

TUV INDIA PRIVATE LIMITED

INSPECTION VISIT REPORT

IVR - 8116410127 - - Sr. No.1 - Rev. 00



General:						
TUV India Control Or SAP Number:		8116410127		Branch:		HYDERABAD
Notification Name / Number:		15-06-2020		Date(s) of Inspection:		16-06-2020
Project Name & Location:		---		Inspection Location:		C/o Sunrise Engineering, Dhulapally Road, Jeedimetla.
TUV India Client Name:		ISGEC TITAN Metal FABRICATORS PVT LTD, YAMUNANAGAR.		End User Name:		ISGEC TITAN
DEC / PMC / EPC Name: (If applicable)		NA		DEC / PMC / EPC Asgmt. Number: (If applicable)		NA
Vendor Name & Location:		M/s. EXPLOFAB METALS (INDIA) PVT LTD, HYD.		P.O. Number: (Client PO on Vendor)		C04/4500305787, Dt: 09-05-2020.
Sub Vendor Name & Location: (If applicable)		NA		P.O. Number: (If applicable - Vendor PO on Sub Vendor)		NA
Stages Of Inspection:						
<input type="checkbox"/> Kick Off / Pre Inspection Meeting		<input type="checkbox"/> Material Identification		<input checked="" type="checkbox"/> Interim Stages		
<input checked="" type="checkbox"/> Document Review		<input type="checkbox"/> Final Inspection		<input type="checkbox"/> Re-Inspection		
Item Description:						
P.O. Item No.	Item Code	Item Description	UOM	P.O. Quantity	Offered Quantity	Acceptable Quantity
--	--	Explosion Bonded Clad Plate SA240 TP316 + SB575 UNS N06022 Visual, Dimensional, UT & Flatness inspection. FIM 2895 x 1135 x (33+8)mm Thk. GBS 2785 x 1040 x (32+8)mm Thk. Vendor Job/Plate No: 14002-P1	Nos	1 No	1 No.	1 No (Only UT)
Reference Documents:						
Sr. No.	Document Name	Client Document Number	Vendor Document Number	Approval Status		
1)	PR / MR / ARM	--	--			
2)	QAP / ITP / QCP	--	ITP/002/14002/20-21, Dt: 01-06-2020	Approved by Client 10-06-2020.		
3)	Drawing(s)	NA	NA			
4)	Procedure(s)	NA	NA			
5)	Datasheet(s)	NA	TDC-TE7088-P1 Rev.0, TDC for Clad plates.	Provided by client ISGEC.		
6)	Others (Specify)		--			
Inspection Activities Carried Out :						
Stages Witnessed:						
1)	ITP SL.No.4.1 - Visual inspection carried out for offered plates on clad side and clad surface is free from surface imperfections. On clad side material traceability observed TE No, Heat No, Plate No & Material Specification & TUV. Plate is not lifted, Hence unable to verify base steel side Visual & material traceability.					
2)	ITP SL.No.4.1 - Dimensional inspection carried out for FIM & GBS sizes (Length, width and thk) and found satisfactory to PO requirement. All dimensions noted in above item description.					
3)	ITP SL.No.4.1 - Flatness verified for above offered plate and found with in tolerance limits of 1.5mm / meter.					
4)	ITP SL.No.4.2 - Ultrasonic Testing carried out for offered clad plate on clad side as per SA578 Level B S1 and found 3 round indications whose dia are 20 mm each at different locations and found Satisfactory to Quality level Class of SA265.					

Disclaimer: This IVR shall not be considered as final acceptance of inspected item(s). The final acceptance will be given through Inspection Release Note. The inspection by TUV India Pvt. Ltd. (review of Test Certificates / Reports and issue of Inspection Visit Report) does not relieve the Client / Supplier / Manufacturer / Stockiest from their responsibility towards the Client / End User to supply the genuine material / items and documents in full compliance with applicable Order / Specification. Technical Quality, Quantity, Warranty, Guarantee requirements. Supplier / Manufacturer / Stockiest is wholly legally responsible for genuineness of the material / items supplied and documents submitted. TUV India's responsibility is only limited to correctness of inspection results including review of the documents, within its agreed scope against written requirements and neither TUV India nor any of its group companies, associates or employees are in any way legally responsible for genuineness of the material / items and documents. If the calibration certificate(s) for the measuring instruments / equipments used during inspection do not have traceability to NABL / Other certifying bodies, then the scope of review is limited only to technical content in the calibration certificate.

Copyright: This document is the property of TUV India Pvt. Ltd. and should not be reproduced, except in full without the consent of TUV India Pvt. Ltd.

TUV India Pvt. Ltd. (TUV NORD GROUP) (REGD. & HEAD OFFICE): 801, Raheja Plaza - I, LBS Marg, Ghatkopar (West), Mumbai - 400086, Maharashtra, India.

