



# Acciaierie Valbruna S.p.A.

36100 VICENZA (Italia) - Viale della scienza, 26 n.1.  
 Telefono 0444.888211 - Fax: 0444.983838  
 Stab.: 36100 BOLZANO (Italia) - Via A. Volta, 4/37  
 Telefono 0471.824111 - Fax: 0471.824497

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

In conformità a: **EN 10204 (2004) , 3.1** Certificato nr. **MEST009237 / 2017 /**  
Nachfolgend festst. Robing/PostCode

Cliente / Besoeler/Purchaser/Gäster <b>VALBRUNA STAINLESS INC.</b> 2400 TAYLOR STREET WEST 46801 - FORT WAYNE, IN 46801 - US	Stato di fornitura: <b>Forged - Annealed FORGED</b> <small>Lieferzustand                  Delivery state                  Etat de livraison</small>	Produttore: <small>Hersteller/Hersteller/Hersteller</small> <b>ACCIAIERIE VALBRUNA S.P.A.</b>
Ordine nr: <b>51793 STOCK HOUSTON</b> <small>Bestell                  Your order                  Commande</small>	Tipo di Elaborazione: <b>E+AOD</b> <small>Verfahrensbezeichnung                  Milling process                  Mode d'élaboration</small>	Marchi di Fabbrica: <small>Marken des Lieferanten                  Trade marks                  Signes de l'usine productrice</small>
Conferma ordine nr: <b>E16011718</b> <small>Werkaufs-Order/Nr.</small>	Quantità: <b>316/316L</b> <small>Werkstoff/Quantität/Kennzeichnung</small>	Funzione del Collaudatore: <small>Funktion des Werkstoffprüfenden                  Inspector's stamp/Funktion de l'inspecteur</small>
Avviso di Spedizione: <b>D-VI17001957</b> <small>Lieferanweisung/Shipping instr.</small>	Marca: <b>APML</b> <small>Werkstoffbezeichnung                  Brand / Marque</small>	Punzonatura: <b>316/316L</b> <small>Kenntzeichnung                  Marking                  Marquage</small>

SPECIFICHE :	Note:
Anforderungen / Requirements / Exigences	Aufzeichnungen / Notes / Notes
VSI 0 316/316L A AISI 316/316L AMS 5648 M S31600 A AMS 5653 H S31603 A AMS-QQ-S-789 D 316/316L A ASME SA182 2015 S31600/03 A (0) ASME SA193 2015 B8M CLASS1 (1) ASME SA276 2015 S31600/03 A (2) ASME SA920 2015 B8M CLASS1 (3) ASME SA479 2015 S31600/03 A (4) ASTM A182 2016 S31600/03 A (5) ASTM A193 2016 B8M CLASS1 ASTM A282 2016 PRACTICE E ASTM A276 2016 S31600/03 A ASTM A314 2016 S31600/03 ASTM A320 2016A B8M CLASS1 ASTM A370 2015 ASTM A473 2001 S31600/03 (6) ASTM A479 2016 S31600/03 A MIL-S-882 : B/1 316/316L NACE MR0103 2010 S31600/03 A NACE MR0175 2009 S31600/03 A (7) QQ-S-763 F 316/316L A	(0)SECTION II PTA 2015 EDITION For products machined directly from bar refer to ASME SA479. (1)SECTION II PTA 2015 EDITION (2)SECTION II PTA 2015 EDITION (3)SECTION II PTA 2015 EDITION (4)SECTION II PTA 2015 EDITION (5)For products machined directly from bar refer also to ASTM A479. (6)Chemical analysis only. (7)ANSI/NACE MR0175/ISO 15156-3, second edition 2009-10-15 Technical drawing 1:2011 Published 2011-06-14

Tolleranza: ASTM A484-16 TABLE 3

Pos. nr.	Oggetto	Tolleranza/Dimension/Tolerance		Lunghezza - In	Cassa	Pezzi	Pezzi - LB	Lotto nr.
		Dimensioni	Dimension					
Pos. nr. No. de poste	Oggetto Partiel description Contenu de poste	Dimensioni	Dimension	Lunghezza Length Longueur	Cassa Cassette Boite Coffre	Pezzi Pièces Pièces Pièces	Pezzi - LB Cassette Cassette Cassette	Lotto nr. Lot n. Lot n. Lot n.
0010	Round	8,5000		230/ 243	271693	2	7.877	623511040

From: TK Materials CA, Ltd.  
 Cust.  
 CstAr  
 Wgt.: 72 LB

Del.: 2405156849  
 CstOr 2017-736  
 Date 04/13/2017

*Thomas Sanchez*



# Acciaierie Valbruna S.p.A.

39100 VICENZA (Italia) - Viale della scienza, 25 z.l.  
 Telefono 0444.988211 - Fax 0444.988288  
 Stab.: 39100 BOLZANO (Italia) - Via A. Volta, 4/37  
 Telefono 0471.924111 - Fax 0471.924487

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

In conformità a: **EN 10204 (2004), 3.1**  
 Nach/According to/Selon

Certificato nr. **MEST009237 / 2017 /**  
 Prüfprot./TestProt.

Clients / Receptier/Recepiant  
**VALBRUNA STAINLESS INC.**  
 2400 TAYLOR STREET WEST  
 46801 - FORT WAYNE, IN 46801 - US

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

Produttore:  
 Hersteller/Hersteller

**ACCIAIERIE VALBRUNA S.P.A.**

Ordine nr: **51793 STOCK HOUSTON**  
 Bestell / Your order / Commanche

Tipo di Elaborazione: **E+AOD**  
 Endbearbeitung  
 Milling process  
 Mode d'élaboration

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



Confirma ordine nr: **E16011718**  
 Weiter Our Order/Ref. nr.

