



ANB / ANBCC



ANB / ANBCC

WELDING PROCEDURE QUALIFICATION RECORD QUALIFICAZIONE PROCEDURA DI SALDATURA

Certificate No./ Certificato No. GD0051/11

**THE ITALIAN INSTITUTE OF WELDING CERTIFIES THAT /
L'ISTITUTO ITALIANO DELLA SALDATURA CERTIFICA CHE**

the procedure COMERI COSTR.MECCANICHE No.CO 03/11 Rev. 0

IS QUALIFIED ACCORDING TO / E' QUALIFICATA IN ACCORDO A

AWS D1.1/D1.1M (2010)

REMARKS / NOTE

Annexes No.8

This PQR has been issued supported by mechanical tests related to the previous PQR No.GD0046/07 heading "CO.ME.RI." actually converted in " COMERI COSTRUZIONI MECCANICHE SRL"

**ISSUE DATE /
DATA DI EMISSIONE**

05/09/2011

**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 AWSD 1.1	WPS-N. CO 03/11 Date 05/09/2011 Supp. PQR-N. GD0051/11	REV 0
--	---	---	--------------

Welding Process(es)	a) GMAW	b)	c)
Type(s)	a) Semiautomatic	b)	c)

JOINT DESIGN
Joint Design
Backing double-Vee groove weld
☒ Yes ☐ No
Backing Material (Type)
☐ Metal ☐ Nonmetallic
☐ Nonfusing metal ☒ Other
Other:Welded from both sides

BASE METAL
Gr.No NA to NA
Spec.Type - Grade WELDOX 700 * - -
to Spec.Type & Grade WELDOX 700 * - -
Base metal (mm) Groove 25 Fillet NA
Pipe dia. (mm) Groove NA Fillet NA
Other * TRADE NAME; Tensile Strenght Weld Metal >=820N/mm²

a=60°; t=25mm;s=2mm;g=3mm;1/2t=11,5mm

FILLER METAL
Spec. No. (SFA) AWS A5.28
AWS No. (Class) ER100S-G
F-No. NA
Size of filler metal 1,2
F.M. Trade Name INEFIL NiMoCr
Manufacturer INE
Thk range Groove: 25
Thk range Fillet: NA
Flux Trade Name NA
Manufacturer NA
Electr.-Flux(Class) NA
Other NONE

GAS
Plasma
Shield.)
Shield.)
Trailing
Backing
GAS for OFW
Other

Percent Composition Gas(es)	Flow Rate (l/min)
NA	NA
80%Ar-20%CO2	16÷18
NA	NA
NA	NA
NA	NA

POSITIONS
Position(s) of groove 1G
Welding Progression ☐ Up ☐ Down ☒ NA
Position(s) of fillet NA
Other NONE
PREHEAT
Preheat Temp. 20°C
Interpass Temp. 200°C
Preheat maintenance NONE
Other NONE

ELECTRICAL CHARACTERISTICS

	a)	b)	c)
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

POSTWELD HEAT TREATMENT
Temp. Range (°C) -- - Time Range (h) --
Heat rate (°C/h) -- - Cool rate (°C/h) --
Other NONE

TECHNIQUE
String or Weave Bead
Orifice or Gas Cup Size (mm) 16
Initial & Interpass Clean. BRUSHING AND GRINDING
Method of Back Gouging GRINDING TO SOUND METAL
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

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	ER100S-G	1,2	DCEP		210÷240		22÷24		220÷250	1,10÷1,57
2÷n	GMAW	ER100S-G	1,2	DCEP		210÷240		22÷24		210÷230	1,20÷1,64
R1	GMAW	ER100S-G	1,2	DCEP		210÷240		22÷24		240÷260	1,06÷1,44
Rn	GMAW	ER100S-G	1,2	DCEP		210÷240		22÷24		240÷260	1,06÷1,44

Manufacturer

**PROCEDURE QUALIFICATION
RECORD
P Q R**
**PQR-N.
WPS N.**

 GD0051/11
CO 03/11

TENSILE TESTS

Specimen No.	Dimensions (mm)		Area (mm ²)	Ult. Total Load (kN)	Ult. Unit Stress N/mm ²	Type of Failure & Location
	Width	Thickness				
TRANSVERSE	19	24,7	469,3	393414	838,3	DUCTILE WELD METAL
TRANSVERSE	19	25,2	478,8	400229	835,9	DUCTILE WELD METAL

