

WELDING PROCEDURE QUALIFICATION RECORD QUALIFICAZIONE PROCEDURA DI SALDATURA

Certificate No./ Certificato No. GD0008/12

**WE HEREBY CERTIFY THAT /
SI CERTIFICA CHE**

the procedure No.COMERI 03/11 Rev. 0

IS QUALIFIED ACCORDING TO / E' QUALIFICATA IN ACCORDO A

AWS D1.1/D1.1M: 2010

**REMARKS / NOTE
Annexes No.9**

**ISSUE DATE /
DATA DI EMISSIONE**

12/01/2012

**CERTIFICATION AREA CSP
AREA CERTIFICAZIONE CSP**

Arleo Gianni



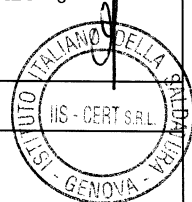
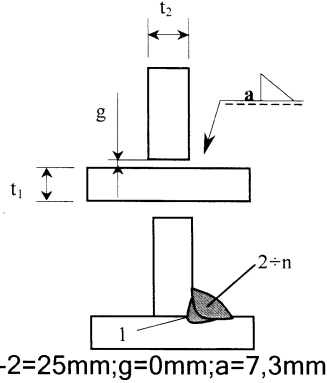
SGQ n° 021A
PRD n° 021B

PRS n° 021C
SGA n° 033D

Membro degli Accordi di Mutuo Riconoscimento EA, IAF e ILAC
Signatory of EA, IAF and ILAC Mutual Recognition Agreement

Il presente certificato è soggetto al rispetto delle condizioni stabilite nel Regolamento IIS CERT QAS 023 R.
This certificate complies with the terms established by IIS CERT regulations QAS 023 R.

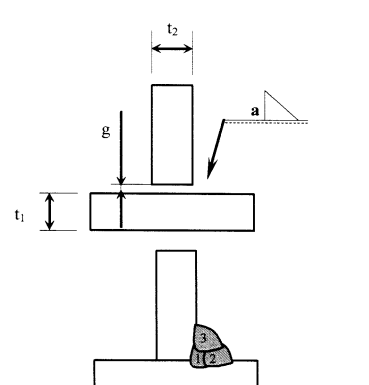
**IIS CERT Srl Lungobisagno Istria 29 R – 16141 GENOVA – www.iiscert.it
Corporate Governance Istituto Italiano della Saldatura**

