



AISWARYA LAKSHMI ENGINEERING WORKS

(ISO 9001:2015 CERTIFIED COMPANY)

INSPECTION CERTIFICATE

(AS PER EN 10204 3.1)

| | | | |
|-------------|--|-------------|--------------------------|
| CUSTOMER | JC VALVULAS INDIA PVT LTD., CHENNAI | OUR T.C No. | ALEW/GST/26-27 / 31 / 02 |
| PART NAME | STEM DN50 + VITON O-RING + BUSHING A182 GR.F51 | DATE | 20.04.2026 |
| PART No. | EPF5150TJQ | OUR INV No. | GST / 26-27 / 31 |
| DRG No. | EPI50Q | MILL TC No. | TC231813 |
| DRG REV No. | 1 | HEAT No. | S-31542 |
| P.O.No. | JCCMP-2526-02306 & JCCMP-2526-02449 | QYT (NO' S) | 474 |

MATERIAL SPECIFICATION : ASTM A182/A182M Gr. F51 (UNS S31803)

CHEMICAL PROPERTIES

TEST REPORT NO: TR/25-26/45700-1-2 23-01-2026

| % | C | Si | Mn | P | S | Cr | Ni | Mo | N |
|--------|-------|-------|-------|-------|-------|--------|-------|-------|-------|
| MIN | | | | | | 21.00 | 4.50 | 2.50 | 0.08 |
| MAX | 0.030 | 1.00 | 2.00 | 0.030 | 0.020 | 23.00 | 6.50 | 3.50 | 0.20 |
| ACTUAL | 0.020 | 0.364 | 1.655 | 0.023 | 0.007 | 22.526 | 4.820 | 3.067 | 0.149 |

MECHANICAL PROPERTIES

TEST REPORT NO: TR/25-26/45700-1-2 23-01-2026

| PARAMETER % | MIN | MAX | ACTUAL |
|-----------------------------------|-----|-----|--------|
| TENSILE STRENGTH IN Mpa | 620 | - | 801 |
| YIELD STRENGTH IN Mpa 0.2% OFFSET | 450 | - | 711 |
| ELONGATION IN GL OF 50mm% | 25 | - | 38 |
| REDUCTION IN AREA % | 45 | - | 77 |
| HARDNESS(HBW) | - | - | 228 |

METALLURGICAL PROPERTIES

| | |
|---------|-------|
| I.G.C | : NIL |
| IMPACT | : NIL |
| MICRO | : NIL |
| FERRITE | : NIL |

HEAT TREATMENT

: SOLUTION ANNEALED @ 1050 C SOAKING TIME 1 Hrs/Inch THEN WATER QUENCHED

REMARKS:

- 1) We hereby certify that the items above have been tested and inspected in our presence in accordance with drawings and satisfy the requirements for "ASTM A182/A182M Gr. F51" The results comply with product description.
- 2) Materials Free From Radioactive contamination.
- 3) Visual and Dimensional Found satisfactory as per drawing.
- 4) Markings done according to MSS-SP-25.
- 5) No weld Repair Performed.
- 6) MARKING, PUNCH IDENTIFIED AS F51 S-31542
- 7) Material is ultrasonically tested as per ASTM A388/388M & Found satisfactory
- 8) Material conforms to NACE MR0175/ISO - 15156- 2020 and NACE MR0103/ISO -17945 - 2016
- 9) JC MDS NO -JC-MDS-346 REV 9

WE HEREBY CERTIFY THAT THE ITEMS MENTIONED ABOVE HAVE BEEN TESTED, INSPECTED & FOUND TO BE IN ACCORDANCE WITH THE SPECIFICATION REQUIREMENTS.

For AISWARYALAKSHMI ENGINEERING WORKS

R. L. Thirumurugan

Mr.L.Thirumurugan
Quality Incharge



Address 132A, SIDCO INDUSTRIAL ESTATE, AMBATTUR, CHENNAI - 98. Email Id: alewchennai@gmail.com

JC Valvulas India Pvt. Ltd.

Chennai, Tamil Nadu, India
Verified & Accepted

Q.A. R. D. S. J.