GUIDED BEND TESTS

Specimen No.	Type of bend	Result	Remarks
TRANSVERSE	SIDE	180°SATISFACTORY	
TRANSVERSE	SIDE	180°SATISFACTORY	
TRANSVERSE	SIDE	180°SATISFACTORY	
TRANSVERSE	SIDE	180°SATISFACTORY	

LONGITUDINAL TENSION TEST

Laboratory test report	Specimen No.	Tensile strength (N/mm ²)	Yield point (N/mm ²)	Elongation (%)

TOUGHNESS TESTS

Sp. size (mm)	Notch Locations	Notch Type	Test T. (°C)	Impact Tests			Drop W. Break (Y/N)
				Values / Average (Joule)	% shear	(mm)	
							☐ Yes ☐ No
							☐ Yes ☐ No
							☐ Yes ☐ No
							☐ Yes ☐ No
							☐ Yes ☐ No

FILLET WELD TESTS

1)	Minum size for multiple pass 2	3	1)	Maximum size for single pass 2	3
----	-----------------------------------	---	----	-----------------------------------	---

NON DESTRUCTIVE TESTS

Type of Test	RT		
Test report No.	11781/A		
Result	SATISFACTORY		

OTHER TESTS

Type of Test			
Test report No.			
Result			

Welder's Name DONATI EUGENIO Stamp No. DE
 Welding Test conducted by COMERI COSTRUZIONI MECCANICHE SRL - FIORENZUOLA D'ARDA (PC)
 Laboratory Test conducted by STMC - MOGLIANO V. (TV) Laboratory test report No. 11781/A

We, the undersigned, certify that the statements in this record are correct and that the test welds were prepared, welded and tested in conformance with the requirements of section of AWS D1.1M (2010).

Date 05/09/2011

Test supervised by Italian Institute of Welding
CERTIFICATION AREA CSP

Manufacturer
(Stamp and Signature)

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



STUDIO TECNICO
Mario Cuzzolin s.r.l.

LABORATORIO/LABORATORY

n° 0303

Pagina/Page: 1 di/of 4

RAPPORTO DI PROVA N° : 11781 / A

Test report n°

RICHIEDENTE : CO.ME.RI. srl

Customer

INDIRIZZO :

Address

OGGETTO : Qualifica procedimento secondo AWS D 1.1

Item

IDENTIFICAZIONE : Sample 1

Identification

BOLLA DI ENTRATA : Richiesta 17835/1/1

Bill of entry

DATA : 07,06,2007

Date

IL PRESENTE RAPPORTO E' COSTITUITO DAI SEGUENTI RESOCONTI DI PROVA :

This report includes the following tests

Prova di Trazione/Tensile test	*	Vedi pag./see page :	2 di 4
Prova di Piegatura/Bend test	*	Vedi pag./see page :	3 di 4
Prova di Resilienza/Impact test		Vedi pag./see page :	
Prova di Durezza/Hardness test		Vedi pag./see page :	
Prova di Frattura/Fracture test	*	Vedi pag./see page :	
Esame Macrografico/Macro examination		Vedi pag./see page :	
Esame Micrografico/Micro examination		Vedi pag./see page :	
Trattamenti Termici/Heat treatment	*	Vedi pag./see page :	
Controllo M.T./Magnetic particle examination	*	Vedi pag./see page :	
Controllo R.X./Radiographic examination		Vedi pag./see page :	4 di 4
Controllo L.P./Penetrant examination	*	Vedi pag./see page :	
Controllo U.T./Ultrasonic examination	*	Vedi pag./see page :	
Esame Visivo/Visual examination	*	Vedi pag./see page :	

(* Prova non accreditata dal SINAL)

DATA DI ESECUZIONE DELLA/E PROVA/E : 15,06,2007

Test date

LA RIPRODUZIONE DEL PRESENTE RAPPORTO DEVE ESSERE AUTORIZZATA ESPPLICITAMENTE DAL RESPONSABILE DEL LABORATORIO E DAL SINAL – This report shall not be reproduced without the approval of the responsible laboratory and SINAL.

I RISULTATI CONTENUTI NEL PRESENTE RAPPORTO SI RIFERISCONO ESCLUSIVAMENTE AGLI OGGETTI PROVATI – The test results relate only to the item tested.

