

NATIONAL TEST HOUSE(SOUTHERN REGION)

ULR No. :-

DOC No. : NTH(SR)/NDT/2022/M27 GOVT.OF INDIA,CSIR ROAD,TARAMANI., Chennai,
Telephone : +91 9790824056 Chennai, Tamil Nadu, India - 600113
FAX : -
E-Mail : nthsr.tn@nic.in
BO Code : None

Test REPORT AS PER : IS 814 (2004)**QR Code/Barcode : 10000270203****REPORT NO : 10366963/2022/SS/1_1**

DATE : 19 Sep, 2022

PART A. PARTICULARS OF SAMPLE SUBMITTED

a) Customer Name & Address : OSHIMA SYSTEMS PRIVATE LIMITED
10th A Main, 430, Industrial Area, Baikampady
Area, MANGALORE,Dakshina Kannada,
Karnataka,, MANGALORE, DAKSHINA KANNADA,
KARNATAKA, INDIA - 575011

b) Nature of sample : SS

c) Grade/Variety/Type/Class Size etc : CLASS ER 4211/SIZE 2.5,3.15&4 MM

d) Declare values, if any : AS PER ENCLOUSER

e) Batch No. & Date of Manufacture : TRAIL BATCH/

f) Quantity : 5 CARTONS OF EACH SIZE

g) Date of Receipt : 10 Aug, 2022

h) BIS Seal : Verified by Sample Cell

i) IO's Signature : Verified by Sample Cell

j) Any other Information / Expiry Date, If any : -/5 YEARS

k) Date of Commencement of Testing : 08 Sep, 2022

l) Date of Completion of Testing : 16 Sep, 2022

m) Section Code : 22C3464, 22MF652

n) Section Report No. : 22C3464_1, 22MF652_1

o) Report Type : New

p) Reference Report No. :

q) Remarks : Report submitted.

Parbati Mandi
OIC SAMPLE CELL
(Authorized Signatory)
Authorized on: 19 Sep, 2022 12:17 PM

1. NATIONAL TEST HOUSE(SOUTHERN REGION)

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PART B. SUPPLEMENTARY INFORMATION

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| 1. Reference to sampling procedure, wherever applicable. | Not Applicable |
| 2. Supporting documents for the measurements taken and results derived like graphs, table sketches and or photographs as appropriate to test report, if any. | Yes |
| 3. Deviation from the test methods as prescribed in relevant ISS/Work instruction, if any. | Not Applicable |

Suhas D Pingale
OIC Mechanical
(Authorized Signatory)
Authorized on: 09 Sep, 2022 17:38 PM

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PART C. TEST RESULT

S.No.	Clause No Table No. Sl. No	Parameter - Method of test	Test Description	Min Limit	Max Limit	Unit	Result/ Observation
1	9.2	Butt Weld Bend Test- IS 1599	9.2.1	-	-	-	Satisfactory
2	9.1.3 Table 6	Impact Strength- Annex F	J	47.0	-	J	115.8 (J)
3	9.1.2 Table 6	Percentage Elongation on Gauge Length-Annex F	Percent	22.0	-	%	35.8 (%)
4	9.1.2 Table 6	Yield Stress -Annex F	Mpa	330.0	-	MPa	412.7 (MPa)
5	9.1.2 Table 6	Ultimate Tensile Strength-Annex F	Mpa	410.0	580.0	MPa	489.7 (MPa)
6	7.4	Defects of Core wire and Coverings	7.4	-	-	-	Satisfactory
7	7.3	Concentricity of Flux covering with core wire	mm	-	4.0	%	2.5 (%)
8	7.2.2	Arc striking End	mm	-	2.0	mm	1.5 (mm)
9	7.2.1	Contact End	mm	20.0	40.0	mm	30.0 (mm)
10	7.1.2	Length of Electrodes	mm	447.0	453.0	mm	448.0 (mm)
11	7.1.1	Diameter of Core Wire	mm	3.95	4.05	mm	3.96 (mm)

Suhas D Pingale
OIC Mechanical
 (Authorized Signatory)
 Authorized on: 09 Sep, 2022 17:38 PM

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PART D. REMARKS

03 Samples have been received against a single barcode hence separate annexure attached as part of report. All three samples meets the requirement of specification IS 814: 2004 in respect of physical tests carried out

Suhas D Pingale
OIC Mechanical
(Authorized Signatory)
Authorized on: 09 Sep, 2022 17:38 PM

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भारत सरकार Government of India
राष्ट्रीय परीक्षण शाला (द.क्षे.)
NATIONAL TEST HOUSE (SR)
तरमणी, चेन्नई - 600 113. Taramani, Chennai - 600 113.
Phone : 22432374, 22431157 Fax : 22433158 email : nthsr@tn.nic.in