WELDING PROCEDURE SPECIFICATION W P S AWS D 1.1		WPS-N. COMERI 03/11 REV 0 Date 14/11/2011 Supp. PQR-N. GD0008/12												
														
Welding Process(es)	a) GMAW	b) c)												
Type(s)	a) Semiautomatic	b) c)												
JOINT DESIGN Joint Design Backing Fillet ☐ Yes ☒ No														
BASE METAL Gr.No NA to NA Spec.Type - Grade EN 10025-2 - S355J2+N - to Spec.Type & Grade EN 10025-2 - S355J2+N - Base metal (mm) Groove NA Fillet 25mm Pipe dia. (mm) Groove NA Fillet NA Other NONE														
FILLER METAL Spec. No. (SFA) 5.18 AWS No. (Class) ER70S-6 F-No. NA Size of filler metal 1.2 F.M. Trade Name IT-SG3 Manufacturer ITALFIL Thk range Groove: NA Thk range Fillet: Leng size=7,3mm Flux Trade Name NA Manufacturer NA Electr.-Flux(Class) NA Other NONE		GAS Plasma Shield.) Shield.) Trailing Backing GAS for OFW Other <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>Percent Composition Gas(es)</th> <th>Flow Rate (l/min)</th> </tr> </thead> <tbody> <tr><td>NA</td><td>NA</td></tr> <tr><td>Ar - CO2</td><td>16÷18</td></tr> <tr><td>NA</td><td>NA</td></tr> <tr><td>NA</td><td>NA</td></tr> <tr><td>NA</td><td>NA</td></tr> </tbody> </table>	Percent Composition Gas(es)	Flow Rate (l/min)	NA	NA	Ar - CO2	16÷18	NA	NA	NA	NA	NA	NA
Percent Composition Gas(es)	Flow Rate (l/min)													
NA	NA													
Ar - CO2	16÷18													
NA	NA													
NA	NA													
NA	NA													
POSITIONS Position(s) of groove NA Welding Progression ☐ Up ☐ Down ☒ NA Position(s) of fillet 2F Other NONE		ELECTRICAL CHARACTERISTICS <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th>a)</th> <th>b)</th> <th>c)</th> </tr> </thead> <tbody> <tr> <td>Current</td> <td>DC</td> <td></td> <td></td> </tr> <tr> <td>Polarity</td> <td>EP</td> <td></td> <td></td> </tr> </tbody> </table> Mode of Met. Transf. for GMAW Spray Arc Tungst. Electr. Type & Size NA Electr. wire feed speed range SEE AMPS VALUE Other NONE		a)	b)	c)	Current	DC			Polarity	EP		
	a)	b)	c)											
Current	DC													
Polarity	EP													
PREHEAT Preheat Temp. 20°C Interpass Temp. 180°C Preheat maintenance NONE Other NONE		TECHNIQUE String or Weave Bead String Orifice or Gas Cup Size (mm) 16 Initial & Interpass Clean. BRUSHING AND GRINDING Method of Back Gouging NA Contact Tube to Work Dist. 15mm Oscillation Ampl. - - Freq. - - Multiple/Single Pass per Side ☒ Multiple ☐ Single ☐ NA Multiple/Single Electrodes ☐ Multiple ☒ Single ☐ NA Electrode spacing: longitudinal -- lateral -- angle -- Other NONE												
POSTWELD HEAT TREATMENT Temp. Range (°C) -- - Time Range (h) -- Heat rate (°C/h) -- - Cool rate (°C/h) -- Other NONE														

Weld pass	Welding Process	Filler metal		Current				Volt Range		Travel Speed Range (mm/min)	☐ Other ☐ Heat Input
		AWS-Class. or Trade Name	Size (mm) 1E 2E	Type & polarity 1E 2E		Amp. Range 1E 2E		1E	2E		
1	GMAW	ER70S-6	1.2	DCEP		210÷230		24÷28		280÷310	
2÷n	GMAW	ER70S-6	1.2	DCEP		210÷230		24÷28		280÷310	

