

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

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

Certificato nr. **MEST033316 / 2017 /**

Nach/According to/Selon

Prüfung/Tes/Essai

Cliente / Besteller/Purchaser/Client  
**AIROLDI METALLI S.P.A.  
VIALE A. GRANDI, 59  
23847 - MOLTENO - LC**

Stato di fornitura : **Laminato - Solubilizzato Trafilato**  
Lieferzustand  
Delivery state  
Etat de livraison

Produttore :  
Hersteller/Item/Usine productrice

Ordine nr: **ORD.N.575**

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: **MI17001963**

Werks/Our Order/Ref nr.

Qualità: **1.4401/1.4404/316/316L**  
Werkstoff/Grade/Nuance

Punzone del Collaudatore:  
Stempel des Werksachverständigen  
Inspector's stamp/Polnçon de l'assesseur

**MR**

Avviso di Spedizione: **A-MI17001654**

Lieferanzeige/Packing list/B.L.

Marca: **MVAPML MAXIVAL**  
Markenbezeichnung  
Brand / Nuance

Punzonatura: **1.4401/4/316/L**  
Kennzeichnung  
Marking  
Marquage

**SPECIFICHE :**

Anforderungen / Requirements / Exigences

**Note:**

Aufzeichnungen / Notes / Notes

VAL STOCK 2010 1.4404/316L A,CF  
AISI 316  
AISI 316L  
AMS 5648 M S31600 A  
AMS 5653 H S31603 A,CF  
ASME SA182 2015 S31600 A (0)  
ASME SA182 2015 S31603 A (1)  
ASME SA276 2015 S31600 A,CF (2)  
ASME SA276 2015 S31603 A,CF (3)  
ASME SA479 2015 S31600 A (4)  
ASME SA479 2015 S31603 A (5)  
ASTM A182 2016 S31600 A (6)  
ASTM A182 2016 S31603 (7)  
ASTM A262 2015 PRACTICE E  
ASTM A276 2016 S31600 A,CF  
ASTM A276 2016 S31603 A,CF  
ASTM A314 2015 S31600  
ASTM A314 2015 S31603  
ASTM A370 2015 .  
ASTM A479 2016 S31600 A  
ASTM A479 2016 S31603 A  
EN 10088-3 2014 1.4401 A,CF  
EN 10088-3 2014 1.4404 A,CF  
EN 10272 2007 1.4401 A,CF  
EN 10272 2007 1.4404 A,CF  
ISO 6892-1 2009 .  
NACE MR0103 2010 S31600 A  
NACE MR0103 2010 S31603 A  
NACE MR0175 2009 S31600 A (8)  
NACE MR0175 2009 S31603 A (9)  
QQ-S-763 F 316 A,CF  
QQ-S-763 F 316L A,CF

(0)SEC.II PT.A 2015 EDITION For products machined directly from bar refer to ASME SA479.

(1)SECTION II PT.A 2015 EDITION For products machined directly from bar refer to ASME SA479.

(2)SEC.II PT.A 2015 EDITION

(3)SECTION II PT.A 2015 EDITION

(4)SECTION II PT.A 2015 EDITION

(5)SECTION II PT.A 2015 EDITION

(6)For products machined directly from bar refer also to ASTM A479.

(7)For products machined directly from bar refer also to ASTM A479.

(8)ANSI/NACE MR0175/ISO 15156-3, second edition 2009-10-15 Technical circular 1:2011 Published 2011-06-14

(9)ANSI/NACE MR0175/ISO 15156-3, second edition 2009-10-15 Technical circular 1:2011 Published 2011-06-14

Tolleranza: h11 - DIN668/EN10278

Tolleranza/Allowance/Tolerance

Pos. nr. Pos. nr. Item nr. Nr. de poste	Oggetto Gegenstand Product description Descrip. du produit	Dimensioni - mm		Lunghezza - mm	Colata	Pezzi	Peso - KG	Lotto nr.
		Abmessungen Dimension Dimension		Länge Length Longueur	Schmelze Heat Coulée	Stückzahl Pieces Pièces	Gewicht Weight Poids	Losnr. Lot nr. Lot nr.
0010	Esagono	27,000		3100/ 3150	271668		154,0	620908860

, **09/03/17**

BBL006 - MEST033316

(Mod. MCE2)

WEPE2C80FF99834CAFAAF787981A8E90

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

**M.RIZZOTTO**

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 Melting process  
 Mode d'elaboration

Marchi di Fabbrica:  
 Zeichen des Lieferwerkes  
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 Inspector's stamp/Pointon de l'assayeur

Avviso di Spedizione: **A-MI17001654**  
 Lieferanzeige/Packing list/B.L.

Marca: **MVAPML MAXIVAL**  
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 Brand / Nuance

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**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

1) L=longitudinale/längs, T=trasversale/quer, Q=Tangenziale/tangentiel

TEST	Provetta/ Probestab Specimen/Eprouvette Larg.diam Spessa. Breite Diam. Dicke Width Diam. Thickness Larg. diam. epais mm	°C	Posiz. Saggio Probeage Location Emplacement 1)	Snervamento	Snervamento	Resistenza	Allungamento		Strizione		Resilienza			Durezza	
				Streckgrenze Yield Stress Limite elastique Rp 0,2% N/mm2	Streckgrenze Yield Stress Limite elastique Rp 1% N/mm2	Zugfestigkeit Tensile strength Resistance à traction Rm N/mm2	Bruchdehnung Elongation Allongement A5 %	E 4d %	Z %	RA %	KV J	HB	HB		
Valori richiesti Anforderungen/Required values Valeurs demandées		min max		207	235	517 900	20	30	-	50	100			140 235	
A	10	20	L	457	536	649	44	47	68	68	192	199	194	229	
B	10	20	L	450	529	641	45	48	69	69	198	204	199	222	

**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
C	Dimensioni grano x ASTM E112	
		5

Mechanical properties according to ASTM A370.

Tensile testing according to EN ISO 6892-1

**Analisi chimica**

Chemische Zusammensetzung/Chemical Analysis/Analyse chimique

Colata /Heat Schmelze/Coulée	min - max	1,25	16,50	2,00	10,00		10,00									
	0,030	1,00	2,00	18,00	2,50	1,00	13,00	0,040	0,030	0,100						
	C %	Si %	Mn %	Cr %	Mo %	Cu %	Ni %	P %	S %	N %						
271668	0,014	0,53	1,44	16,70	2,00	0,47	10,03	0,030	0,030	0,059						

**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	<b>SATISFACTORY</b>

**Corrosion test in 16% sulfuric acid and copper sulfate solutions**

Test standard: UNI EN ISO 3651-2 Method A

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	Sensitized T1	20	boil	90	5	Absence of cracks	<b>SATISFACTORY</b>

Reduction ratio = 50.8 : 1

**09/03/17**

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

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Sono state soddisfatte tutte le condizioni richieste  
 Die gestellten Anforderungen sind it. Anlage erfüllt  
 The material has been furnished in accordance with the requirements  
 Le materiel à été trouvé conforme aux exigences

Controllo antimiscelanza: **OK**  
 Verwechslungsprüfung: **spectralanalytisch durchgeführt**  
 Antimixing 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 dimensions: **satisfaisant**

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, ISO/TS16949 : 2009, 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.      shall protect its rights and interests before any competent court, authority and jurisdiction.

Maxival 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.      shall not be responsible for any improper use of the Products.

**09/03/17**

BBL006 - MEST033316

(Mod. MCE2) VSPZC80FF98364CAFAF71799118B20

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

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