

# TEST REPORT

**ULR - TC690525000016870F**

Page 1 of 1

**T.C. No. : CW4271**  
**Issued To. : M/s PRODUCTIVE ENGINEERS (INDIA) PVT. LTD.**  
 PLOT B-31, ADDL. AMBERNATH ANAND NAGAR,, AMBERNATH (E), 421503.  
 Contact No.:+91 9594277425,Email Id:info@productiveengrs.com

**Date: 21-05-2025**

<b>Party Ref.</b> : Letter	<b>Condition of Sample</b> : Welded Coupon
<b>Ref. Date</b> : 03-05-2025	<b>Sample Received on</b> : 07-05-2025
<b>Specification</b> : --	<b>Testing Started on</b> : 07-05-2025
<b>Stamped By</b> : KRCL (015)	<b>Date of Completion</b> : 09-05-2025
<b>Test Location</b> : TCR Navi Mumbai	<b>Enclosure</b> : NA
<b>Test</b> : LIQUID PENETRANT EXAMINATION	

WPS No.	WPS/PEIPL/KD/KRCL/MRCV/MANKHURD FOB/SAW 001
WPQR Sample No.	PEIPL/SAW-001
Welder Name	Shivaji Bachan Singh
Process	SAW

**I. Non-Destructive Testing**
**1. Metals and Alloys**
**LIQUID PENETRANT EXAMINATION TEST**
**Test Method : ASME SEC V Art.6:2023/IS 7307**

Consumable:Developer,Penetrant,Cleaner

Test performed on : 09-05-2025

<b>Surface clean by</b>	Cleaner (solvent)	<b>Dwell time</b>	10-12 minute
<b>Penetrant application</b>	By Spray	<b>Light Intensity</b>	>1000 Lux
<b>Remover Application</b>	Lint Free Cloths	<b>Developer</b>	PMC-130B-Batch-PI 23 54268 Exp.
<b>Developer Application</b>	By Spray	<b>Penetrant Type/Batch no.</b>	PMC-110B-Batch-PI 20 20785 Exp. Aug.2026
<b>Surface Drying Method</b>	In Air	<b>Cleaner Type/Batch No.</b>	PMC-120B-Batch-PI 20 29482 Exp. Aug.2026
<b>Visible/black Intensity</b>	Visible	<b>Particle Details</b>	Visible
<b>Evaluation /Acceptance</b>	IS 3658		

**Job Details**

Sr.no	WPQR Sample No.	Observation	Qty	Remarks
1.	PEIPL/SAW-001	No Relevant indication observed during testing	01 No	Acceptable

**Remarks (In Details) :** Above Mentioned job tested by Visible LPT Method . No relevant indication observed. The results were found satisfactory.

Tested By: - Mr. Deepak Sonar ASNT Level II LPT.

\*\*\*\*\*END OF REPORT\*\*\*\*\*



 Checked By  
 Srs/-



 Reviewed & Authorised By  
**MR.Abhay Dhuri**  
 Dy.TM-NDT

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Date: 21-05-2025

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Contact No.:+91 9594277425,Email Id:info@productiveengrs.com

<b>Party Ref.</b>	: Letter	<b>Condition of Sample</b>	: Welded Coupon
<b>Ref. Date</b>	: 03-05-2025	<b>Sample Received on</b>	: 07-05-2025
<b>Specification</b>	: --	<b>Testing Started on</b>	: 07-05-2025
<b>Stamped By</b>	: KRCL (015)	<b>Date of Completion</b>	: 09-05-2025
<b>Test Location</b>	: TCR Navi Mumbai	<b>Enclosure</b>	: NA
<b>Test</b>	: VISUAL EXAMINATION		

**Welder Name** Shivaji Bachan Singh  
**WPS No.** WPS/PEIPL/KD/KRCL/MRCV/MANKHURD FOB/SAW 001  
**WPQR Sample No.** PEIPL/SAW-001  
**Process** SAW

**VISUAL EXAMINATION TEST****Test Method : ASME SEC V Art.9:2023/IS 7307**

Test performed on : 09-05-2025

**Welding Type** : Fillet Weld Plate joint.

**Observation** : Visual examination carried out on welded & HAZ area. In Under white light.  
No find any discontinuities. The test found satisfactory.

**Equipment Used** : Hand Lamp Bulb – Light Intensity-1000Lux to 1200 Lux,  
Lux Meter -LX 101A, Make -Lutron (T-026226)

**Tested By** : Mr. Brijesh Singh (CSWIP 3.1)

\*\*\*\*\*END OF REPORT\*\*\*\*\*



Checked By  
Srs/-

Reviewed & Authorised By  
MR.Abhay Dhuri  
Dy.TM-NDT

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# TEST REPORT

**ULR - TC690525000016867F**

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**T.C. No. : CW4273**
**Date: 21-05-2025**
**Issued To. : M/s PRODUCTIVE ENGINEERS (INDIA) PVT. LTD.**

PLOT B-31, ADDL. AMBERNATH ANAND NAGAR,, AMBERNATH (E), 421503.