Test Report

TC1472826000007548F

| | | |
|--|-----------------------|-------------------------|
| Customer: M/s. Aiswarya Lakshmi Engineering Works No. 132A, Sidco Industrial Estate, North Phase, Ambattur, City: Chennai, 600098 | Report No.: | TR/25-26/45700-1 |
| | Report Date: | 20-01-2026 |
| | Customer Ref. No.: | 812 |
| | Ref. Date | 08-01-2026 |
| | Sample Received Date: | 08-01-2026 |
| | Date Of Completion: | 13-01-2026 |

Samples drawn by Customer

Sample Description: Rod, Size: Dia 25.00mm, Material: ASTM A182/A182M-24C Gr. F51 (UNS S31803) / ASTM A182/A182M-24C, Gr. F60 (UNS S32205), Heat No: S-31542

Discipline : Chemical, Group : METALS & ALLOYS

SPECTRO CHEMICAL ANALYSIS

Test Method : JIS G 1253:2002 A-1:2013

Verified By: PAPPITHA

Tested on : 10-01-2026

| Test Parameters | Result | Requirement |
|-----------------|----------|--------------|
| % Carbon | 0.020 ✓ | 0.03 max. ✓ |
| % Silicon | 0.364 ✓ | 1.00 max. ✓ |
| % Manganese | 1.655 ✓ | 2.00 max. ✓ |
| % Phosphorus | 0.023 ✓ | 0.03 max. ✓ |
| % Sulphur | 0.007 ✓ | 0.02 max. ✓ |
| % Chromium | 22.526 ✓ | 21.00-23.0 ✓ |
| % Molybdenum | 3.067 ✓ | 2.50-3.50 ✓ |
| % Nickel | 4.820 ✓ | 4.50-6.50 ✓ |
| % Nitrogen | 0.149 ✓ | 0.08-0.20 ✓ |

Remarks : The material conforms to Customer Specifications with respect to test/s carried out

Discipline : Mechanical, Group : MECHANICAL PROPERTIES OF METALS

TENSILE TEST

Test Method : ASTM A370:24a

Verified By: SURENDIRAN

Tested on : 12-01-2026

| Test Parameters | Result | Requirement |
|--|--------|-------------|
| 0.2% Proof Strength(N/mm ² or Mpa) | 711 ✓ | 450 min. ✓ |
| Ultimate Tensile Strength (N/mm ² or Mpa) | 801 ✓ | 620 min. ✓ |
| Elongation (%) 4D GL | 38.0 ✓ | 25 min. ✓ |
| Reduction of area (%) | 77.0 ✓ | 45 min. ✓ |

Remarks : The material conforms to Customer Specifications with respect to test/s carried out

HARDNESS TEST

Test Method : ASTM E10:2023

NOTE : This report relates only to the particular sample submitted for test * Any correction is not attested shall invalidate this certificate * Sample will be destroyed after 15 days from the date of testing unless instructed otherwise * Any complaints about this report should be communicated in writing within 7 days of this report * This report not to be produced wholly or in parts and cannot be used as an evidence in a court of law and shall not be used in advertising Media without prior permission in writing * Sample description is not verified in all cases and is given as described by the customers * Sample are not drawn by us unless otherwise stated * Laboratory reports the statements of Conformity to material specification as per Decision Rule 1, Non Conformity as per Decision Rule 4 & For Rule 2 & 3 Customer provides feedback.

Format No: MTP/L/QMS/TR/03

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JC Valvulas India Pvt. Ltd.

Chennai, Tamil Nadu, India
Verified & Accepted

Q.A.R. Diksh





TC147282600007548F
TR/25-26/45700-1 Dt- 20-01-2026

Verified By: **SANTHOSH KUMAR.B** Tested on : **13-01-2026**

| Test Parameters | Result |
|------------------------------|-----------------|
| Diameter of the ball (mm). | 5 ✓ |
| Test force (kgf). | 750 ✓ |
| Brinell Hardness Value (HBW) | 246, 244, 244 ✓ |

CHARPY IMPACT TEST Test Method : **ASTM E23:25**

Verified By: **V PRABAKARAN** Tested on : **12-01-2026**

| Test Parameters | Result | Requirement |
|-----------------------------------|------------|-------------------|
| Test temperature (Degree Celcius) | 20°C ✓ | |
| Specimen size (mm) | 10x10x55 ✓ | |
| Notch Type | V ✓ | |
| Striker Radius (mm) | 8 ✓ | |
| Absorbed energy (Joules) 1. | 298 ✓ | Single 75 min ✓ |
| Absorbed energy (Joules) 2. | 292 ✓ | |
| Absorbed energy (Joules) 3. | 296 ✓ | |
| Average values (Joules). | 295.33 ✓ | Average 100 min ✓ |

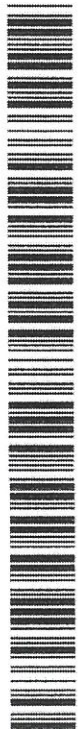
Remarks :The material conforms to Customer Specifications with respect to test/s carried out

