



WPQR Form (Test – page 1/2)  
WELDING PROCEDURE QUALIFICATION RECORD (WPQR)  
AWS D3.6M:2017

Company Name: TÜRKUAZ YENİLİKÇİ TEKNİKLER SAN. VE TİC. A.Ş.  
Authorized by: Cem YILDIRIM Date: 23.05.2024

WPS No: WPS-TÜRKUAZ-2F Rev. No: 0 Weld Date: 16.05.2024  
PQR No: PQR-TÜRKUAZ-2F TL No:2024-0381/1 Report No:5070-240530132502-001

BASE METALS	Specification	Type or Grade	AWS Group No.
Base Material	EN 10025-2	S235JR	I (Equivalent)
Welded To	EN 10025-2	S235JR	I (Equivalent)
Backing Material	-	-	-
Other: -			

BASE METAL THICKNESS		FILLET WELD SIZE (Single-Pass Fillet Weld)
Thickness	8mm - 8mm	Leg Length (S) = 5mm Throat Thickness (a) = 4mm
Min. Tensile Strength	360 Mpa	
Range Of Material Qualified	Unlimited	Range Of Leg Length (S) =2,5mm to 5mm
C%	0,35	

ENVIRONMENT	
Water Depth (m)	20 m
Water Current/Visibility (m)	0,1 m/s / 5 m
Depth Range Qualified (m)	10 m to 30 m
Length/Type Of Welding Umbilical	50 m / 50 mm (Electrode Holder , Groud Cable + TYT Digital 400A Knife Switch)
Joint Backside/Pressure Diff.	-
Salinity	Salt Water

JOINT DETAILS (Sketch)

AXIS OF WELD  
HORIZONTAL

NOTE: ONE PLATE MUST BE HORIZONTAL

(B) TEST POSITION PB (2F)

WELD DETAILS	
Weld Class	B Class Weld
Fillet Weld Type	Single-Pass Weld
Fillet Weld Size (S:Leg length)	S:5mm, Max. S:5mm - Min. S:2,5mm

PROCEDURE

Weld Layer(s)	-
Weld Pass(es)	1
Process	SMAW
Type (Manual, Mechanized, etc.)	Manual
Position	2F
Horizontal Progression	Pull Method
Fillet Weld Size (Leg Length) (z)	5 mm
Filler Metal (AWS Spec.)	AWS A5.1
AWS Classification	AWS A5.1 :E7014 / TS EN ISO:2560-A:E42 0 RR 12
Diameter (mm)	3,25
Manufacturer/Trade Name	Turkuaz Innovative Technics Industry and Trade Inc. / TYT KAIRA 14
Baking or drying of filler material	-
Number Of Electrodes	1
Nozzle Size (GMAW)	-
Preheat Temperature	-
Interpass Temperature	-
Power Source	-
Electrode Diameter (GTAW)	-
Current Type & Polarity	DC ( - )
Amps (A)	155A
Volts (V)	29V
Cold or Hot Wire Feed (GTAW)	-
Travel Speed(mm/min)	150 mm/min
Maximum Heat Input (Kj/mm)	1,79
Technique (Stringer or Weave)	Stringer
Multi or Single Pass (per side)	Single Pass
Oscillation (GTAW Mech./Auto.)	-
Traverse Length	-
Traverse Speed	-
Dwell Time	-
Peening	-
Interpass Clean	-
Other	-

Witnessed / Şahit Olundu  
Cem YILDIRIM  
İnşaat & Kaynak Mühendisi  
İWE No: 01/150816-19  
Çel. Sicil No: 120011  
23.05.2024





WPS Form (Test – page 1)  
WELDING PROCEDURE SPECIFICATION (WPS)  
AWS D3.6M:2017

Company Name: TÜRKUAZ YENİLİKÇİ TEKNİKLER SAN. VE TİC. A.Ş.  
Authorized by: Cem YILDIRIM Date: 23.05.2024