Contact No.:+91 9594277425,Email Id:info@productiveengrs.com

<b>Party Ref.</b> :	Letter	<b>Condition of Sample</b> :	Welded Coupon
<b>Ref. Date</b> :	03-05-2025	<b>Sample Received on</b> :	07-05-2025
<b>Description of Sample</b> :	Fillet T Joint	<b>Testing Started on</b> :	07-05-2025
<b>Specification</b> :	---	<b>Date of Completion</b> :	19-05-2025
<b>Stamped By</b> :	KRCL (015)	<b>Enclosure</b> :	NIL
<b>Test Location</b> :	TCR Navi Mumbai		
<b>Test</b> :	MACRO ETCH, Vickers Hardness		

Welder Name	Shivaji Bachan Singh
WPS No.	WPS/PEIPL/KD/KRCL/MRCV/MANKHURD FOB/SAW 001
WPQR Sample No.	PEIPL/SAW-001
Process	SAW

**I. Mechanical Testing**
**1. Metals and Alloys**
**MACRO ETCH TEST**
**Test Method : ISO 17639:2022**

Test performed on : 17-05-2025

Specimen No.	1	2
Etchant	Diluted nitric acid	Diluted nitric acid
Magnification	5X	5X
Observation	Complete fusion and free from cracks.	Complete fusion and free from cracks.
Result	Satisfactory	Satisfactory

**2. Mechanical Properties of Metals**
**Vickers Hardness Test**
**Test Method : ISO 6507-1:18 (en)**

Equipment : Vickers Hardness Tester, HPO-250 ; Calibration Due Dt:27-04-2026

Test performed on : 19-05-2025

Type of indenter.	Diamond (face angle 136°)
Test force (kgf).	10
Vickers Hardness Value (HV)	---
AT PM-1	170, 172, 173
AT HAZ-1	184, 183, 182
AT WELD	206, 202, 199
AT HAZ-2	186, 187, 187
AT PM-2	173, 173, 176

Note : for Fracture Test please refer CW4273-1

Test Witness By : Mr. Sivaprasad of KRCL

\*\*\*\*\*END OF REPORT\*\*\*\*\*



 Checked By  
 Srs/-



 Reviewed & Authorised By  
 Prabhakar Singh  
 Head-Conventional Testing

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**TEST REPORT**

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Date: 21-05-2025

T.C. No. : CW4273 -1  
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Contact No.:+91 9594277425,Email Id:info@productiveengrs.com

Party Ref.	: Letter	Condition of Sample	: Welded Coupon
Ref. Date	: 03-05-2025	Sample Received on	: 07-05-2025
Description of Sample	: Fillet T Joint	Testing Started on	: 07-05-2025
Specification	: -	Date of Completion	: 19-05-2025
Stamped By	: KRCL (015)	Enclosure	: NIL
Test Location	: TCR Navi Mumbai		
Test	: FRACTURE		

Welder Name	Shivaji Bachan Singh
WPS No.	WPS/PEIPL/KD/KRCL/MRCV/MANKHURD FOB/SAW 001
WPQR Sample No.	PEIPL/SAW-001
Process	SAW

**FRACTURE TEST****Test Method : IS 7307:1974 Part-1**

Test performed on : 17-05-2025

Specimen No.	1	2	3
Observation.	No evidence of incomplete root fusion or cracks.	No evidence of incomplete root fusion or cracks.	No evidence of incomplete root fusion or cracks.
Result	Satisfactory	Satisfactory	Satisfactory

**Test Witness By : Mr. Sivaprasad of KRCL****\*\*\*\*\*END OF REPORT\*\*\*\*\*****Checked By**  
Srs/-**Reviewed & Authorised By**  
**Prabhakar Singh**  
Head-Conventional Testing**TCR Engineering Services, India: Redefining On-Time Quality since 1973**Material Testing, Metallurgical Evaluation, Corrosion Testing, NDT/Inspection, Civil Audit,  
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**ULR - TC690525000016869F**

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 Contact No.:+91 9594277425,Email Id:info@productiveengrs.com

**Date: 21-05-2025**

<b>Party Ref.</b> :	Letter	<b>Condition of Sample</b> :	Welded Coupon
<b>Ref. Date</b> :	03-05-2025	<b>Sample Received on</b> :	07-05-2025
<b>Specification</b> :	--	<b>Testing Started on</b> :	07-05-2025
<b>Stamped By</b> :	KRCL (015)	<b>Date of Completion</b> :	09-05-2025
<b>Test Location</b> :	TCR Navi Mumbai	<b>Enclosure</b> :	NA
<b>Test</b> :	LIQUID PENETRANT EXAMINATION		

WPQR Sample No.	PEIPL/SAW-002
Process	SAW
Welder Name	Gautam Kumar Swain
WPS No.	WPS/PEIPL/KD/KRCL/MRCV/MANKHURD FOB/SAW 001

**I. Non-Destructive Testing**
**1. Metals and Alloys**
**LIQUID PENETRANT EXAMINATION TEST**
**Test Method : ASME SEC V Art.6:2023/IS 7307**

Consumable:Developer, Penetrant, Cleaner

Test performed on : 09-05-2025

<b>Surface clean by</b>	Cleaner (solvent)	<b>Dwell time</b>	10-12 minute
<b>Penetrant application</b>	By Spray	<b>Light Intensity</b>	>1000 Lux
<b>Remover Application</b>	Lint Free Cloths	<b>Developer</b>	PMC-130B-Batch-PI 23 54268 Exp. June.2025
<b>Developer Application</b>	By Spray	<b>Penetrant Type/Batch</b>	PMC-110B-Batch-PI 20 20785 Exp. Aug.2026
<b>Surface Drying</b>	In Air	<b>Cleaner Type/Batch No.</b>	PMC-120B-Batch-PI 20 29482 Exp. Aug.2026
<b>Visible/black</b>	Visible	<b>Particle Details</b>	Visible
<b>Evaluation</b>	IS 3658		

**Job Details**

Sr.no	WPQR Sample No.	Observation	Qty	Remarks
1.	PEIPL/SAW-002	No Relevant indication observed during testing	01 No	Acceptable

**Remarks (In Details) :** Above Mentioned job tested by Visible LPT Method . No relevant indication observed. The results were found satisfactory.