Manufacture

COMERI COSTRUZIONI MECCANICHE s.r.l.
SOCIETA' UNIPERSONALE

	PROCEDURE QUALIFICATION RECORD P Q R		PQR-N. WPS N.	GD0008/12 COMERI 03/11	Sheet / Foglio 17																																																																																																									
Company Name COMERI COSTRUZIONI MECCANICHE SRL - VIA FRIULI,8 - 29017 FIORENZUOLA D'ARDA (PC)																																																																																																														
Proc. Qualification Record No. GD0008/12 Date 14/12/2011																																																																																																														
WPS No. COMERI 03/11 Date 14/12/2011																																																																																																														
Rev. 0 c) c) c)																																																																																																														
Welding Process(es) a) GMAW b) b) c) Type(s) a) Semiautomatic b) b) c)																																																																																																														
JOINTS Joint Design Fillet																																																																																																														
 t1-2=25mm; g=0mm;a=7,3mm																																																																																																														
<table border="1"><thead><tr><th rowspan="2">Weld pass</th><th rowspan="2">Welding Process</th><th colspan="2">Filler Metal Size (mm)</th><th colspan="2">Ampère</th><th colspan="2">Volt</th><th rowspan="2">Travel Speed mm/min</th></tr><tr><th>1E</th><th>2E</th><th>1E</th><th>2E</th><th>1E</th><th>2E</th></tr></thead><tbody><tr><td>1÷3</td><td>GMAW</td><td>1.2</td><td></td><td>220</td><td></td><td>27</td><td></td><td>300</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></tbody></table>						Weld pass	Welding Process	Filler Metal Size (mm)		Ampère		Volt		Travel Speed mm/min	1E	2E	1E	2E	1E	2E	1÷3	GMAW	1.2		220		27		300																																																																																	
Weld pass	Welding Process	Filler Metal Size (mm)		Ampère				Volt		Travel Speed mm/min																																																																																																				
		1E	2E	1E	2E	1E	2E																																																																																																							
1÷3	GMAW	1.2		220		27		300																																																																																																						
BASE METEL from to Gr.No NA to Gr.No. NA Spec.Type - Grade EN 10025-2 - S355J2+N - to Spec.Type & Grade EN 10025-2 - S355J2+N - Thick. of Test Coupon (mm) NA to NA Diam. of Test Coupon (mm) NA to NA Other NONE																																																																																																														
FILLER METAL Spec. No. (SFA) a) 5.18 AWS No. (Class) ER70S-6 F-No. NA Size of filler metal 1.2 F.M. Trade Name IT-SG3 Manufacturer ITALFIL Thk range Groove: NA Thk range Fillet: Leng size=7,3mm Flux Trade Name a) NA Manufacturer NA Electr.-Flux(Class) NA Other NONE																																																																																																														
POSTWELD HEAT TREATMENT Temp. Range (°C) -- - Time Range (h) -- Heat rate (°C/h) -- - Cool rate (°C/h) -- Other NONE																																																																																																														
GAS Plasma Shield.) NA Shield.) Ar - CO2 17 Trailing NA Backing NA GAS for OFW NA Other NONE																																																																																																														
<table border="1"><thead><tr><th colspan="2">Percent Composition Gas(es)</th><th>Flow Rate (l/min)</th></tr></thead><tbody><tr><td></td><td></td><td>NA</td></tr><tr><td></td><td></td><td>17</td></tr><tr><td></td><td></td><td>NA</td></tr><tr><td></td><td></td><td>NA</td></tr><tr><td></td><td></td><td>NA</td></tr></tbody></table>						Percent Composition Gas(es)		Flow Rate (l/min)			NA			17			NA			NA			NA																																																																																							
Percent Composition Gas(es)		Flow Rate (l/min)																																																																																																												
		NA																																																																																																												
		17																																																																																																												
		NA																																																																																																												
		NA																																																																																																												
		NA																																																																																																												
ELECTRICAL CHARACTERISTICS Current DC Polarity EP Mode of Met. Transf. for GMAW Spray Arc Tungst. Electr. Type & Size NA Electr. wire feed speed range SEE AMPS VALUE Other NONE																																																																																																														
TECHNIQUE String or Weave Bead String Orifice or Gas Cup Size (mm) 16 Initial & Interpass Clean. BRUSHING AND GRINDING Method of Back Gouging NA Contact Tube to Work Dist. 15mm Oscillation Ampl. -- Freq. -- Multiple/Single Pass per Side Multiple Single NA Multiple/Single Electrodes Multiple Single NA Electrode spacing: longitudinal lateral angle Other NONE																																																																																																														
POSITIONS Position(s) of groove Position(s) of fillet Other Welding Progression Up Down NA 2F NONE																																																																																																														
PREHEAT Preheat Temp. 20°C Interpass Temp. 180°C Preheat maintenance NONE Other NONE																																																																																																														

11

ISTITUTO ITALIANO DELLA CALDAIA

115 - CERT SRI

& Location

GENOVA



ISTITUTO ITALIANO DELLA SALDATURA

ENTE MORALE

LABORATORIO



RAPPORTO DI PROVA
Revisione
Test report

00016/2012
0

COMMESSA
Job

C00001323/01

Pagina 1 di 4

Page 1 of 4

RICHIEDENTE
Customer

COMERI COSTRUZIONI

INDIRIZZO
Address

VIA ROMA, 48

29100 PIACENZA (PC)

SCOPO DELLA PROVA
Scope of work

Prove di qualifica procedimento secondo AWS D1.1.:2010

IDENTIFICAZIONE DEL CAMPIONE
Item identification

3

Norma/Specifica
AWS D1.1

DATA DI ENTRATA
Date of entry

20/12/2011

IL PRESENTE RAPPORTO E' COSTITUITO DAI SEGUENTI RESOCONTI DI PROVA:
This report includes the following test