Tel: + 91 22 65477000 Email: inspection@tuv-nord.com Website: www.tuvindia.com

Form No.: F / INSP / VR / 11 - R12, Revision Date: 14.03.2020



	Refer attached UT report.
5)	ITP SL.4.3 - All test samples are identified on one side width of plate on Good bond area " Shear test sample(2Nos), Tensile (2Nos), IGC (2 Nos) & for hardness same tensile sample will be used. All samples are identified with P1 & TUV hardstamp 1 Set for as Stress relieved condition mech tests & other set for simulation heat treatment and mech tests.

Documents Reviewed:

1)	Reviewed Heat Treatment chart of Clad plates and identified Soaking temp 610 Deg and 2 Hrs soaking time & found ok. But Rate of heating observed 70 to 80 Deg C on graph, as per QAP rate of heating max 50 Deg C to be maintained. & Rate of Cooling 80 to 100 Deg C observed on graph, as per QAP rate of cooling max 50 Deg C to be maintained.
----	--

Details of Equipment(s) / Instrument(s) used for measuring / testing during Inspection: (Refer Notes)

Sr. No.	Detail of Equipment(s) / Instrument(s)	Range	ID	Validity till Date	Calibration Certificate Number	NABL / OTHER CERT. BODIES / NABL Traceability	NON-NABL
						Please tick whichever is applicable	
1)	Ultrasonic flaw detector	--	E2334-1209	25-04-2021	SIML/BTL/CAL/UT/557 Dtd: 26-04-2020	--	✓

Notes:

- 1) Other Certifying bodies are: NPL India, CIPM (International Committee for Weights & Measures), ILAC & APLAC MRA Signatories.
- 2) Visiting Inspector to ensure continued suitability for intended use, periodic maintenance, proper identification and valid calibration records and traceability to known National / International standards of the measuring instrument(s) / testing equipment(s).
- 3) Non NABL: If the calibration certificate(s) for the measuring instrument(s) / equipment(s) used during inspection do not have traceability to NABL / Other certifying bodies, then the scope of review is limited only to technical content in the calibration certificate.
- 4) In lieu of table above inspectors may collect master list from manufacturer / vendor / sub vendor with all above details clearly highlighting the details of instrument(s) / equipment(s) used during inspection.

Conclusion (Acceptable / Not Acceptable / Acceptance subject to):

Visual, Dimensional, Flatness & UT - Acceptable

Heat treatment chart review - Client Acceptance to be taken for Rate of heating and Rate of cooling. Refer areas of concern.

Pending Activities from this Visit:

Simulation Heat treatment to be done for Test samples are identified. (1 set).

Identification of Inspected Item(s):

Inspected clad plate identified with material identification engraved on clad side "TE No, Heat No, Plate No, Material Specification & TUV hardstamp " & Clad plate identified with 14002-P1 hardstamp on adjacent to nonbond area & all test samples are identified on one side width of plate on Good bond area " Shear test sample(2Nos), Tensile (2Nos), IGC (2 Nos) & for hardness same tensile sample will be used. All samples are identified with P1 & TUV hardstamp (One sample for Asstress relieved & other sample for simulation test)

Areas of Concern:

1. Reviewed Heat Treatment chart of Clad plates and identified Soaking temp 610 Deg and 2 Hrs soaking time & found ok. But Rate of heating observed 70 to 80 Deg C on graph, as per QAP rate of heating max 50 Deg C to be maintained. & Rate of Cooling 80 to 100 Deg C observed on graph, as per QAP rate of cooling max 50 Deg C to be maintained.

Non Conformities raised / Discrepancies observed during Inspection (If Any, Mention TUV India NCR Number):

NIL

Attachments:

<input checked="" type="checkbox"/> Inspection records - Total Page Nos.	<input checked="" type="checkbox"/> Master List of calibrated Instruments / equipment
<input checked="" type="checkbox"/> Inspection Photos - Refer Page Nos. Refer page3	<input checked="" type="checkbox"/> Others (Specify): None.

Authorised Signatures:

TUV India Inspector(s):	Vendor / Sub Vendor Representative: (If Applicable)
 	
Name: Venkatesh Boddu	Name: V. Chaitanya

Distribution List: ☒ TUV India Client / End User ☒ TUV India Executing / Originating Branch ☒ Vendor / Sub Vendor

Revision Number (If Applicable): 00 - Type Reason for revision here

This Document Supersedes IVR No.: : Mention Previous IVR Number.

Disclaimer: This IVR shall not be considered as final acceptance of inspected item(s). The final acceptance will be given through Inspection Release Note. The inspection by TUV India Pvt. Ltd. review of Test Certificates / Reports and issue of Inspection Visit Report does not relieve the Client / Supplier / Manufacturer / Stockiest from their responsibility towards the Client / End User to supply the genuine material / item(s) and document(s) in full compliance with applicable Order Specification, Technical, Quality, Quantity, Warranty, Guarantee requirements. Supplier / Manufacturer / Stockiest is wholly legally responsible for genuineness of the material / item(s) supplied and document(s) submitted. TUV India's responsibility is only limited to correctness of inspection results including review of the documents, within its agreed scope against written requirements and neither TUV India nor any of its group companies, associates or employees are in any way legally responsible for genuineness of the material / item(s) and document(s). If the calibration certificate(s) for the measuring instrument(s) / equipment(s) used during inspection do not have traceability to NABL / Other certifying bodies, then the scope of review is limited only to technical content in the calibration certificate.