Tested By: - Mr. Deepak Sonar ASNT Level II LPT.

\*\*\*\*\*END OF REPORT\*\*\*\*\*



 Checked By  
 Srs/-



 Reviewed & Authorised By  
 MR.Abhay Dhuri  
 Dy.TM-NDT

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**TEST REPORT**

ULR - TC690525000016871F

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T.C. No. : CW4275

Date: 21-05-2025

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Contact No.:+91 9594277425,Email Id:info@productiveengrs.com

Party Ref.	: Letter	Condition of Sample	: Welded Coupon
Ref. Date	: 03-05-2025	Sample Received on	: 07-05-2025
Specification	: --	Testing Started on	: 07-05-2025
Stamped By	: KRCL (015)	Date of Completion	: 09-05-2025
Test Location	: TCR Navi Mumbai	Enclosure	: NA
Test	: VISUAL EXAMINATION		

Welder Name	Gautam Kumar Swain
WPS No.	WPS/PEIPL/KD/KRCL/MRCV/MANKHURD FOB/SAW 001
WPQR Sample No.	PEIPL/SAW-002
Process	SAW

**I. Non-Destructive Testing****1. Mechanical Properties of Metals****VISUAL EXAMINATION TEST**

Test Method : ASME SEC V Art.9:2023/IS 7307

Test performed on : 09-05-2025

Welding Type	: Fillet Weld Plate joint.
Observation	: Visual examination carried out on welded & HAZ area. In Under white light. No find any discontinuities. The test found satisfactory.
Equipment Used	: Hand Lamp Bulb – Light Intensity-1000Lux to 1200 Lux. Lux Meter -LX 101A, Make -Lutron (T-026226)
Tested By	: Mr. Brijesh Singh (CSWIP 3.1)

\*\*\*\*\*END OF REPORT\*\*\*\*\*

Checked By  
Srs/-Reviewed & Authorised By  
MR.Abhay Dhuri  
Dy.TM-NDT**TCR Engineering Services, India: Redefining On-Time Quality since 1973**Material Testing, Metallurgical Evaluation, Corrosion, Civil Testing, NDT/Inspection, Civil Structural Audit,  
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# TEST REPORT

**ULR - TC690525000016872F**

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**T.C. No. : CW4276**  
**Issued To. : M/s PRODUCTIVE ENGINEERS (INDIA) PVT. LTD.**  
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 Contact No.:+91 9594277425,Email Id:info@productiveengrs.com

**Date: 21-05-2025**

<b>Party Ref. :</b> Letter	<b>Condition of Sample :</b> Welded Coupon
<b>Ref. Date :</b> 03-05-2025	<b>Sample Received on :</b> 07-05-2025
<b>Description of Sample :</b> Fillet T Joint	
<b>Specification :</b> --	<b>Testing Started on :</b> 07-05-2025
<b>Stamped By :</b> KRCL (015)	<b>Date of Completion :</b> 19-05-2025
<b>Test Location :</b> TCR Navi Mumbai	<b>Enclosure :</b> NIL
<b>Test :</b> MACRO ETCH, Vickers Hardness	

**Welder Name** Gautam Kumar Swain  
**WPS No.** WPS/PEIPL/KD/KRCL/MRCV/MANKHURD FOB/SAW 001  
**WPQR Sample No.** PEIPL/SAW-002  
**Process** SAW

**I. Mechanical Testing**
**1. Metals and Alloys**
**MACRO ETCH TEST**

**Test Method : ISO 17639:2022**  
 Test performed on : 17-05-2025

<b>Specimen No.</b>	1	2
<b>Etchant</b>	Diluted nitric acid	Diluted nitric acid
<b>Magnification</b>	5X	5X
<b>Observation</b>	Complete fusion and free from cracks.	Complete fusion and free from cracks.
<b>Result</b>	satisfactory	satisfactory

**2. Mechanical Properties of Metals**
**Vickers Hardness Test**

**Test Method : ISO 6507-1:18 (en)**  
 Test performed on : 19-05-2025

**Equipment :** Vickers Hardness Tester, HPO-250 ; Calibration Due Dt:27-04-2026  
**Type of indenter.** Diamond (face angle 136°)  
**Test force (kgf).** 10  
**Vickers Hardness Value (HV)** -  
 AT PM-1 170, 171, 170  
 AT HAZ-1 181, 182, 183  
 AT WELD 193, 194, 197  
 AT HAZ-2 180, 180, 182  
 AT PM-2 169, 171, 172