PROVA / *Test*

(*) Controllo magnetoscopico / *Magnetoscopic particles inspection*
(*) Esame macrografico / *Macrographic examination*

PROCEDURA / *Test procedure*

AWS D1.1
AWS D1.1:2010

IL PRESENTE RAPPORTO NON PUÒ ESSERE RIPRODOTTO PARZIALMENTE, SALVO APPROVAZIONE SCRITTA

This report shall not be duplicated in part, unless under written authorization

I RISULTATI CONTENUTI NEL PRESENTE RAPPORTO SI RIFERISCONO ESCLUSIVAMENTE AGLI OGGETTI PROVATI

The test result relate only to the items tested

Se non altrimenti specificato la scelta del campione in prova è a cura del cliente. Per l'estrazione delle provette valgono i criteri del MQ LAB al punto 5.7. Le incertezze di misura dichiarate sono espresse con intervallo di confidenza del 95% e fattore di copertura 2

DATA DI EMISSIONE
Date

12/01/2012

RESPONSABILE LABORATORIO
Laboratory responsible

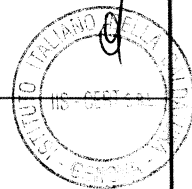
Dott. Ing. Alberto Lauro



**ISTITUTO
ITALIANO
SALDATURA**

RESOCONTO DI PROVA

Commessa Rapporto Pagina
Job Report Page
C00001323/01 00016/2012 2 di/of 4
Rev. 0



CONTROLLO MAGNETOSCOPICO/MAGNETIC PARTICLE EXAMINATION

Saggio/Test Piece	3	Procedura di prova/Test procedure	Lab 018 P
Norma di riferimento/Ref. standard	AWS D1.1	Materiale d'apporto/Filler metal	
Materiale base/Parent metal	EN 10025-2 S355J2+N	Proc. di saldatura/Welding process	AWS D1.1
Tipo di giunto/Joint	Giunto D'angolo/Fillet Weld	Lunghezza/Length	300 mm
Spessore/Thickness	25 mm	Tratt. Termico/Post weld treatment	No
Diam. Esterno/Outside diameter			
Servizio/Service	Preservizio		

CONDIZIONI SUPERFICIALI/Surface Conditions

Temperatura di prova/Test Temperature	22°	Come saldato; Sgrassato
Esame Visivo/Visual inspection	Favorevole al controllo	

TECNICA DI MAGNETIZZAZIONE/Magnetizing technique

Tecnica/Technique	Elettromagnete	Corrente/Current	Alternata
Distanza puntali/Prods distance		Copripuntali/Cover prods	
Lunghezza/Length (cm)	Diametro/Diameter (cm)	N° spire/N° coils	
Tensione/Voltage	220 Volts	Dist. Poli/Spacing	75 mm
		Potere soll./Lifting power	5 Kg
Apparecchiatura/Apparatus	Silver Yoke		
Matricola IIS/Serial nr.	054		
Data ultima verifica/Last check	13/06/2011		

RILEVATORI/Detecting media

A secco/Dry magnetic particle	NO/No		
Tipo/Type	Colore/Colour	Nero	Lanciapolveri/Powder thrower
Umido/Wet magnetic particle	SI/Yes		
Fluorescenti/Fluorescent	NO/No	Non Fluorescenti/Non fluorescent	SI/Yes
Tipo/Type	Magnaflux 7HF MPI Ink	Colore/Colour	Nero
Veicolo Liquido/Vehicle	Kerosenoil	Concentrazione/Concentration	
Lacca di contrasto/Contrast laquer	Si	Tipo/Type	Magnaflux WCP-2
Luce nera tipo/Black light type		Intensità/Intensity	
Illuminamento/Illuminance	1000 Lux		
Apparecchiatura/Apparatus	Delta Ohm 9021		
Matricola IIS/Serial nr.	433		
Data ultima verifica/Last check	09/12/2010		