CHARPY IMPACT TEST Test Method : **ASTM E23:25**

Verified By: **V PRABAKARAN** Tested on : **12-01-2026**

| Test Parameters | Result | Requirement |
|-----------------------------------|------------|------------------|
| Test temperature (Degree Celcius) | -30°C ✓ | |
| Specimen size (mm) | 10x10x55 ✓ | |
| Notch Type | V ✓ | |
| Striker Radius (mm) | 8 ✓ | |
| Absorbed energy (Joules) 1. | 252 ✓ | single 40 min ✓ |
| Absorbed energy (Joules) 2. | 244 ✓ | |
| Absorbed energy (Joules) 3. | 244 ✓ | |
| Average values (Joules). | 246.67 ✓ | Average 60 min ✓ |

Remarks :The material conforms to Customer Specifications with respect to test/s carried out



NOTE : This report relates only to the particular sample submitted for test * Any correction is not attested shall invalidate this certificate * Sample will be destroyed after 15 days from the date of testing unless instructed otherwise * Any complaints about this report should be communicated in writing within 7 days of this report * This report not to be produced wholly or in parts and cannot be used as an evidence in a court of law and shall not be used in advertising Media without prior permission in writing * Sample description is not verified in all cases and is given as described by the customers * Sample are not drawn by us unless otherwise stated * Laboratory reports the statements of Conformity to material specification as per Decision Rule 1, Non Conformity as per Decision Rule 4 & For Rule 2 & 3 Customer provides feedback.



JC Valvulas India Pvt. Ltd.
Chennai, Tamil Nadu, India
Verified & Accepted
Q.A. R. S. K. J.



Test Report

TC147282600005564F

| | | |
|---|-----------------------|------------------|
| Customer: M/s. Aiswarya Lakshmi Engineering Works No. 132A,Sidco Industrial Estate,North Phase,Ambattur ,City:Chennai ,600098 | Report No.: | TR/25-26/45699-1 |
| | Report Date: | 13-01-2026 |
| | Customer Ref. No.: | 810 |
| | Ref. Date | 08-01-2026 |
| | Sample Received Date: | 08-01-2026 |
| | Date Of Completion: | 12-01-2026 |

Samples drawn by Customer

Sample Description: Rod, Size: Dia 16.00mm, Material: ASTM A182/A182M-24C Gr. F51 (UNS S31803) / ASTM A182/A182M-24C, Gr. F60 (UNS S32205), Heat No: 24L1309

Discipline : Chemical, Group : METALS & ALLOYS

SPECTRO CHEMICAL ANALYSIS

Test Method : JIS G 1253:2002 A-1:2013

Tested on : 09-01-2026

Verified By: PAPPITHA

| Test Parameters | Result | Requirement |
|-----------------|---------|-------------|
| % Carbon | 0.021 | 0.030 max. |
| % Silicon | 0.405 | 1.00 max. |
| % Manganese | 1.482 | 2.00 max. |
| % Phosphorus | 0.026 | 0.03 max. |
| % Sulphur | < 0.001 | 0.02 max. |
| % Chromium | 22.574 | 21.00-23.0 |
| % Molybdenum | 3.213 | 2.50-3.50 |
| % Nickel | 5.133 | 4.50-6.50 |
| % Nitrogen | 0.176 | 0.08-0.20 |

Remarks :The material conforms to Customer Specifications with respect to test/s carried out

Discipline : Mechanical, Group : MECHANICAL PROPERTIES OF METALS

TENSILE TEST

Test Method : ASTM A370:24a

Tested on : 12-01-2026

Verified By: SURENDIRAN

| Test Parameters | Result | Requirement |
|--|--------|-------------|
| Yield Strength (N/mm ² or Mpa) | 764 | 450 min. |
| Ultimate Tensile Strength (N/mm ² or Mpa) | 887 | 620 min. |
| Elongation (%) 4D GL | 37.00 | 25 min. |
| Reduction Area (%) | 71.50 | 45 min. |

Remarks :The material conforms to Customer Specifications with respect to test/s carried out

For MICROLAB

P.L Saravanan
Head- Chemical & Q.M.
Authorised Signatory

P. Selvakumar
Asst. Technical Manager
Authorised Signatory

End of Test Report

NOTE : This report relates only to the particular sample submitted for test * Any correction is not attested shall invalidate this certificate * Sample will be destroyed after 16 days from the date of testing unless instructed otherwise * Any complaints about this report should be communicated in writing within 7 days of this report * This report not to be produced wholly or in parts and cannot be used as an evidence in a court of law and shall not be used in advertising Media without prior permission in writing * Sample description is not verified in all cases and is given as described by the customers * Sample are not drawn by us unless otherwise stated * Laboratory reports the statements of Conformity to material specification as per Decision Rule 1, Non Conformity as per Decision Rule 4 & For Rule 2 & 3 Customer provides feedback.



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