Note : for Fracture Test please refer T.C.No.CW4276-1

**Test Witness By : Mr. Sivaprasad of KRCL**

\*\*\*\*\*END OF REPORT\*\*\*\*\*



 Checked By  
 Srs/-



 Reviewed & Authorised By  
 Prabhakar Singh  
 Head-Conventional Testing

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## TEST REPORT

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 Contact No.:+91 9594277425,Email Id:info@productiveengrs.com

Party Ref. : Letter	Condition of Sample : Welded Coupon
Ref. Date : 03-05-2025	Sample Received on : 07-05-2025
Description of Sample : Fillet T Joint	Testing Started on : 07-05-2025
Specification : --	Date of Completion : 19-05-2025
Stamped By : KRCL (015)	Enclosure : NIL
Test Location : TCR Navi Mumbai	
Test : FRACTURE	

Welder Name	Gautam Kumar Swain
WPS No.	WPS/PEIPL/KD/KRCL/MRCV/MANKHURD FOB/SAW 001
WPQR Sample No.	PEIPL/SAW-002
Process	SAW

**FRACTURE TEST**

**Test Method : IS 7307:1974 Part-1**

Test performed on : 17-05-2025

Specimen No.	1	2	3
Observation.	No evidence of incomplete root fusion or cracks.	No evidence of incomplete root fusion or cracks.	No evidence of incomplete root fusion or cracks.
Result	Satisfactory	Satisfactory	Satisfactory

**Test Witness By : Mr. Sivaprasad of KRCL**

\*\*\*\*\*END OF REPORT\*\*\*\*\*



**Checked By**  
Srs/-



**Reviewed & Authorised By**  
**Prabhakar Singh**  
**Head-Conventional Testing**



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**ULR - TC690525000016873F**

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 Contact No.:+91 9594277425,Email Id:info@productiveengrs.com

**Date:** 21-05-2025

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<b>Ref. Date :</b> 03-05-2025	<b>Sample Received on :</b> 07-05-2025
<b>Specification :</b> --	<b>Testing Started on :</b> 07-05-2025
<b>Stamped By :</b> KRCL (015)	<b>Date of Completion :</b> 09-05-2025
<b>Test Location :</b> TCR Navi Mumbai	<b>Enclosure :</b> NA
<b>Test :</b> LIQUID PENETRANT EXAMINATION	

**Welder Name** Mahboob Alam  
**WPS No.** WPS/PEIPL/KD/KRCL/MRCV/MANKHURD FOB/GMAW-001  
**WPQR Sample No.** PEIPL/GMAW-001  
**Process** GMAW

## I. Non-Destructive Testing

### 1. Metals and Alloys

#### LIQUID PENETRANT EXAMINATION TEST

**Test Method : ASME SEC V Art.6:2023/IS 7307**

Consumable:Developer, Penetrant,Cleaner

Test performed on : 09-05-2025

<b>Surface clean by</b>	Cleaner (solvent)	<b>Dwell time</b>	10-12 minute
<b>Penetrant</b>	By Spray	<b>Light Intensity</b>	>1000 Lux
<b>Remover Application</b>	Lint Free Cloths	<b>Developer</b>	PMC-130B-Batch-PI 23 54268 Exp. June.2025
<b>Developer</b>	By Spray	<b>Penetrant Type/Batch</b>	PMC-110B-Batch-PI 20 20785 Exp. Aug.2026
<b>Surface Drying</b>	In Air	<b>Cleaner Type/Batch No.</b>	PMC-120B-Batch-PI 20 29482 Exp. Aug.2026
<b>Visible/black</b>	Visible	<b>Particle Details</b>	Visible
<b>Evaluation</b>	IS 3658		

#### Job Details

Sr.no	WPQR Sample No.	Observation	Qty	Remarks
1.	PEIPL/GMAW-001	No Relevant indication observed during testing	01 No	Acceptable

**Remarks (In Details) :** Above Mentioned job tested by Visible LPT Method . No relevant indication observed. The results were found satisfactory.

Tested By: - Mr. Deepak Sonar ASNT Level II LPT.

\*\*\*\*\*END OF REPORT\*\*\*\*\*



 Checked By  
 Srs/-



 Reviewed & Authorised By  
**MR.Abhay Dhuri**  
 Dy.TM-NDT

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Contact No.:+91 9594277425,Email Id:info@productiveengrs.com

Party Ref.	: Letter	Condition of Sample	: Welded Coupon
Ref. Date	: 03-05-2025	Sample Received on	: 07-05-2025
Specification	: --	Testing Started on	: 07-05-2025
Stamped By	: KRCL (015)	Date of Completion	: 09-05-2025
Test Location	: TCR Navi Mumbai	Enclosure	: NA
Test	: VISUAL EXAMINATION		

Welder Name : Mahboob Alam  
WPS No. : WPS/PEIPL/KD/KRCL/MRCV/MANKHURD FOB/GMAW-001  
WPQR Sample No. : PEIPSL/GMAW-001  
Process : GMAW

**VISUAL EXAMINATION TEST****Test Method : ASME SEC V Art.9:2023/IS 7307**

Test performed on : 09-05-2025

**Welding Type** : Fillet Weld Plate joint.

**Observation** : Visual examination carried out on welded & HAZ area.  
In Under white light.  
No find any discontinuities. The test found satisfactory.