SMAGNETIZZAZIONE/Demagnetization

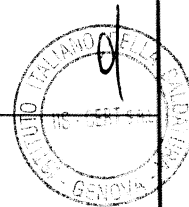
Richiesta/Request	No	Tecnica/Technique	
Campo magnetico residuo/Residual magnetic field			
Apparecchiatura/Apparatus			
Matricola IIS/Serial nr.			
Data ultima verifica/Last check			
Esito/Result	Conforme/Acceptable		
Criteri Acc./Accept. Criteria	AWS D1.1		
Note/Notes			

Data
Date 03/01/2012

Esecutore
Examiner / Andrea Ragni

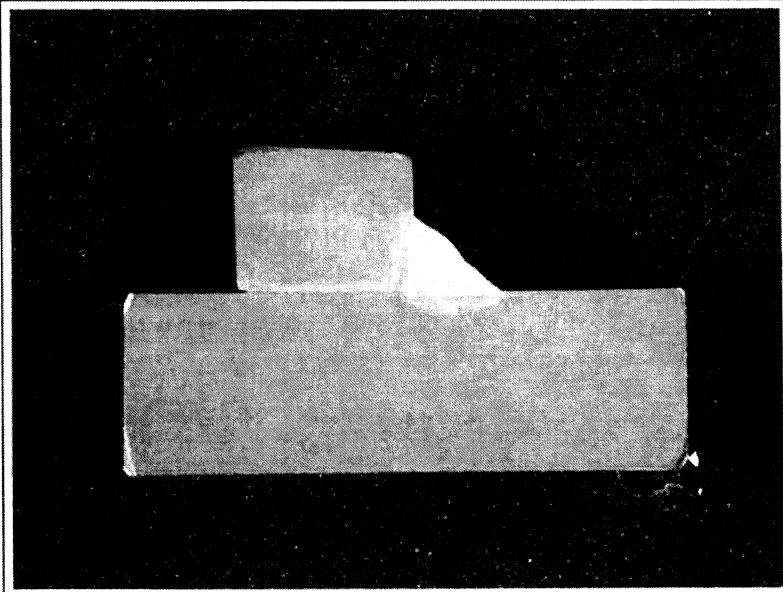
Responsabile servizio
Department Responsible

Giovanni Rivera



ESAME MACROGRAFICO/Macrographic examination

Designazione/Designation : AWS D1.1: 2010



Saggio/Test piece : 3

Campione/Test specimen : M1

Posizione/Location :

Trasversale alla saldatura

Materiale base/Parent metal :

