni - In Abmessungen Dimension Dimension	Lunghezza - In Länge Length Langueur	Colata Schmelze Heat Craute	Pezzi Stückzahl Pieces Pièces	Peso - LB Gewicht Weight Poids	Lotto nr. Lose. Lot nr. Lot nr.
0040	Round	13,0000	136/ 136	286115		5.260	111015290

P.O.#: **P123164**
 R#: **R168701**
 ITEM#: **S21534**
 HEAT#: **286115**
 BRANCH#: **875**

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

Vicenza, **09/06/2021**
 VCQ052 - MEST754878

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

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

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8/25/21
 ANS



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 Delivery state
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Produttore:
 Hersteller/Hersteller

ACCIAIERIE VALBRUNA S.P.A.

Ordine nr: 106008785 RELIANCE PROGRA
 Bestell
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 Commande

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

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



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

Qualità: 316/316L
 Werkstoff/Grade/Nuance

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

MR

Avviso di Spedizione: D-VI21014702
 Lieferanweisung/Packing instr.

Marca: APML
 Markenbezeichnung
 Brand / Nuance

Punzonatura: 316/316L
 Kennzeichnung
 Marking
 Marquage

TEST ALLO STATO DI FORNITURA												
Test on delivery condition / Prüfung auf Lieferbareitem produkt / Test à l'état de fourniture / Prueba sobre el material así como entregado												
TEST	Provetta/ Probe Specimen/Éprouvette Legation Épave Billet Diam, Dêche Weld Diam, Thickness Larg. diam. épave mm	°F	Pess. Saggio Proben- Längen Centimeter m	Sneramento Divulgation Yield Stress Limite élastique Rp 0,2% k.s.s.	Sneramento Divulgation Yield Stress Limite élastique	Resistenza Zugfestigkeit Tensile strength Résistance à traction Rm k.s.s.	Allungamento Bruchdehnung Elongation Allongement E 4d %	Strizione Bruchdehnung Reduction of area Striction RA %	Resilienza Kerbschlagenergie Impact Value Resilience	Durezza Härte Hardness Dureté HB		
											min	max
A	12,5	68	L	38	-	81	58	75			173	

TEST ALLO STATO DI FORNITURA			
Test on delivery condition / Prüfung auf Lieferbareitem 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												
Calda Heat Schmelze/Coûte	min	max	1,28	18,60	2,00	1,00	10,00	-	-	0,020	-	-
	0,030	1,00	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 %	
286115	0,010	0,43	1,73	16,64	2,05	0,46	10,10	0,161	0,031	0,027	0,079	

Corrosion test in 16% sulfuric acid and copper sulfate solutions							
Test standard: ASTM A282-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.
 Reduction ratio = 4,7 : 1
 Material annealed 1976°F for 7,5h/water cooled.
 Material is DFARS Compliant

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

Controllo antimescolanza con tecnica XRF/OES portatile: OK
 Verwechslungsprüfung durch XRF/OES Gerät getuht.
 Antimixing testing performed with XRF/OES portable OK
 Contrôle antimélange sv 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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Vicenza, 09/06/2021 VCO052 - MEST754878	Direzione Qualità Qualitätsmanagement/Quality Management/Gestion Qualité R.BERTELLI	Direzione Prodotto Produktmanagement/Product Management/Dirección P.MESSORI	Pagina 2 di 3



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Zeichen des Lieferanten
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 Signes de l'usine productrice



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Avviso di Spedizione: D-VI21014702

Lieferanzeige/Packing list/S.L.

Marca: APML

Markenbezeichnung
 Brand / Nuance

Punzonatura: 316/316L

Kennzeichnung
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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.

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Vicenza, 09/06/2021

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