**Equipment Used** : Hand Lamp Bulb – Light Intensity-1000Lux to 1200 Lux.  
Lux Meter -LX 101A, Make -Lutron (T-026226)

**Tested By** : Mr. Brijesh Singh (CSWIP 3.1)

\*\*\*\*\*END OF REPORT\*\*\*\*\*



Checked By  
Srs/-



Reviewed & Authorised By  
MR.Abhay Dhuri  
Dy.TM-NDT

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# TEST REPORT

**ULR - TC690525000016874F**

Page 1 of 1

**T.C. No. : CW4279**  
**Issued To. : M/s PRODUCTIVE ENGINEERS (INDIA) PVT. LTD.**  
 PLOT B-31, ADDL. AMBERNATH ANAND NAGAR,, AMBERNATH (E), 421503.  
 Contact No.:+91 9594277425,Email Id:info@productiveengrs.com

**Date: 21-05-2025**

<b>Party Ref.</b> : Letter	<b>Condition of Sample</b> : Welded Coupon
<b>Ref. Date</b> : 03-05-2025	<b>Sample Received on</b> : 07-05-2025
<b>Description of Sample</b> : Fillet T Joint	<b>Testing Started on</b> : 07-05-2025
<b>Specification</b> : --	<b>Date of Completion</b> : 19-05-2025
<b>Stamped By</b> : KRCL (015)	<b>Enclosure</b> : NIL
<b>Test Location</b> : TCR Navi Mumbai	
<b>Test</b> : MACRO ETCH, Vickers Hardness	

Welder Name	Mahboob Alam
WPS No.	WPS/PEIPL/KD/KRCL/MRCV/MANKHURD FOB/GMAW-001
WPQR Sample No.	PEIPSL/GMAW-001
Process	GMAW

**I. Mechanical Testing**
**1. Metals and Alloys**
**MACRO ETCH TEST**
**Test Method : ISO 17639:2022**

Test performed on : 17-05-2025

Specimen No.	1	2
Etchant	Diluted nitric acid	Diluted nitric acid
Magnification	5X	5X
Observation	Complete fusion and free from cracks.	Complete fusion and free from cracks.
Result	satisfactory	satisfactory

**2. Mechanical Properties of Metals**
**Vickers Hardness Test**
**Test Method : ISO 6507-1:18 (en)**

Equipment : Vickers Hardness Tester, HPO-250 ; Calibration Due Dt:27-04-2026

Test performed on : 19-05-2025

Type of indenter.	Diamond (face angle 136°)
Test force (kgf).	10
Vickers Hardness Value (HV)	-
AT PM-1	160, 162, 164
AT HAZ-1	184, 184, 182
AT WELD	198, 197, 195
AT HAZ-2	186, 183, 182
AT PM-2	165, 163, 163

Note : for Fracture Test please refer T.C.No.CW4279-1

Test Witness By : Mr. Sivaprasad of KRCL

\*\*\*\*\*END OF REPORT\*\*\*\*\*



 Checked By  
 Srs/-



 Reviewed & Authorised By  
 Prabhakar Singh  
 Head-Conventional Testing

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**TEST REPORT**

Page 1 of 1

Date: 21-05-2025

T.C. No. : CW4279 -1  
Issued To. : M/s PRODUCTIVE ENGINEERS (INDIA) PVT. LTD.  
PLOT B-31, ADDL. AMBERNATH ANAND NAGAR,, AMBERNATH (E), 421503.  
Contact No.:+91 9594277425,Email Id:info@productiveengrs.com

Party Ref.	: Letter	Condition of Sample	: Welded Coupon
Ref. Date	: 03-05-2025	Sample Received on	: 07-05-2025
Description of Sample	: Fillet T Joint	Testing Started on	: 07-05-2025
Specification	: --	Date of Completion	: 19-05-2025
Stamped By	: KRCL (015)	Enclosure	: NIL
Test Location	: TCR Navi Mumbai		
Test	: FRACTURE		

Welder Name	Mahboob Alam
WPS No.	WPS/PEIPL/KD/KRCL/MRCV/MANKHURD FOB/GMAW-001
WPQR Sample No.	PEIPSL/GMAW-001
Process	GMAW

**FRACTURE TEST****Test Method : IS 7307:1974 Part-1**

Test performed on : 17-05-2025

Specimen No.	1	2	3
Observation.	No evidence of incomplete root fusion or cracks.	No evidence of incomplete root fusion or cracks.	No evidence of incomplete root fusion or cracks.
Result	Satisfactory	Satisfactory	Satisfactory

**Test Witness By : Mr. Sivaprasad of KRCL****\*\*\*\*\*END OF REPORT\*\*\*\*\*****Checked By**  
Srs/-**Reviewed & Authorised By**  
**Prabhakar Singh**  
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# TEST REPORT

ULR - TC690525000016876F

Page 1 of 1

T.C. No. : CW4280

Date: 21-05-2025

Issued To. : M/s PRODUCTIVE ENGINEERS (INDIA) PVT. LTD.

