

**WELDER PERFORMANCE QUALIFICATION (WPQ)**

Name & address of manufacturer: P.E.S. ENGINEERS PVT LTD.
1st Floor, Pancom Chambers 6-3-1090/1/A, Rajbhavan Road,
Somajiguda, Hyderabad-500 082. Phone : 23311740, 23311194
Package : Steel Liner

Welder's Name: Rajesh
Identification No : W - 03

WPQ No : PES-KIRU-CSG-WPQ-03
Test Date : 04-01-2023

Test Description

Identification of WPS followed: PES-KIRU-CSG-WPS-03
Specification of Base Metal(s) : IS-2062 E450 BR

[☒] Test coupon [☐] Production weld
Thickness : 20 mm

Testing Variables And Qualification Limits

<u>WELDING VARIABLES(QW-350)</u>	<u>ACTUAL VALUE</u>	<u>RANGE QUALIFIED</u>
Welding Processes :	GMAW	GMAW
Type:	Manual	Manual
Backing (metal, weld-metal, double-welded, etc) :	N.A	N .A
[☒] Plate [☐] Pipe	20 mm	All Thickness
Base metal P Number to P Number	1	1
Filler Metal or Electrode Specifications (SFA)	5.28	5.28
Filler Metal or Electrode classification	ER-80S-G	ER-80S-G
Filler metal F- Number	6	6
Consumable inserts (GTAW or PAW)	N.A	N .A
Filler Metal Product form	Solid (Copper Coated)	Solid (Copper Coated)
Position	2F	2F, 1F
Vertical Progression (uphill or downhill)	N.A.	N.A.
Type of fuel gas (OFW)	N.A.	N.A.
Inert gas Backing (GTAW, PAW, GMAW)	CO2	CO2
Transfer Mode (spray/globular or pulse to short circuit-GMAW)	N.A.	N.A.
GTAW current type/ polarity (AC, DCEP, DCEN)	N.A.	N.A.

RESULTS

Visual Examination of Completed Weld (QW-302.4) : Satisfactory
[☐] Transverse root and face{QW-462.3(a)} [☐] Longitudinal root and face{QW-462.3(b)} [☒] Side {QW-462.2}
[☐] Pipe bend specimen, corrosion resistant overlay{QW-462.5(c)}
[☐] Plate bend Specimen, corrosion-resistant overlay{ QW-462.5(d)}
[☐] Pipe specimen , Macro test for fusion { QW-462.5(b)} [☐] Plate specimen ,Macro test for fusion { QW-462.5(e)}

Speciman No	Type of Test	Result
PES-KI-11	Macro Examination	Satisfactory
PES-KI-11	Fracture Test	Satisfactory
PES-KI-11	Hardness Survey	Satisfactory

Alternative Volumetric examination results {QW-191} : N.A.
Radiography Report No : N.A.
Fillet Weld- fracture test {QW-180} : Satisfactory
Macro Examination (QW-184) : Satisfactory
Length and percent of defects : N.A.

Other Tests: In visual check at weld cross section and HAZ complete fusion noticed and free from defects.

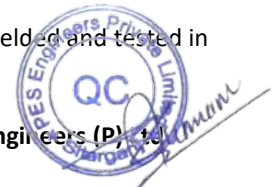
Film or specimen evaluated by: Santosh Arya
Mechanical tests conducted by: ITE Noida
Welding supervised by: Santosh Arya

Company: PES ENGINEERS PVT. LTD.
Laboratory Test No.:1184F/1188F
Test Witnessed by: Vikash Yadav

We certify that the statements in this record are correct and that the test coupons were prepared welded and tested in accordance with the requirements of Section-IX of the ASME Code.

Date: 25-02-2023

Organization: PES Engineers (P) Ltd.



**WELDER PERFORMANCE QUALIFICATION (WPQ)**

Name & address of manufacturer: PES ENGINEERS PVT LTD.
1st Floor, Pancom Chambers 6-3-1090/1/A, Rajbhavan Road,
Somajiguda, Hyderabad-500 082. Phone : 23311740, 23311194
Package : HM Gates & Embedded Parts

Welder's Name: Rajesh
Identification No : W - 16

WPQ No : PES-RNG-IV-HM-WPQ-10
Test Date : 10-06-2023

Test Description

Identification of WPS followed: PES/RNG-IV-HM-WPS-10
Specification of Base Metal(s) : IS-2062 Gr-E410 BR

[☒] Test coupon [] Production weld
Thickness : 30 mm

Testing Variables And Qualification Limits

<u>WELDING VARIABLES(QW-350)</u>	<u>ACTUAL VALUE</u>	<u>RANGE QUALIFIED</u>
Welding Processes :	GMAW	GMAW
Type:	Manual	Manual
Backing (metal, weld-metal, double-welded, etc) :	N.A	N .A
[☒] Plate [] Pipe	30 mm	5-60 mm
Base metal P Number to P Number	1	1
Filler Metal or Electrode Specifications (SFA)	5.28	5.28
Filler Metal or Electrode classification	ER-80S-G	ER-80S-G
Filler metal F- Number	6	6
Consumable inserts (GTAW or PAW)	N.A	N .A
Filler Metal Product form	Solid	Solid
Position	3G	3G,1G
Vertical Progression (uphill or downhill)	Uphill	Uphill
Type of fuel gas (OFW)	N.A.	N.A.
Inert gas Backing (GTAW, PAW, GMAW)	CO2	CO2
Transfer Mode (spray/globular or pulse to short circuit-GMAW)	N.A.	N.A.
GTAW current type/ polarity (AC, DCEP, DCEN)	N.A.	N.A.

RESULTS

Visual Examination of Completed Weld (QW-302.4) : Satisfactory
[] Transverse root and face{QW-462.3(a)} [] Longitudinal root and face{QW-462.3(b)} [☒] Side {QW-462.2}
[] Pipe bend specimen, corrosion resistant overlay{QW-462.5(c)}
[] Plate bend Specimen, corrosion-resistant overlay{ QW-462.5(d)}
[] Pipe specimen , Macro test for fusion { QW-462.5(b)} [] Plate specimen ,Macro test for fusion { QW-462.5(e)}

Speciman No	Type of Test	Result
PES-RN-HM-07	Tensile Test	Satisfactory
PES-RN-HM-07	Side Bend Test	Satisfactory
PES-RN-HM-07	Hardness Survey	Satisfactory
PES-RN-HM-07	Charpy Impact Test	Satisfactory

Alternative Volumetric examination results {QW-191} : Acceptable (RT)
Fillet Weld- fracture test {QW-180} : N.A.
Macro Examination (QW-184) : N.A.
Length and percent of defects : N.A.
Other Tests: In visual check at weld cross section and HAZ complete fusion noticed and free from defects.

Film or specimen evaluated by: Santosh Arya
Mechanical tests conducted by: SD Testing & Calibration Laboratory
Welding supervised by: Santosh Arya

Company: PES ENGINEERS PVT. LTD.
Laboratory Test No.: SD23062310/56, SD24062304/13
Test Witnessed by: Vikash Yadav

We certify that the statements in this record are correct and that the test coupons were prepared welded and tested in accordance with the requirements of Section-IX of the ASME Code.

Date: 10-07-2023

Organization: PES Engineers Pvt Ltd.