Annexure**REPORT NO: 22MF652, ER4211 2.5*350mm****TEST RESULTS**

S.NO	Clause No Table No. SI. No	Parameter- Method of test	Test Descri ption	Min Limit	Max Limit	Unit	Result/ Observation
1	9.3	Running Performance Test- Annex H	9.3	-	-	-	Satisfactory, 1) The weld bead is free from surface porosities, slag inclusion and crack. 2) The weld bead is straight and evenly rippled. 3) The slag is removed with little effort.
2	7.4	Defects of Core Wire and Coverings	7.4	-	-	-	Core wire and coverings found satisfactory on visual examination
3	7.3	Concentricity of Flux Covering With Core Wire	mm	-	4.0	Percent	3.1(Percent)
4	7.2.2	Arc striking End	mm	-	1.25	mm	1.0(mm)
5	7.2.1	Contact End	mm	15.0	30.0	mm	25.0(Bare length)
6	7.1.2	Length of Electrodes	mm	347.0	353.0	mm	347.0(mm)
7	7.1.1	Diameter of Core Wire	mm	2.45	2.55	mm	2.46(mm)
8	Annex B7	Coating Ratio		1.3	1.5		1.49 (Medium Coating)

Remarks: The above tested sample meets the requirement of IS814:2004 in respect of test carried out

Tested by

Sathishkumar Ravi
Scientific Officer(NDT)

Checked & Approved by

Suhas D Pingale
Scientist-B(NDT)



भारत सरकार Government of India
राष्ट्रीय परीक्षण शाला (द.क्षे.)
NATIONAL TEST HOUSE (SR)

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Phone : 22432374, 22431157 Fax : 22433158 email : nthsr@tn.nic.in

Annexure**REPORT NO: 22MF652, ER4211 3.15*350mm****TEST RESULTS**

S.NO	Clause No Table No. SI. No	Parameter- Method of test	Test Descri ption	Min Limit	Max Limit	Unit	Result/ Observation
1	9.2	Butt Weld Bend Test -IS 1599	9.2.1	-	-	-	Face bend - No cracks observed Root bend - No cracks observed
2	9.1.3 Table 6	Impact Strength- Annex F	J	47.0	-	J	78 J (81, 73, 61, 80, 83 J at Zero degree test temperature. Highest and lowest value discarded)
3	9.1.2 Table 6	Percentage Elongation on Gauge Length- Annex F	Percent	22.0	-	Percent	27.5 (Percent)
4	9.1.2 Table 6	Yield Stress - Annex F	Mpa	330.0	-	Mpa	461.0 (Mpa)
5	9.1.2 Table 6	Ultimate Tensile Strength -Annex F	Mpa	410.0	580.0	Mpa	546.2 (Mpa)
6	7.4	Defects of Core Wire and Coverings	7.4	-	-	-	Core wire and coverings found satisfactory on visual examination
7	7.3	Concentricity of Flux Covering With Core Wire	mm	-	4.0	Percent	2.9(Percent)
8	7.2.2	Arc striking End	mm	-	1.5	mm	1.0(mm)
9	7.2.1	Contact End	mm	15.0	30.0	mm	25.0(Bare length)
10	7.1.2	Length of Electrodes	mm	347.0	353.0	mm	347.0 (mm)
11	7.1.1	Diameter of Core Wire	mm	3.1	3.2	mm	3.12(mm)
12	Annex B7	Coating Ratio		1.3	1.5		1.47 (Medium Coating)

Remarks: The above tested sample meets the requirement of IS814:2004 in respect of test carried out

Tested by

Sathishkumar Ravi
Scientific Officer(NDT)

Checked & Approved by

Suhas D Pingale
Scientist-B(NDT)



भारत सरकार Government of India
 राष्ट्रीय परीक्षण शाला (द.क्षे.)
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 Phone : 22432374, 22431157 Fax : 22433158 email : nthsr@tn.nic.in

Annexure**REPORT NO: 22MF652, ER4211 4.0*450mm****TEST RESULTS**

S.NO	Clause No Table No. SI. No	Parameter- Method of test	Test Descri ption	Min Limit	Max Limit	Unit	Result/ Observation
1	9.2	Butt Weld Bend Test -IS 1599	9.2.1	-	-	-	Face bend - No cracks observed Root bend - No cracks observed
2	9.1.3 Table 6	Impact Strength- Annex F	J	47.0	-	J	115.8 J (95.5, 126.5, 113, 166.5, 108 at Zero degree test temperature. Highest and lowest value discarded)
3	9.1.2 Table 6	Percentage Elongation on Gauge Length- Annex F	Percent	22.0	-	Percent	35.8 (Percent)
4	9.1.2 Table 6	Yield Stress - Annex F	Mpa	330.0	-	Mpa	412.2 (Mpa)
5	9.1.2 Table 6	Ultimate Tensile Strength -Annex F	Mpa	410.0	540.0	Mpa	489.7 (Mpa)
6	7.4	Defects of Core Wire and Coverings	7.4	-	-	-	Core wire and coverings found satisfactory on visual examination
7	7.3	Concentricity of Flux Covering With Core Wire	mm	-	4.0	Percent	2.5(Percent)
8	7.2.2	Arc striking End	mm	-	2.0	mm	1.5(mm)
9	7.2.1	Contact End	mm	20.0	40.0	mm	30.0(Bare length)
10	7.1.2	Length of Electrodes	mm	447.0	453.0	mm	448.0(mm)
11	7.1.1	Diameter of Core Wire	mm	3.95	4.05	mm	3.96(mm)
12	Annex B7	Coating Ratio		1.3	1.5		1.45 (Medium Coating)