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Contact No.:+91 9594277425,Email Id:info@productiveengrs.com

Party Ref.	: Letter	Condition of Sample	: Welded Coupon
Ref. Date	: 03-05-2025	Sample Received on	: 07-05-2025
Specification	: --	Testing Started on	: 07-05-2025
Stamped By	: KRCL (015)	Date of Completion	: 09-05-2025
Test Location	: TCR Navi Mumbai	Enclosure	: NA
Test	: LIQUID PENETRANT EXAMINATION		

WPS No. WPS/PEIPL/KD/KRCL/MRCV/MANKHURD FOB/GMAW-001  
 WPQR Sample No. PEIPL/GMAW-002  
 Process GMAW  
 Welder Name Dev Narayan Yadav

## I. Non-Destructive Testing

### 1. Metals and Alloys

#### LIQUID PENETRANT EXAMINATION TEST

Test Method : ASME SEC V Art.6:2023/IS 7307

Consumable:Devloper,Penetrant,Cleaner

Test performed on : 09-05-2025

Surface clean by	Cleaner (solvent)	Dwell time	10-12 minute
Penetrant application	By Spray	Light Intensity	>1000 Lux
Remover Application	Lint Free Cloths	Developer	PMC-130B-Batch-PI 23 54268 Exp. June.2025
Developer Application	By Spray	Penetrant Type/Batch	PMC-110B-Batch-PI 20 20785 Exp. Aug.2026
Surface Drying	In Air	Cleaner Type/Batch No.	PMC-120B-Batch-PI 20 29482 Exp. Aug.2026
Visible/black Intensity	Visible	Particle Details	Visible
Evaluation	IS 3658		

#### Job Details

Sr.no	WPQR Sample No.	Observation	Qty	Remarks
1.	PEIPL/GMAW-002	No Relevant indication observed during testing	01 No	Acceptable

Remarks (In Details) : Above Mentioned job tested by Visible LPT Method . No relevant indication observed. The results were found satisfactory.

Tested By: - Mr. Deepak Sonar ASNT Level II LPT.

\*\*\*\*\*END OF REPORT\*\*\*\*\*



 Checked By  
 Srs/-



 Reviewed & Authorised By  
 MR.Abhay Dhuri  
 Dy.TM-NDT

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**TEST REPORT**

Page 1 of 1

Date: 21-05-2025

T.C. No. : CW4281  
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Contact No.:+91 9594277425,Email Id:info@productiveengrs.com

Party Ref.	: Letter	Condition of Sample	: Welded Coupon
Ref. Date	: 03-05-2025	Sample Received on	: 07-05-2025
Specification	: --	Testing Started on	: 07-05-2025
Stamped By	: KRCL (015)	Date of Completion	: 09-05-2025
Test Location	: TCR Navi Mumbai	Enclosure	: NA
Test	: VISUAL EXAMINATION		

Welder Name : Dev Narayan Yadav  
WPS No. : WPS/PEIPL/KD/KRCL/MRCV/MANKHURD FOB/GMAW-001  
WPQR Sample No. : PEIPSL/GMAW-002  
Process : GMAW

**VISUAL EXAMINATION TEST****Test Method : ASME SEC V Art.9:2023/IS 7307**

Test performed on : 09-05-2025

**Welding Type** : Fillet Weld Plate joint.

**Observation** : Visual examination carried out on welded & HAZ area.  
In Under white light.  
No find any discontinuities. The test found satisfactory.

**Equipment Used** : Hand Lamp Bulb – Light Intensity-1000Lux to 1200 Lux.  
Lux Meter -LX 101A, Make -Lutron (T-026226)

**Tested By** : Mr. Brijesh Singh (CSWIP 3.1)

**\*\*\*\*\*END OF REPORT\*\*\*\*\***

Checked By  
Srs/-



Reviewed & Authorised By  
MR.Abhay Dhuri  
Dy.TM-NDT

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# TEST REPORT

**ULR - TC690525000016877F**

Page 1 of 1

**T.C. No. :** CW4282 **Date:** 21-05-2025  
**Issued To. :** M/s PRODUCTIVE ENGINEERS (INDIA) PVT. LTD.  
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 Contact No.:+91 9594277425,Email Id:info@productiveengrs.com

<b>Party Ref. :</b> Letter	<b>Condition of Sample :</b> Welded Coupon
<b>Ref. Date :</b> 03-05-2025	<b>Sample Received on :</b> 07-05-2025
<b>Description of Sample :</b> Fillet T Joint	<b>Testing Started on :</b> 07-05-2025
<b>Specification :</b> --	<b>Date of Completion :</b> 19-05-2025
<b>Stamped By :</b> KRCL (015)	<b>Enclosure :</b> NIL
<b>Test Location :</b> TCR Navi Mumbai	
<b>Test :</b> MACRO ETCH, Vickers Hardness	

**Welder Name** Dev Narayan Yadav  
**WPS No.** WPS/PEIPL/KD/KRCL/MRCV/MANKHURD FOB/GMAW-001  
**WPQR Sample No.** PEIPSL/GMAW-002  
**Process** GMAW

**I. Mechanical Testing**
**1. Metals and Alloys**
**MACRO ETCH TEST**
**Test Method : ISO 17639:2022**

Test performed on : 17-05-2025

Specimen location	1	2
Etchant	Diluted nitric acid	Diluted nitric acid
Magnification	5X	5X
Observation	Complete fusion and free from cracks.	Complete fusion and free from cracks.
Result	satisfactory	satisfactory

**2. Mechanical Properties of Metals**
**Vickers Hardness Test**
**Test Method : ISO 6507-1:18 (en)**

Equipment : Vickers Hardness Tester, HPO-250 ; Calibration Due Dt:27-04-2026

Test performed on : 19-05-2025

Type of indenter.	Diamond (face angle 136°)
Test force (kgf).	10
Vickers Hardness Value (HV)	-
AT PM-1	165, 164, 162
AT HAZ-1	180, 181, 182
AT WELD	209, 207, 206
AT HAZ-2	181, 182, 182
AT PM-2	168, 166, 165