Qualità: **316/316L**  
 Werkstoff/Qualitätswesen

Funzione del Collaudatore:  
 Bearbeiter des Prüfprotokolls  
 Inspector's stamp/Postsign de l'inspecteur

**MR**

Avviso di Spedizione: **D-VI17001957**  
 Lieferzustand/Packing list/F.L.

Marcia: **APML**  
 Markenbezeichnung  
 Brand / Marque

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

TEST ALLO STATO DI FORNITURA												
Test on delivery condition / Prüfung auf Lieferbereitschaft / test à l'état de fourniture / Prueba sobre el material así como entregado												
TEST	Provenienza / Provenance Lieferanten/Provenance Noms Orig. Orig. With Orig. Marking Lieg. Orig. Orig.	Temp. °F	Posiz. / Position Lage / Position Lieg. / Position	Snervimento / Yield Stress Yield Stress Unité de charge Rp 0,2% kN/mm²	Snervimento / Yield Stress Yield Stress Unité de charge kN/mm²	Resistenza / Tensile Strength Tensile Strength Résistance à la traction	Allungamento / Elongation Elongation Allongement	Strizione / Contrainte Strain Déformation	Ripetibilità / Repeatability Repeatability Répétabilité	Durezza / Hardness Hardness Dureté		
Valori richiesti / Required values / Valeurs demandées		min		30	-	75	-	40	-	50	-	140
		max				116						223
A	12,5	68	L	39		84	61		72			167

TEST ALLO STATO DI FORNITURA			
Test on delivery condition / Prüfung auf Lieferbereitschaft / 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												
Chemical composition / Analyse chimique												
Order / Bestell / Commande	Heat / Wärme / Chaleur	C %	Si %	Mn %	Cr %	Mo %	Cu %	Ni %	Co %	P %	S %	N %
271693		0,020	0,32	1,77	16,65	2,07	0,37	10,00	0,183	0,030	0,023	0,082

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.  
 Annealing temperature: 1940°F for 4 h/water.  
 Micro and macro etch test: OK  
 Reduction ratio = 7,6 : 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 installé à cet égard conforme aux exigences	Controllo antiscorie: OK Vorwählungprüfung: zufriedenstellend durchgeführt Antiscaling testing performed OK Controlle antiscorie: OK	Controllo visivo e dimensionale: soddisfa le esigenze Bau- und Abmessungenprüfung: Befriedigend Visual inspection and dimensional check satisfactory Contrôle visuel et dimensionnel: satisfait
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Vicenza, 20/01/17 V00008 - MEST009237 (Mod. NCE2)	Il collaudatore / der Werkzeugschwerf / Works Inspector / L'agent d'usage <b>M. RIZZOTTI</b>	Pagina - 2 di 3
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From: TK Materials CA, Ltd.

Cust.  
 CstAr  
 Wgt.: 72 LB

Del.: 2405156849  
 CstOr 2017-736  
 Date 04/13/2017

*Thomas Sanchez*



# Acciaierie Valbruna S.p.A.

38100 VICENZA (Italia) - Viale della scienza, 25 s.l.  
 Telefono: 0444.989211 - Fax: 0444.983688  
 Stab.: 38100 BOLLZANO (Italia) - Via A. Volta, 437-  
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## CERTIFICATO DI COLLAUDO - ABNAHMEPRUEFZEUGNIS - INSPECTION CERTIFICATE - CERTIFICAT DE RECEPTION

In conformità a: **EN 10204 (2004), 3.1**

Certificato nr. **MEST009237 / 2017 /**  
 Prüfungsbefehl

Cliente / Supplier/Purchaser/Clien  
**VALBRUNA STAINLESS INC.**  
 2400 TAYLOR STREET WEST  
 48801 - FORT WAYNE, IN 46801 - US

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

Produttore:  
 Hersteller/Hersteller/Produkteur

**ACCIAIERIE VALBRUNA S.P.A.**

Ordine nr: **51793 STOCK HOUSTON**  
 Bestell-  
 Text order:  
 Commande

Tipo di Elaborazione: **E+AOD**  
 Erzeugnisart:  
 Making process:  
 Type d'elaboration

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



Conferma ordine nr: **EJ16011718**  
 WerkAuftrag/Order/Ref. nr.

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

Punzone del Collaudo:  
 Stempel des Werkstoffprüfbediensteten  
 Inspector's stamp/Prüfer des Prüfzeuges

**MR**

Avviso di Spedizione: **D-V117001957**  
 Lieferungs/Spedition Beleg

Materiale: **APML**  
 Markenbezeichnung/  
 Brand/Markenname

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

Metal 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, ISO/TS16949 : 2009, AS 9100C**

The Quality Management System is Certified acc. Provisions Equipment Directive '87/39/EEC Annex 1, 4.3 and 2014/68/EU 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 mechanicality.  
 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, 20/01/17  
 VCC003 - MEST009237  
 (Mod. NCE2)

Il costruttore di stabilimento / der Werkstoffverleiher / Works Inspector / L'agent d'usine

**M. RIZZOTTO**

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From: TK Materials CA, Ltd.

Cust.

Del.: 2405156849

CstAr

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Date 04/13/2017