WPS No: WPS-TÜRKAUZ-2F Rev. No: 0 Weld Date: 16.05.2024  
Supporting PQR(s): PQR-TÜRKAUZ-2F TL No:2024-0381/1

BASE METALS	Specification	Type or Grade	AWS Group No.
Base Material	EN 10025-2	S235JR	I (Equivalent)
Welded To	EN 10025-2	S235JR	I (Equivalent)
Backing Material	-	-	-
Other: -			

BASE METAL THICKNESS		FILLET WELD SIZE (Single-Pass Fillet Weld)
Thickness	8mm - 8mm	Leg Length (S) = 5mm Throat Thickness (a) = 4mm
Min. Tensile Strength	360 Mpa	
Range Of Material Qualified	Unlimited	Range Of Leg Length (S) = 2,5mm to 5mm
C%	0,35	

ENVIRONMENT	
Water Depth (m)	20 m
Water Current/Visibility (m)	0,1 m/s / 5 m
Depth Range Qualified (m)	10 m to 30 m
Length/Type Of Welding Umbilical	50 m / 50 mm (Electrode Holder , Groud Cable + TYT Digital 400A Knife Switch)
Joint Backside/Pressure Diff.	-
Salinity	Salt Water

JOINT DETAILS (Sketch)

NOTE: ONE PLATE MUST BE HORIZONTAL  
(B) TEST POSITION PB (2F)

WELD DETAILS	
Weld Class	B Class Weld
Fillet Weld Type	Single-Pass Weld
Fillet Weld Size (S:Leg length)	S:5mm, Max. S:5mm - Min. S:2,5mm

PROCEDURE	
Weld Layer(s)	-
Weld Pass(es)	1
Process	SMAW
Type (Manual, Mechanized, etc.)	Manual
Position	2F
Horizontal Progression	Pull Method
Fillet Weld Size (Leg Length) (z)	5 mm
Filler Metal (AWS Spec.)	AWS A5.1
AWS Classification	AWS A5.1 :E7014 / TS EN ISO:2560-A:E42 0 RR 12
Diameter (mm)	3,25
Manufacturer/Trade Name	Turkuaz Innovative Technics Industry and Trade Inc. / TYT KAIRA 14
Shielding Gas Compos. (GTAW)	-
Baking or drying of filler material	-
Number Of Electrodes	1
Preheat Temperature	-
Interpass Temperature	-
Power Source	-
Electrode Diameter (GTAW)	-
Current Type & Polarity	DC (-)
Amps (A)	139,5-170,5A
Volts (V)	26,1-31,9V
Cold or Hot Wire Feed (GTAW)	-
Travel Speed(mm/min)	150 mm/min
Maximum Heat Input (Kj/mm)	1,79
Technique (Stringer or Weave)	Stringer
Multi or Single Pass (per side)	Single Pass
Oscillation (GTAW Mech./Auto.)	-
Traverse Length	-
Traverse Speed	-
Dwell Time	-
Peening	-
Interpass Clean	-
Other	-

Cem YILDIRIM  
İnsaat & Kaynak Mühendisi  
İWE No: 150816 - 19  
Etiler/Şişli No: 120011  
23 05 24



VERA KALİTE

# Çekme DeneY Raporu

## Tensile Test Report

Yayın Tarihi: 10.04.2020

Revizyon No: 01

Revizyon Tar.: 05.09.2023

Form No: VR.FR.019

Müşteri Customer	Türkuaz Yenilikçi Teknikler	İş Emri No Job Order No	24.0113
Rapor No Report Number	T24.049	Test Yeri / Tarihi Test Location / Date	Sakarya / 22.5.2024
Uygulama Standardı Application Standart	AWS D3.6M	Değerlendirme Standardı Acceptance Standart	AWS D3.6M
Malzeme Parent Material	S235JR	Deneyin Amacı Purpose of Examination	Kaynak Prosedür Deneyi
Deney Parçasının Tanımı Test Piece Designation	Plaka	Ortam Şartları Ambient Conditions	23 °C
Kaynak Detayı Weld Detail	111 FW 2F (PQR-TURKUAZ-2F)	Dolgu Metali Filler Material	TYT-KAİRA14 Ø3,25 mm
Numune Yeri Location of Test Piece	---	Ölçüm Belirsizliği Measurement Uncertainty	---