Note : For Fracture Test please refer T.C.No.CW4282-1

**Test Witness By : Mr. Sivaprasad of KRCL**

\*\*\*\*\*END OF REPORT\*\*\*\*\*


**Checked By**  
 Srs/-


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 Head-Conventional Testing

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**TEST REPORT**

Page 1 of 1

Date: 21-05-2025

T.C. No. : **CW4282 -1**  
Issued To. : **M/s PRODUCTIVE ENGINEERS (INDIA) PVT. LTD.**  
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Contact No.:+91 9594277425,Email Id:info@productiveengrs.com

Party Ref.	: Letter	Condition of Sample	: Welded Coupon
Ref. Date	: 03-05-2025	Sample Received on	: 07-05-2025
Description of Sample	: Fillet T Joint	Testing Started on	: 07-05-2025
Specification	: --	Date of Completion	: 19-05-2025
Stamped By	: KRCL (015)	Enclosure	: NIL
Test Location	: TCR Navi Mumbai		
Test	: FRACTURE		

Welder Name : Dev Narayan Yadav  
WPS No. : WPS/PEIPL/KD/KRCL/MRCV/MANKHURD FOB/GMAW-001  
WPQR Sample No. : PEIPSL/GMAW-002  
Process : GMAW

**FRACTURE TEST****Test Method : IS 7307:1974 Part-1**

Test performed on : 17-05-2025

Specimen No.	1	2	3
Observation.	No evidence of incomplete root fusion or cracks.	No evidence of incomplete root fusion or cracks.	No evidence of incomplete root fusion or cracks.
Result	Satisfactory	Satisfactory	Satisfactory

**Test Witness By : Mr. Sivaprasad of KRCL****\*\*\*\*\*END OF REPORT\*\*\*\*\*****Checked By**  
Srs/-**Reviewed & Authorised By**  
**Prabhakar Singh**  
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# TEST REPORT

**ULR - TC690525000016878F**

Page 1 of 1

**T.C. No. : CW4283**
**Date: 21-05-2025**
**Issued To. : M/s PRODUCTIVE ENGINEERS (INDIA) PVT. LTD.**  
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 Contact No.:+91 9594277425,Email Id:info@productiveengrs.com

<b>Party Ref.</b> :	Letter	<b>Condition of Sample</b> :	Welded Coupon
<b>Ref. Date</b> :	03-05-2025	<b>Sample Received on</b> :	07-05-2025
<b>Specification</b> :	--	<b>Testing Started on</b> :	07-05-2025
<b>Stamped By</b> :	KRCL (015)	<b>Date of Completion</b> :	09-05-2025
<b>Test Location</b> :	TCR Navi Mumbai	<b>Enclosure</b> :	NA
<b>Test</b> :	LIQUID PENETRANT EXAMINATION		

<b>Welder Name</b>	Ramit Kumar
<b>WPS No.</b>	WPS/PEIPL/KD/KRCL/MRCV/MANKHURD FOB/GMAW-001
<b>WPQR Sample No.</b>	PEIPSL/GMAW-003
<b>Process</b>	GMAW

**I. Non-Destructive Testing**
**1. Metals and Alloys**
**LIQUID PENETRANT EXAMINATION TEST**
**Test Method : ASME SEC V Art.6:2023/IS 7307**

Consumable:Developer, Penetrant, Cleaner

Test performed on : 09-05-2025

<b>Surface clean by</b>	Cleaner (solvent)	<b>Dwell time</b>	10-12 minute
<b>Penetrant</b>	By Spray	<b>Light Intensity</b>	>1000 Lux
<b>Remover Application</b>	Lint Free Cloths	<b>Developer</b>	PMC-130B-Batch-PI 23 54268 Exp. June.2025
<b>Developer</b>	By Spray	<b>Penetrant Type/Batch no.</b>	PMC-110B-Batch-PI 20 20785 Exp. Aug.2026
<b>Surface Drying</b>	In Air	<b>Cleaner Type/Batch No.</b>	PMC-120B-Batch-PI 20 29482 Exp. Aug.2026
<b>Visible/black</b>	Visible	<b>Particle Details</b>	Visible
<b>Evaluation</b>	IS 3658		

**Job Details**

Sr.no	WPQR Sample No.	Observation	Qty	Remarks
1.	PEIPL/GMAW-003	No Relevant indication observed during testing	01 No	Acceptable

**Remarks (In Details) :** Above Mentioned job tested by Visible LPT Method . No relevant indication observed. The results were found satisfactory.

Tested By: - Mr. Deepak Sonar ASNT Level II LPT.