EN 10025-2 S355J2+N sp. =25 mm

Ingrandimento/Magnification : 1x

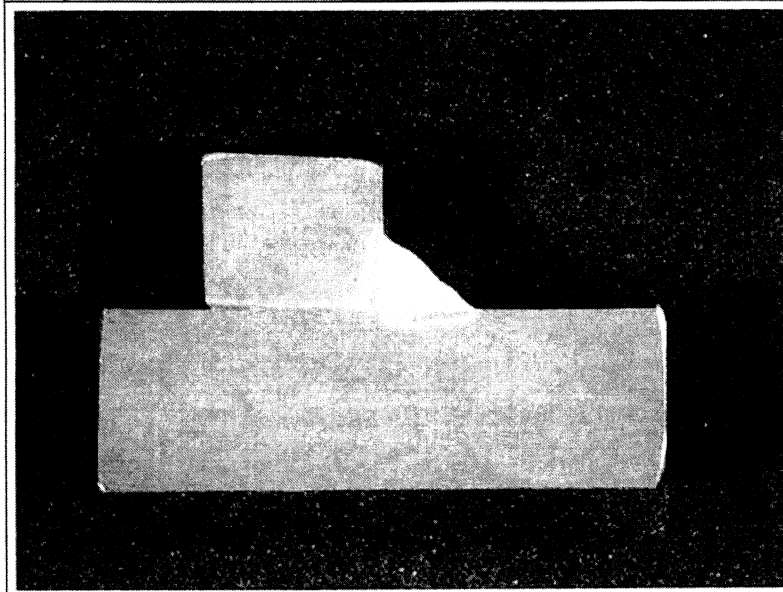
Attacco/Etchant : Nital 10%

Esito/Result : Conforme

Note/Notes :

Misura altezza di gola: 7,3 mm

Designazione/Designation: AWS D1.1: 2010



Saggio/Test piece : 3

Campione/Test specimen : M2

Posizione/Location :

Trasversale alla saldatura

Materiale base/Parent metal :

EN 10025-2 S355J2+N sp. =25 mm

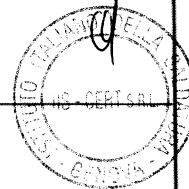
Ingrandimento/Magnification : 1x

Attacco/Etchant : Nital 10%

Esito/Result : Conforme

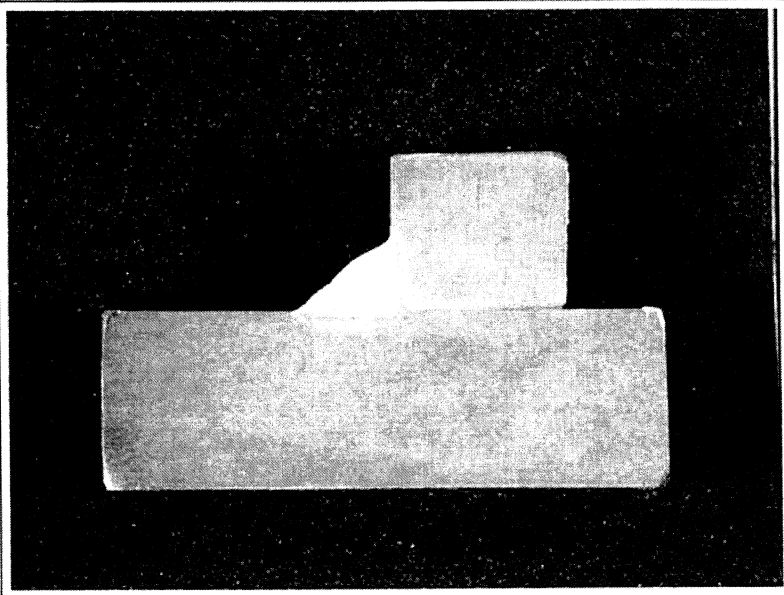
Note/Notes :

Misura altezza di gola: 7,7 mm



ESAME MACROGRAFICO/Macrographic examination

Designazione/Designation : AWS D1.1: 2010



Saggio/Test piece : 3

Campione/Test specimen : M3

Posizione/Location :

Trasversale alla saldatura

Materiale base/Parent metal :