CAMPIONAMENTO EFFETTUATO DAL CLIENTE - Sampling executed by customer

DATA DI EMISSIONE :

Emission date

15,06,2007

RESPONSABILE LABORATORIO

Laboratory responsible

Per.Ind. Mario Cuzzolin



STUDIO TECNICO
Mario Cuzzolin s.r.l.

RAPPORTO DI PROVA

PROVA DI PIEGA

Bend test

Cliente/Customer :

CO.ME.RI. srl

Materiale/Material :

WELDOX 700

Commessa/Job :

2007/0452

Data di prova/Test date :

15,06,2007

Rapporto/Report :

11781 / A

Pagina/Page : **3 di/of 4**

CONDIZIONI D'ESAME/TEST CONDITIONS

Norma di rif./Reference standard

QW 462.2

Norma di taratura/Calibration Standard

UNI EN ISO 7500-1:2002

Criteri di accettabilità/Reference standard

AWSD 1.1

Tipo di prova/Type of test

Con punzone/With a former

Istruzione di lavoro/ Instruction of work

IL007#0 - IL007#1

MACCHINE DI PROVA/TESTING MACHINE

Galdabini PM 20 matr. 24394 (02A)

Scala (KN)	Classe
20	0,5
40	0,5
100	0,5
200	0,5



Galdabini PM 60 matr. 29618 (03A)

Scala (KN)	Classe
58,8	1
147	1
294	2
588	2



Risultati delle prove / Test results

Valori richiesti Requirements									
Pos.	Numero saggio	Spessore mm	Piega	Diametro mandrino	Distanza tra i rulli	Angolo	Allung.	Pos. e angolo di rottura	
Position	N° test piece	Thickness	Bend	Diamete of the former	Distance bet. rollers	Angle	Elengation	Failure position and angle	
1	Sample 1	25 x 10	side bend	63	95	180	\	\	Satisfactory
2	Sample 1	25 x 10	side bend	63	95	180	\	\	Satisfactory
3	Sample 1	25 x 10	side bend	63	95	180	\	\	Satisfactory
4	Sample 1	25 x 10	side bend	63	95	180	\	\	Satisfactory

Annotazioni :

Notes :

Per il laboratorio

For laboratory

Per.Ind. Mario Cuzzolin

L' Ispettore

Int. Istituto Italiano della Saldatura

L'ISPETTORE INCARICATO

(**Gianni Arleo**)

Inspection certificate EN 10 204 - 3.1	A02	Issuing department Quality inspection	A05	Purchaser order no MZZ7	A07	Our order no 10944482	A08	Certificate no and date 11697714 2007-03-29	A03
---	-----	--	-----	----------------------------	-----	--------------------------	-----	--	-----

Consignee: Comen S.r.l. Via Friuli 8 29017 Fiorenzuola d'Arda (PC) Italy	A06		Product Structural steel		B01		Marking (Stamping) Steel grade, Trade mark, PLATE ID NO		B06		Standard/rules Steel grade		OX WELDOX 700 E		B02
	Dimensions [mm]		W 2500		L 12000		B10-B12		Weight [kg]		B13		PLATE ID NO		B16
	T 25														B16
	Purchaser Comen S.r.l. Via Friuli 8 29017 Fiorenzuola d'Arda (PC) Italy														B15

Chemical composition															C71-C92	Carbon equivalent etc	C93-C99
Heat no 081921	C	Si	Mn	P	S	Cr	Ni	Mo	V	Ti	Cu	Al	Nb	B	N	EW	
	13	29	1.21	008	001	25	05	142	026	017	01	048	019	004	003	42	CEV(EW) = C + Mn/6 + (Cr+Mo+V)/5 + (Ni+Cu)/15

Test type	C04	Millcode	C08	Specimen position	C01	Direction	C02	Treatment	B05	Specimen type	C10	Temp [deg C]	C03	Test results			
Impact test		664378	Top end			Transvers		Delivery condition		Charpy-V	10x10	-40		C42	E	C42	E
														[J]	[J]	[J]	[J]
														176	179	200	185

Tensile Test	664394	Top end		Transvers		Delivery condition		Rectangular						C11	Rp0.2 [MPa]	C12	Rm [MPa]	C13	A5 [3]
														825	856			14	

B02: EN 10025-6/S690Q1
EN 10025-6, OPTION 30.

	It is hereby certified that the material described above complies with the requirements of the order.		202		This certificate is produced with EDP and valid without signature		201	
	0045-CPD-0837				Quality Inspection Department/ I Jvalsson / R Persson			