\*\*\*\*\*END OF REPORT\*\*\*\*\*



 Checked By  
 Srs/-



 Reviewed & Authorised By  
**MR.Abhay Dhuri**  
 Dy.TM-NDT

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**TEST REPORT**

Page 1 of 1

Date: 21-05-2025

T.C. No. : CW4284  
Issued To. : M/s PRODUCTIVE ENGINEERS (INDIA) PVT. LTD.  
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Contact No.:+91 9594277425,Email Id:info@productiveengrs.com

Party Ref.	: Letter	Condition of Sample	: Welded Coupon
Ref. Date	: 03-05-2025	Sample Received on	: 07-05-2025
Specification	: --	Testing Started on	: 07-05-2025
Stamped By	: KRCL (015)	Date of Completion	: 09-05-2025
Test Location	: TCR Navi Mumbai	Enclosure	: NA
Test	: VISUAL EXAMINATION		

Welder Name Ramit Kumar  
WPS No. WPS/PEIPL/KD/KRCL/MRCV/MANKHURD FOB/GMAW-001  
WPQR Sample No. PEIPSL/GMAW-003  
Process GMAW

**VISUAL EXAMINATION TEST**

Test Method : ASME SEC V Art.9:2023/IS 7307

Test performed on : 09-05-2025

Welding Type : Fillet Weld Plate joint.

Observation : Visual examination carried out on welded & HAZ area.  
In Under white light.  
No find any discontinuities. The test found satisfactory.

Equipment Used : Hand Lamp Bulb – Light Intensity-1000Lux to 1200 Lux.  
Lux Meter -LX 101A, Make -Lutron (T-026226)

Tested By : Mr. Brijesh Singh (CSWIP 3.1)

\*\*\*\*\*END OF REPORT\*\*\*\*\*



Checked By  
Srs/-



Reviewed & Authorised By  
MR.Abhay Dhuri  
Dy.TM-NDT

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## TEST REPORT

ULR - TC690525000016880F

T.C. No. : CW4285  
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 Contact No.:+91 9594277425,Email Id:info@productiveengrs.com

Party Ref.	: Letter	Condition of Sample	: Welded Coupon
Ref. Date	: 03-05-2025	Sample Received on	: 07-05-2025
Description of Sample	: Fillet T Joint	Testing Started on	: 07-05-2025
Specification	: --	Date of Completion	: 19-05-2025
Stamped By	: KRCL (015)	Enclosure	: NIL
Test Location	: TCR Navi Mumbai		
Test	: MACRO ETCH, Vickers Hardness		

Welder Name : Ramit Kumar  
 WPS No. : WPS/PEIPL/KD/KRCL/MRCV/MANKHURD FOB/GMAW-001  
 WPQR Sample No. : PEIPL/GMAW-003  
 Process : GMAW

**I. Mechanical Testing**  
**1. Metals and Alloys**

<b>MACRO ETCH TEST</b>		<b>Test Method : ISO 17639:2022</b>
		Test performed on : 17-05-2025
Specimen No.	1	2
Etchant	Diluted nitric acid	Diluted nitric acid
Magnification	5X	5X
Observation	Complete fusion and free from cracks.	Complete fusion and free from cracks.
Result	Satisfactory	Satisfactory

**2. Mechanical Properties of Metals**

<b>Vickers Hardness Test</b>		<b>Test Method : ISO 6507-1:18 (en)</b>
Equipment : Vickers Hardness Tester, HPO-250 ; Calibration Due Dt:27-04-2026		Test performed on : 19-05-2025
Type of indenter.	Diamond (face angle 136°)	
Test force (kgf).	10	
Vickers Hardness Value (HV)	-	
AT PM-1	165, 165, 163	
AT HAZ-1	181, 180, 179	
AT WELD	189, 190, 193	
AT HAZ-2	180, 181, 180	
AT PM-2	164, 162, 163	

Note : for Fracture Test please refer T.C.No.CW4285-1

Test Witness By : Mr. Sivaprasad of KRCL

\*\*\*\*\*END OF REPORT\*\*\*\*\*



Checked By  
Srs/-



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Head-Conventional Testing



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Date: 21-05-2025

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 Contact No.:+91 9594277425,Email Id:info@productiveengrs.com

<b>Party Ref.</b> : Letter	<b>Condition of Sample</b> : Welded Coupon
<b>Ref. Date</b> : 03-05-2025	<b>Sample Received on</b> : 07-05-2025
<b>Description of Sample</b> : Fillet T Joint	<b>Testing Started on</b> : 07-05-2025
<b>Specification</b> : --	<b>Date of Completion</b> : 19-05-2025
<b>Stamped By</b> : KRCL (015)	<b>Enclosure</b> : NIL
<b>Test Location</b> : TCR Navi Mumbai	
<b>Test</b> : FRACTURE	

Welder Name	Ramit Kumar
WPS No.	WPS/PEIPL/KD/KRCL/MRCV/MANKHURD FOB/GMAW-001
WPQR Sample No.	PEIPSL/GMAW-003
Process	GMAW

**FRACTURE TEST**
**Test Method : IS 7307:1974 Part-1**

Test performed on : 17-05-2025

Specimen No.	1	2	3
Observation.	No evidence of incomplete root fusion or cracks.	No evidence of incomplete root fusion or cracks.	No evidence of incomplete root fusion or cracks.
Result	Satisfactory	Satisfactory	Satisfactory

**Test Witness By : Mr. Sivaprasad of KRCL**

\*\*\*\*\*END OF REPORT\*\*\*\*\*



Checked By  
Srs/-



Reviewed & Authorised By  
Prabhakar Singh  
Head-Conventional Testing


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Material Testing, Metallurgical Evaluation, Corrosion Testing, NDT/Inspection, Civil Audit, Engineering Consulting &amp; Research Laboratory.

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