### Test Sonuçları

#### Test Results

Numune No Test Piece Number	Kesit Alanı Cross Section Area mm <sup>2</sup>	Uzama Elongation %	Akma Dayanımı Yield Strength N/mm <sup>2</sup> (MPa)	Çekme Dayanımı Tensile Strength N/mm <sup>2</sup> (MPa)	Maksimum Yük Maximum Load kN	Kırılma Yeri Location of Fracture	Hata Tipi ve Boyutları Type and Dimensions of Imperfections	Sonuç Result
PQR-TURKUAZ-2F	250,00	---	234,85	370,63	92,66	Kaynak Weld	---	Başarılı Satisfactory

### Açıklama Description

Notlar  
Notes

Malzeme bilgisi müşteri beyanıdır. (Material information was given by Customer)  
Test sonuçları uygulanan numune için geçerlidir. (The test results are valid only for the applied samples)

Tarih  
Date

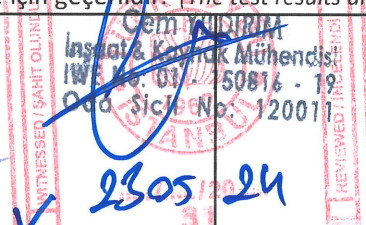
22.5.2024

Hazırlayan  
Prepared by

Salih ERGİN



Cem KUDURMA  
İnsaat & Kimya Mühendisliği  
Tic. Sic. No: 50816 - 19  
Oda Sicil No: 120011



Onaylayan  
Approved By

Salih ERGİN





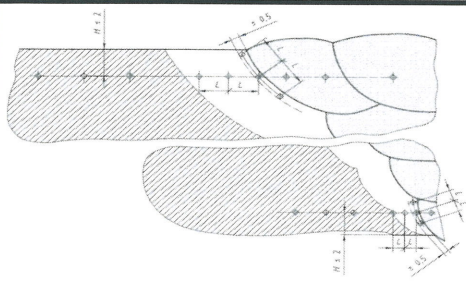
VERA KALİTE

## Sertlik DeneY Raporu Hardness Test Report

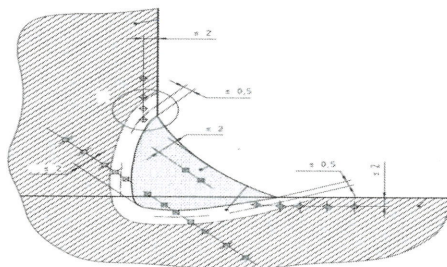
Yayın Tarihi: 10.04.2020  
Revizyon No: 01  
Revizyon Tar.: 05.09.2023  
Form No: VR.FR.022

Müşteri Customer	Türkuaz Yenilikçi Teknikler	İş Emri No Job Order No	24.0113
Rapor No Report Number	H24.015	Test Yeri / Tarihi Test Location / Date	Sakarya / 22.05.2024
Uygulama Standardı Application Standart	AWS D3.6M	Değerlendirme Standardı Acceptance Standart	AWS D3.6M
Malzeme Parent Material	S235JR	DeneYin Amacı Purpose of Examination	Kaynak Prosedür DeneYi
DeneY Parçasının Tanımı Test Piece Designation	Plaka	Ortam Şartları Ambient Conditions	23 °C
Kaynak Detayı Weld Detail	111 FW 2F (PQR-TURKUAZ-2F)	Dolgu Metali Filler Material	TYT-KAİRA14 Ø3,25 mm
Isıl İşlem Heat Treatment	---	Ölçüm Belirsizliği Measurement Uncertainty	---

