



Welding Procedure Qualification Record (PQR)

Qualification: Codes/Standards

EN ISO 15614-1:2004 + A1:2009 + A2:2012

Date of issue

01 September 2014

Office

Istanbul

Test place/location shop/site

Dikkan premises

p WPS* number and revision

TLM.WPS.02 Rev.01

Date of welding

03 March 2014

Manufacturer's name

Dikkan Boru ve Tesisat San. Tic. A.S.

Manufacturer's address

Kemalpaşa Asfaltı No:30 Haytlıkır Mevkii

Kemalpaşa, Izmir, Turkey

Base Material, Consumable and Welding Details:

Base materials

EN 10213 / 1.4408 (GX5CrNiMo 19 11 2)

Welding position

PF

Welding process

135

Plate/Pipe Thickness (mm):

14

Pipe outside diameter (mm):

N/A

Joint type

Butt Weld

Shielding gas/flux flow rate

12 lt/min

Gas composition

I1 (Ar)

Filler material

ISO 14343-A - G 19 12 3 L Si

Make/type/diameter

Magamweld / ER316LSI - Dia 0.8/1.0/1.2/1.6

Composition

Flux type

N/A

Preheat and interpass temperature (method) and control

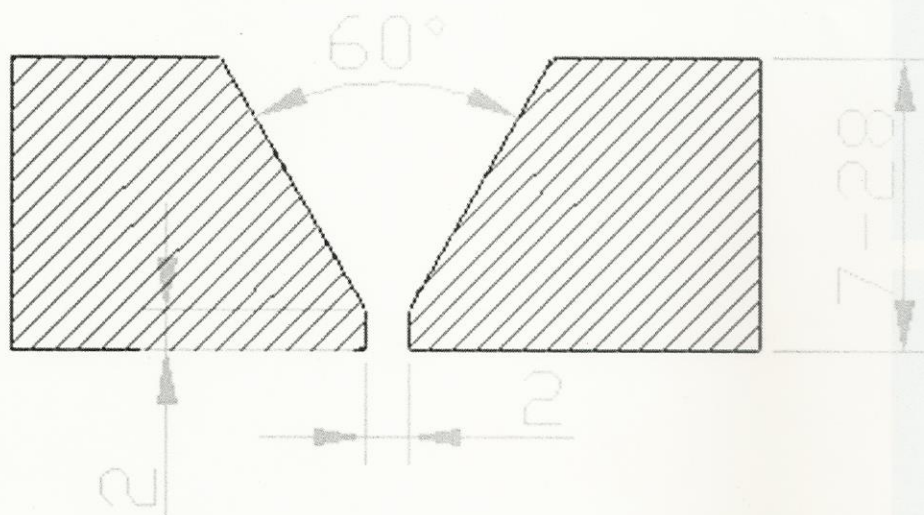
20 °C / 205 °C infrared temp. gauge

Postweld heat treatment temperature (method) and control

N/A

Other information

Test joint details (sketch with dimensions) of weld preparation

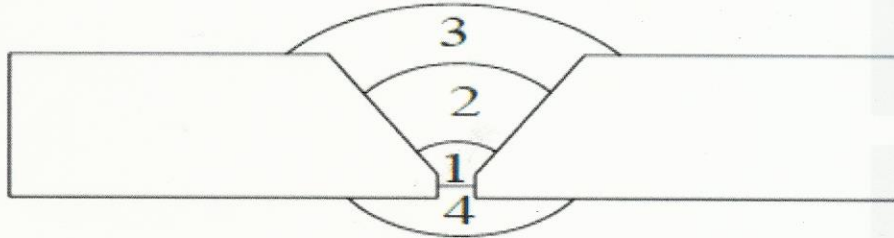


* Manufacturer's Preliminary Welding Procedure Specification

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Test Results

Bead sequence detail (sketch to include weld metal thickness and back gouging where applicable)



Procedure Detail

[illegible]

Date
3-Mar-2014

Welder's name
Bilal Dedebaş

WPQ certificate number
IST1460138/03

EP

Test Results

Date of issue **01 September 2014**
Office **Istanbul**

Non-Destructive Examination (state acceptable, unacceptable, or none)

Visual	Magnetic particle	Liquid penetrant	Radiography	Ultrasonics
Acceptable	-----	Acceptable	Acceptable	-----

Destructive Tests

Test	Tensile	Yield	% Elongation	%Reduction of area	Fracture	Test Temp °C
Units						
Transverse tensile	473.82 - 496.39				Base Metal	20
All-weld tensile						

Bend Tests

Orientation	Former	Angle°	Results
side	40 mm	180	Satisfactory
side	40 mm	180	Satisfactory
side	40 mm	180	Satisfactory
side	40 mm	180	Satisfactory
Longitudinal			

Fillet Weld Fracture (Results)

1	N/A
2	N/A
3	N/A
Macro examination	Satisfactory

Impact tests

Size	Notch location/orientation	Temp °C	Values(J)			Average (J)	Remarks
			1	2	3		
10x10x55 mm	VWT 0/0	-196	92	87	110	96.3	Satisfactory
ISO V	VHT 1/0	-196	90	102	88	93.3	Satisfactory

Hardness Survey

Type	Load
N/A	N/A
Hardness Range	
Parent material	Weld
N/A	N/A
H.A.Z.	
N/A	

Location of hardness measurements (sketch)

E.P.

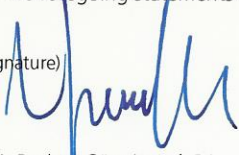
Test Results

Date of issue **01 September 2014**
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Additional test(s) and result(s) e.g. chemical analysis, micro examination, ferrite measurement
N/A

We certify that the foregoing statements are correct and the test welds were prepared, welded and tested in accordance with the specified Codes or Standards.

Manufacturer (signature)

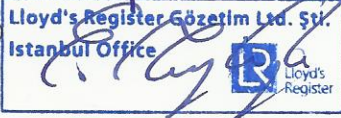


Name in block capitals
YUNUS KÜÇÜKER

Date
1-Sep-2014

Surveyor to Lloyd's Register Gözetim Ltd. Sti.

(signature)



Name in block capitals
EMIN TUĞLUOĞLU

Date
1-Sep-2014