



CERTIFICATO DI COLLAUDO - ABNAHMEPRUEFZEUGNIS - INSPECTION CERTIFICATE - CERTIFICAT DE RECEPTION

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

Certificato nr. MEST221100 / 2018 /

Nech/Accodating/Seibn

Prüfung/Tax/Essai

Cliente / Besteller/Purchase/Client:
VALBRUNA CANADA LTD
 8724 HOGGATE CRESCENT
 L5T 5Z1 - MILTON, ONT L5T 5Z1 - CA

Stato di fornitura: Forged - Annealed **FORGED**
 Lieferzustand
 Delivery state
 Etat de livraison

Produttore:
 Hersteller/Werks/Le producteur

ACCIAIERIE VALBRUNA S.P.A.

Ordine nr: 802006870 Replacement sto
 Bestell
 Your order
 Commande

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

Marchi di Fabbrica:
 Zeichen des Werks/Marken
 Trade marks
 Signes de l'usine productrice



Conferma ordine nr: E118002298
 WerksGü. Order/Ref. nr.

Qualità: 316/316L
 Werkstoff/Grade/Nuance

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

MR

Avviso di Spedizione: D-VI18008371
 Lieferanzeige/Packing list/B.L.

Marca: APML
 Markenbezeichnung
 Brand / Nuance

Punzonatura: 316/316L
 Kennzeichnung
 Marking
 Marquage

SPECIFICHE :

Note:

Anforderungen / Requirements / Exigences

Anzeichnungen / Notes / Notes

VSI 0 316/316L A
 AISI 316/316L
 AMS 5648 M S31600 A
 AMS 5653 H S31603 A
 AMS-QQ-S-763 D 316/316L A
 ASME SA182 2015 S31600/03 A (0)
 ASME SA193 2015 B8M CLASS 1 (1)
 ASME SA276 2015 S31600/03 A (2)
 ASME SA320 2015 B8M CLASS 1 (3)
 ASME SA479 2015 S31600/03 A (4)
 ASTM A182 2016 S31600/03 A (5)
 ASTM A193 2016 B8M CLASS 1
 ASTM A262 2015 PRACTICE E
 ASTM A276 2017 S31600/03 A
 ASTM A314 2015 S31600/03
 ASTM A320 2017A B8M CLASS 1
 ASTM A370 2017
 ASTM A473 2001 S31600/03 (6)
 ASTM A479 2017 S31600/03 A
 MIL-S-862 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 PT.A 2015 EDITION For products machined directly from bar refer to ASME SA479.
 (1)SECTION II PT.A 2015 EDITION
 (2)SECTION II PT.A 2015 EDITION
 (3)SECTION II PT.A 2015 EDITION
 (4)SECTION II PT.A 2015 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

A975030
 509382
 Load # 50382

Tolleranza: ASTM A484-16 TABLE 3

Pos. nr. Pos. n. Item n. Nr. de poste	Oggetto Objet Product description Description du produit	Tolleranza/Allowance/Tolérance		Lunghezza - In Length Longueur	Colata Schmelz Cast Coulée	Pezzi Stücke Pieces Pièces	Peso - LB Gewicht Weight Poids	Lotto nr. Lotn. Lotno. Lote no.
		Dimensioni - In Abmessungen Dimension Dimension						
0080	Round	11,0000		132/ 132	275168		3.640	713905951

ANS



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 Prüfung/Test/Laßat

Cliente / Besteller/Purchase/Client
VALBRUNA CANADA LTD
8724 HOLGATE CRESCENT
L5T 5Z1 - MILTON, ONT L5T 5Z1 - CA

Stato di fornitura: **Forged - Annealed FORGED**
 Lieferzustand
 Delivery state
 Etat de livraison

Produttore:
 Hersteller/Werks/Usine productrice

ACCIAIERIE VALBRUNA S.P.A.

Ordine nr: **802006870 Replacement sto**
 Bestell
 Your order
 Commande

Tipo di Elaborazione: **E+A0D**
 Erzeugungsort
 Melting process
 Mode d'elaboration

Marchi di Fabbrica:
 Zeichen des Lieferwerkes
 Trade marks
 Marques de fabrique productrice



Conferma ordine nr: **E118002298**
 Werk/Dur Order/Ref nr

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

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

MR

Avviso di Spedizione: **D-VI18008371**
 Referenznummer/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'etat de fourniture / Prueba sobre el material asi como entregado

TEST	Provetta/ Probe Spezies/Spezies Länglein/Spezies Brenn. Dim. Delle Weld. Dim. Thickness Larg. Dim. épais mm	Posz. Saggio Proben Länge Endmaß	Snervamento Streckgrenze Yield Stress Limite élastique	Snervamento Streckgrenze Yield Stress Limite élastique	Resistenza Zugfestigkeit Tensile strength Résistance à traction	Allungamento Bruchdehnung Elongation Allongement		Strizione Einziehung Reduction of area Striction	Resilienza Kerbschlagarbeit Impact Work Resilience	Durezza Härte Hardness Dureté HB
						E 4d	RA			
Valori richiesti Anforderungen/Requisits Valeurs demandées		min	30	-	75	-	40	-	50	140
		max			115					223
A	12.5	68	L	39	82		62		74	169

TEST ALLO STATO DI FORNITURA

Test on delivery condition / Prüfung auf lieferbarem produkt / Test a l'etat de fourniture / Prueba sobre el material asi 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

Coiba. Attest. Schmelzprobe	min - max 0,030	1,25 2,00	0,55 10,02	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 %
275168	0,016	0,40	1,37	16,81	2,03	0,52	10,06	0,128	0,028	0,030	0,081

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
 Reduction ratio = 4,6 : 1
 Annealing temperature : 1940° F for 5 h/water.
 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 matériels et produits conforment aux exigences

Controllo antimiscelazione: OK
 Verwechslungsprüfung, spektralanalytisch durchgeführt
 Antmixing testing performed: OK
 Contrôle antimélange satisfaisant

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

Vicenza, 20/03/18

VCC008 - VEST221100

(Mod. MCE2) V014020403001042204710183001018

Il collaudatore di stabilimento / der Werksachverständige / Works Inspector / L'agent d'usine

M. RIZZOTTO

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 Etat de livraison

Produttore :
 Hersteller/Item/Usine productrice

ACCIAIERIE VALBRUNA S.P.A.

Ordine nr. **802005870 Replacement sto**
 Bestell
 Your order
 Commande

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

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



Conferma ordine nr: **E18002298**
 Werk/Du: Order/Ref. nr.

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

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Melted 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 through Portal System when it leaves the production plant.

QUALITY MANAGEMENT SYSTEM CERTIFIED BY LLOYD'S REGISTER ACCORDING TO ISO 9001 : 2008, IATF 16949 : 2016, AS 9100C

The Quality Management System is Certified acc. Pressure Equipment Directive [(97/23/EC)] Annex 1, s. 4.3 and 2014/68/EU by TUEV 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.

Vicenza, 20/03/18

VQ008 - MEST221100

(Mod. MCE2)

Il collaudatore di stabilimento / der Werksachverständige / Works Inspector / L'agent d'usine

M. RIZZOTTO

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