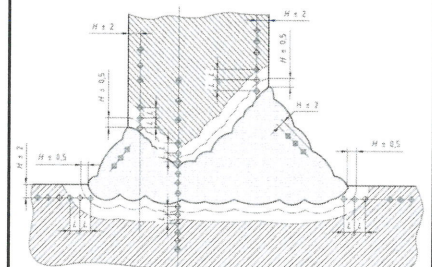
Test Sonaçları Test Results	Test Yüğü Test Load HV10	Test Bölgesi Test Location																		
		Malzeme Material			ITAB HAZ					Kaynak Weld			ITAB HAZ				Malzeme Material			
HV	Yüz Face	177	182	189	212	220	209	215	201	235	214	229	217	213	228	220	212	184	174	179
	Kök Root	172	179	185	209	225	211	214	223	241	230	225	207	215	204	218	221	176	189	192
	Ortalama Average	180,67			213,9					229,00			215,50				182,33			



Alın Kaynağı (Butt Weld)



Köşe Kaynağı (Fillet Weld)



T-Birleşim (T-Joint)

### Açıklama Description

Notlar  
Notes

Malzeme bilgisi müşteri beyanıdır. (Material information was given by Customer)  
Test sonuçları uygulanan numune için geçerlidir. (The test results are valid only for the applied samples)

Tarih  
Date

22.05.2024

Hazırlayan  
Prepared by

Salih ERGİN

İNŞAAT KAYNAK MÜHENDİSİ  
No: 016150876 - 19  
Oda Sicil No: 120017

Onaylayan  
Approved By

Salih ERGİN



VERA KALİTE

# Makroyapı İnceleme Raporu

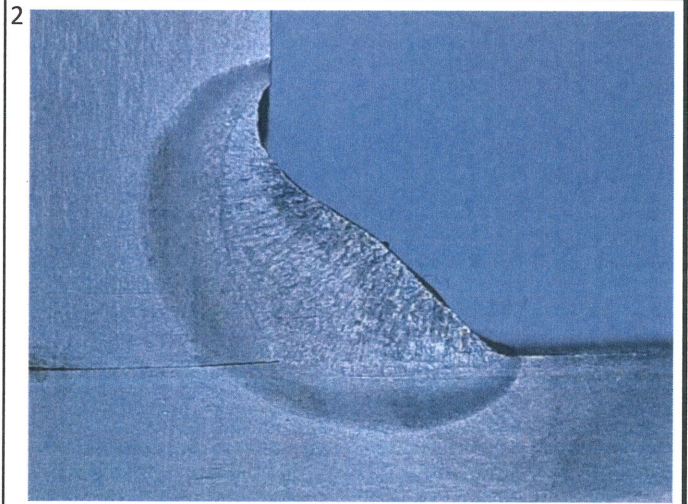
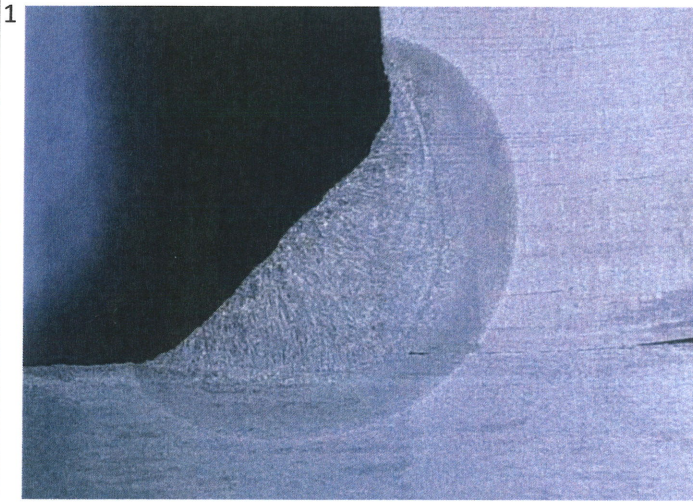
## Macroscopic Examination Report