EN 10025-2 S355J2+N sp. =25 mm

Ingrandimento/Magnification : 1x

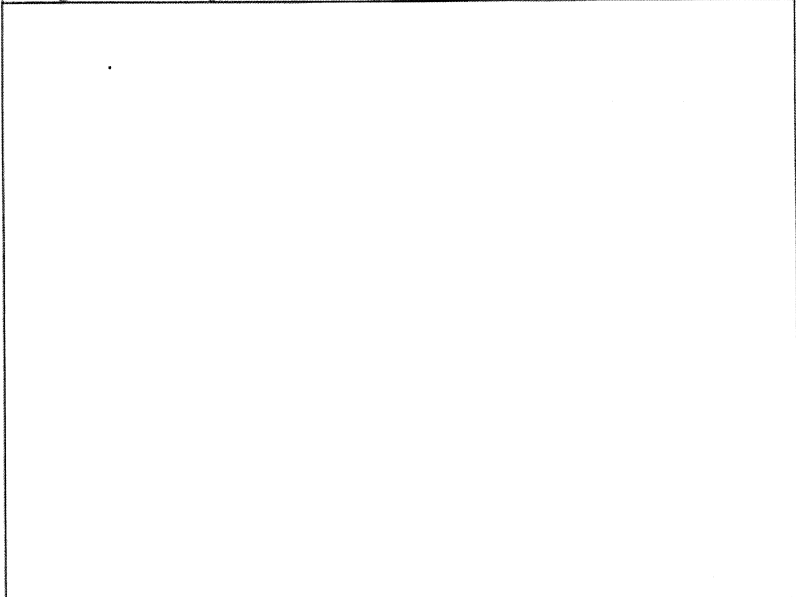
Attacco/Etchant : Nital 10%

Esito/Result : Conforme

Note/Notes :

Misura altezza di gola: 7,4 mm

Designazione/Designation:



Saggio/Test piece :

Campione/Test specimen :

Posizione/Location :

Trasversale alla saldatura

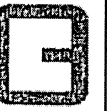
Materiale base/Parent metal :

Ingrandimento/Magnification :

Attacco/Etchant :

Esito/Result :

Note/Notes :



Officine Tecnosider S.r.l.
Piazza delle Repubblica 3
33100 Udine (Italia)
tel. +39.0432.689156

fax +39.0432.686788
info@officinetecnosider.it
www.officinetecnosider.it
C.F. e P. IVA 02434780303

A01
Standard: UNI EN 10025-2:2004
A02
Lamiere
B02

Cosider
COSIDER SPA
VIA G. VITTORIO, 14 43014 MEDESANO PRIT

A03
CER001647

A03 Data
08/11/2011

A03
DT11001524 - 08/11/2011

Certificato di collaudo/Inspection certificate/Abnahmeprüfzeugnis - UNI EN 10204:2005 3.1

Lotto	Campione	ID Lamiere	Dimensioni	Ord. Int.	Ordine cliente	Qualità	TENSILE TEST										IMPACT TEST					
							(C02) REHY(MPa)	RM(F(MPa)	AL%	(C40)	(C02)	(C03)	RS(I(J)	RS(2(J)	RS(3(J)	RS(M(J)						
a11K22550/AZ	SC11A0319	01B.1343.04/A	mm 25x2450x1200	2011000501	ord. n. 211170	S355J2+N	T	379	519	29.3	KV	L	-20°	89	79	86	84					
a11K22581/BD	SC11A0279	01B.1347.01/A	mm 25x2450x1200	2011000501	ord. n. 211170	S355J2+N	T	391	515	28.6	KV	L	-20°	89	93	94	92					
a11K22581/BD	SC11A0279	01B.1347.02/A	mm 25x2450x1200	2011000501	ord. n. 211170	S355J2+N	T	391	515	28.6	KV	L	-20°	89	93	94	92					
A11K22544/AT	SC11A0276	01B.1348.01/A	mm 25x2450x1200	2011000501	ord. n. 211170	S355J2+N	T	385	515	28.6	KV	L	-20°	95	93	96	95					
A11K22544/AT	SC11A0276	01B.1348.04/A	mm 25x2450x1200	2011000501	ord. n. 211170	S355J2+N	T	385	515	28.6	KV	L	-20°	95	93	96	95					

ANALISI CHIMICA DI COLATA

Colata	C%	Mn%	Si%	S%	P%	Cr%	Ni%	Cu%	As%	Ti%	N%	Al%	Mo%	V%	Nb%	B%	Sn%	H%	CEQ%
A11K22544	0.170	1.410	0.180	0.013	0.014	0.037	0.020	0.028	0.003	0.001	0.007	0.032	0.004	0.004	0.001	0.000	0.002	0.000	0.417
a11K22550	0.180	1.440	0.180	0.013	0.015	0.062	0.020	0.032	0.003	0.001	0.008	0.035	0.003	0.004	0.001	0.000	0.005	0.000	0.437
a11K22581	0.190	1.430	0.150	0.013	0.009	0.050	0.025	0.042	0.003	0.001	0.005	0.032	0.003	0.005	0.001	0.000	0.005	0.000	0.444

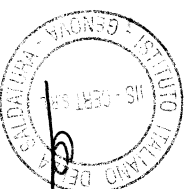
COSIDER S.p.A.