Remarks: The above tested sample meets the requirement of IS814:2004 in respect of test carried out

Tested by

Checked & Approved by

Sathishkumar Ravi
 Scientific Officer(NDT)

Suhas D Pingale
 Scientist-B(NDT)

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PART B. SUPPLEMENTARY INFORMATION

- | | |
|--|----------------|
| 1. Reference to sampling procedure, wherever applicable. | Not Applicable |
| 2. Supporting documents for the measurements taken and results derived like graphs, table sketches and or photographs as appropriate to test report, if any. | Not Applicable |
| 3. Deviation from the test methods as prescribed in relevant ISS/Work instruction, if any. | Not Applicable |

Dr Amarnath Chakraborty
OIC Chemical
(Authorized Signatory)
Authorized on: 16 Sep, 2022 16:01 PM

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PART C. TEST RESULT

S.No.	Clause No Table No. Sl. No	Parameter - Method of test	Test Description	Min Limit	Max Limit	Unit	Result/ Observation
1	6 & 8.2	Sulphur- Relevant Parts of IS 228 or any other established instrumental/ chemical method	Percent	-	0.035	% by mass	0.005 (% by mass)
2	6 & 8.2	Phosphorous- Relevant Parts of IS 228 or any other established instrumental/ chemical method	Percent	-	0.035	% by mass	0.01 (% by mass)
3	6 & 8.2	Manganese- Relevant Parts of IS 228 or any other established instrumental/ chemical method	Percent	-	1.6	% by mass	0.34 (% by mass)
4	6 & 8.2	Silicon- Relevant Parts of IS 228 or any other established instrumental/ chemical method	Percent	-	0.75	% by mass	0.14 (% by mass)
5	6 & 8.2	Carbon- Relevant Parts of IS 228 or any other established instrumental/ chemical method	Percent	-	0.12	% by mass	0.07 (% by mass)

Dr Amarnath Chakraborty
OIC Chemical

(Authorized Signatory)
Authorized on: 16 Sep, 2022 16:01 PM

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PART D. REMARKS

In respect of the tests carried out, the sample meets the chemical requirements as per the customer declaration for IS 814:2004.

Dr Amarnath Chakraborty
OIC Chemical
(Authorized Signatory)
Authorized on: 16 Sep, 2022 16:01 PM

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BIS Sample Code	Specification	Test Method
22C3464	IS 814:2004, Customer declaration	IS 8811:1998 (OES Method)

Results of tests:

S.No	Test	Result(%)			Requirement IS 814:2004 (Customer declaration) Max(%)
		2.5mm	3.5mm	4.5mm	
1.	Carbon (as C)	0.07	0.07	0.07	0.12(Max)

BIS Sample Code	Specification	Test Method
22C3464	IS 814:2004, Customer declaration	IS 8811:1998 (OES Method)

Results of tests:

S.No	Test	Result(%)			Requirement IS 814:2004 (Customer declaration) Max(%)
		2.5mm	3.5mm	4.5mm	
1.	Silicon (as Si)	0.14	0.16	0.16	0.75(Max)

BIS Sample Code	Specification	Test Method
22C3464	IS 814:2004, Customer declaration	IS 8811:1998 (OES Method)

Results of tests:

S.No	Test	Result(%)			Requirement IS 814:2004 (Customer declaration) Max(%)
		2.5mm	3.5mm	4.5mm	
1.	Manganese (as Mn)	0.34	0.39	0.36	1.6(Max)

BIS Sample Code	Specification	Test Method
22C3464	IS 814:2004, Customer declaration	IS 8811:1998 (OES Method)

Results of tests:

S.No	Test	Result(%)			Requirement IS 814:2004 (Customer declaration) Max(%)
		2.5mm	3.5mm	4.5mm	
1.	Phosphorous(as P)	0.010	0.009	0.010	0.035(Max)

BIS Sample Code	Specification	Test Method
22C3464	IS 814:2004, Customer declaration	IS 8811:1998 (OES Method)

Results of tests:

S.No	Test	Result(%)			Requirement IS 814:2004 (Customer declaration) Max(%)
		2.5mm	3.5mm	4.5mm	
1.	Sulphur (as S)	0.005	0.005	0.005	0.035(Max)