Yayın Tarihi: 10.04.2020  
Revizyon No: 01  
Revizyon Tar.: 05.09.2023  
Form No: VR.FR.023

Müşteri Customer	Türkuaz Yenilikçi Teknikler	İş Emri No Job Order No	24.0113
Rapor No Report Number	M24.060	Test Yeri / Tarihi Test Location / Date	Sakarya / 22.05.2024
Uygulama Standardı Application Standart	AWS D3.6M	Değerlendirme Standardı Acceptance Standart	AWS D3.6M
Malzeme Parent Material	S235JR	Deneyin Amacı Purpose of Examination	Kaynak Prosedür Deneyi
Deney Parçasının Tanımı Test Piece Designation	Plaka (111 FW 2F) (PQR-TURKUAZ-2F)	Ortam Şartları Ambient Conditions	23 °C
Yüzey Hazırlama Metodu Surface Preparation	Zımpara 1200	Dolgu Metali Filler Material	TYT-KAİRA14 Ø3,25 mm

### Test Sonuçları / Test Results

Numune No Test Piece Number	Kontrol Yöntemi Control Method		Dağlama Çözültisi/Yöntemi Etchant Solution/Method	Kaynak Formu Weld Form	Kaynak Nüfuziyeti Weld Penetration	Sonuç Result
	Görsel Visual	Fotoğraf Photo				
1	Evet Yes	Evet Yes	Nital Çözültisi Daldırma	Uygun Appropriate	Uygun Appropriate	Başarılı Satisfactory
2	Evet Yes	Evet Yes	Nital Çözültisi Daldırma	Uygun Appropriate	Uygun Appropriate	Başarılı Satisfactory



### Açıklama Description

Notlar  
Notes

Malzeme bilgisi müşteri beyanıdır. (Material information was given by Customer)  
Test sonuçları uygulanan numune için geçerlidir. (The test results are valid only for the applied samples)

Tarih  
Date

22.05.2024

Hazırlayan  
Prepared by

Salih ERGİN

Onaylayan  
Approved By

Salih ERGİN



VERA KALITE

Kırma Deney Raporu  
Fracture Test Report

Yayın Tarihi: 10.04.2020

Revizyon No: 01

Revizyon Tar.: 05.09.2023

Form No: VR.FR.067

Müşteri Customer	Türkuaz Yenilikçi Teknikler	İş Emri No Job Order No	24.0113
Rapor No Report Number	F24.007	Test Yeri / Tarihi Test Location / Date	Sakarya / 22.05.2024
Uygulama Standardı Application Standart	AWS D3.6M	Değerlendirme Standardı Acceptance Standart	AWS D3.6M
Malzeme Parent Material	S235JR	Deneyin Amacı Purpose of Examination	Kaynak Prosedür Deneyi
Deney Parçasının Tanımı Test Piece Designation	Plaka	Ortam Şartları Ambient Conditions	23 °C
Kaynak Detayı Weld Detail	111 FW 2F (PQR-TURKUAZ-2F)	Dolgu Metali Filler Material	TYT-KAİRA14 Ø3,25 mm
Numune Yeri Location of Test Piece	---	Isıl İşlem Heat Treatment	---

Test Sonuçları  
Test Results

Numune No Test Piece Number	Test Parçası Ölçüleri Test Piece Dimensions	Hata Tipi ve Boyutları Type and Dimensions of Imperfections	Hatanın Yeri Location of Imperfections	Sonuç Result
PQR-TURKUAZ-2F 111 FW 2F	min. 150 mm	---	---	Başarılı Satisfactory

Açıklama  
Description

Notlar  
Notes

Malzeme bilgisi müşteri beyanıdır. (Material information was given by Customer)  
Test sonuçları uygulanan numune için geçerlidir. (The test results are valid only for the applied samples)

Tarih Date	Hazırlayan Prepared by	Onaylayan Approved By
22.05.2024	Salih ERGİN 	Salih ERGİN 