VIA DI Vittorio, 14 - MEDESANO (PR)

MATERIALE RELATIVO A
BOLLA N. 4038(ORD.N.472)

DEL 15/11/2011

Copia conforme all'originale



Enrico Mengazzo
Quality Control department
OFFICINE TECNOSIDER

Conferma radiometrica in accordo al D.Leg 23/02/Eurin Confalone - Radiometric control according to D.Leg 23/02/Russian Confalone

La merce per certificata e di origine Italiana Confalone Europea The goods here certified have Italian origin European Confalone

CERTIFICAZIONE CHE IL PRODOTTO SOTTO ELENCATO E CONFORME ALLA PRESCRIZIONE DELL'ORDINE E CHE I CONTROLLI DELL'ASPETTO SUPERFICIALE E DIMENSIONALE HANNO DATO ESITO POSITIVO
WE HEREBY CERTIFY THAT THE ABOVE MENTIONED PRODUCTS ARE IN COMPLIANCE WITH ORDER PRESCRIPTIONS AND THAT TESTS OF SURFACE AND DIMENSIONAL ASPECTS WERE SUCCESSFUL



0474



FILIPER SALDATURA

35010 Gazzò (PD) - ITALIA - Via dell'Industria, 21
Tel. +39 0499426197 - +39 0499426216 - Fax +39 049 9429210



CERTIFICATO DI COLLAUDO ISPECTION CERTIFICATE

CHEMICAL ANALYSIS ACCORDING TO EN 10204 - 3.1
MECHANICAL CHARACTERISTICS ACCORDING TO EN 10204 - 2.2

DATA
date 6/06/11

Pagina
1 di 1

COLATA/heat Diametro/φ
11118 1.20
11125 1.20
11147 1.20

NS.RIF.

Cliente 042166 ARCO GAS S.A.S.

Doc. Int. 11 BI 1864

DBT 1718 DEL 09/06/11

FILLO S3 D. 1.2 ferro

ANALISI CHIMICA/CHEMICAL ANALYSIS											
COLATA/Heat	C% :	Si% :	Mn% :	P% :	S% :	Cu% :	Cr% :	Ni% :	Mo% :	Al% :	V% :
11118	0,063	0,920	1,690	0,013	0,009	0,070	0,050	0,030	0,008	0,008	0,006
11125	0,070	0,940	1,620	0,008	0,015	0,030	0,025	0,022	0,006	0,003	0,005
11147	0,070	0,920	1,670	0,014	0,011	0,060	0,050	0,040	0,007	0,004	0,005
											Zr+Ti% :
											0,008
											Cu% con riv :
											0,170
											0,150
											0,170

ARCO GAS s.a.s.

COPIA CONFORME
ALL' ORIGINALE



CARATTERISTICHE MECCANICHE TIPICHE DEL DEPOSITO:
As welded mechanical characteristics (average):
TIPOLOGIA/type: IT-SG3
CLASSIFICAZIONE/classification: EN ISO 14341-A-G4S11

C.Rottura N/mm²
tensile strength
560,00

C.Sneramento N/mm²
yield point
460,00

Allungamento %
elongation
26,00

80,00

CARATTERISTICHE TIPICHE DEL PRODOTTO DA UTILIZZARSI
CON GAS CO₂ O CON MISCELA ARGON-CO₂

Usual characteristics of product which is to be used with gas or mixed

Azienda certificata secondo norme
UNI EN ISO 9001:2008

ITALFIL S.p.A.
Resp. Conf. Qualità
quality control manager