Copyright: This document is the property of TUV India Pvt. Ltd. and should not be reproduced, except in full without the consent of TUV India Pvt. Ltd.

TUV India Pvt. Ltd. (TUV NORD GROUP) : (REGD. & HEAD OFFICE): 801, Raheja Plaza - I, LBS Marg, Ghatkopar (West), Mumbai - 400088, Maharashtra, India.

Tel + 91 22 66477000, Email: inspection@tuv-india.com, Website: www.tuv-india.com/in

Form No.: F / INSP / VR / 11 - R12; Revision Date: 14.03.2020

Inspection Pictures:	
Visual inspection of clad plate	Calibration
	
Non bond indication	Material identification on clad side
	
Dimensional (Length)	Non bond indication size on edge
	

Disclaimer: This IVR shall not be considered as final acceptance of inspected item(s). The final acceptance will be given through Inspection Release Note.




The inspection by TUV India Pvt. Ltd., review of Test Certificates / Reports and issue of Inspection Visit Report does not relieve the Client / Supplier / Manufacturer / Stockiest from their responsibility towards the Client / End User to supply the genuine material / item(s) and document(s) in full compliance with applicable Order, Specification, Technical, Quality, Quantity, Warranty, Guarantee requirements. Supplier / Manufacturer / stockiest is wholly legally responsible for genuineness of the material / item(s) supplied and document(s) submitted. TUV India's responsibility is only limited to correctness of inspection results including review of the documents, within its agreed scope against written requirements and neither TUV India nor any of its group companies, associates or employees are in any way legally responsible for genuineness of the material / item(s) and document(s). If the calibration certificate(s) for the measuring instrument(s) / equipment(s) used during inspection do not have traceability to NABL / Other certifying bodies, then the scope of review is limited only to technical content in the calibration certificate.

Copyright: This document is the property of TUV India Pvt. Ltd. and should not be reproduced, except in full without the consent of TUV India Pvt. Ltd.

TUV India Pvt. Ltd. (TUV NORD GROUP): (REGD. & HEAD OFFICE), 801, Raheja Plaza - I, LBS Marg, Ghatkopar (West), Mumbai - 400086, Maharashtra, India.

Tel: + 91 22 66477000, Email: inspection@tuv-nord.com, Website: www.tuv-nord.com/in

Form No. : F / INSP / VR / 11 - R12; Revision Date: 14.03.2020

Test samples marking & identification	Test sample identification Plate No & TUV stamp
	
Flatness	3 White spots are non bond indications size dia 20mm.
	
UT	UT
	

Disclaimer: This IVR shall not be considered as final acceptance of inspected item(s). The final acceptance will be given through Inspection Release Note.

The inspection by TUV India Pvt. Ltd., review of Test Certificates / Reports and issue of Inspection Visit Report does not relieve the Client / Supplier / Manufacturer / Stockiest from their responsibility towards the Client / End User to supply the genuine material / item(s) and document(s) in full compliance with applicable Order, Specification, Technical, Quality, Quantity, Warranty, Guarantee requirements. Supplier / Manufacturer / stockiest is wholly legally responsible for genuineness of the material / item(s) supplied and document(s) submitted. TUV India's responsibility is only limited to correctness of inspection results including review of the documents, within its agreed scope against written requirements and neither TUV India nor any of its group companies, associates or employees are in any way legally responsible for genuineness of the material / item(s) and document(s). If the calibration certificate(s) for the measuring instrument(s) / equipment(s) used during inspection do not have traceability to NABL / Other certifying bodies, then the scope of review is limited only to technical content in the calibration certificate.

Copyright: This document is the property of TUV India Pvt. Ltd. and should not be reproduced, except in full without the consent of TUV India Pvt. Ltd.

TUV India Pvt. Ltd. (TUV NORD GROUP): (REGD. & HEAD OFFICE), 801, Raheja Plaza - I, LBS Marg, Ghatkopar (West), Mumbai - 400086, Maharashtra, India.

Tel: + 91 22 66477000, Email: inspection@tuv-nord.com, Website: www.tuv-nord.com/in

Form No. : F / INSP / VR / 11 - R12; Revision Date: 14.03.2020



BHARAT TECHNICAL LABS

An ISO 9001 - 2015 Lab

G-8, Turnkey Complex, C.I.E. Balanagar, Hyderabad-500 037.
Phone : 040-40073032, 9246559686
E-mail : bharatlabs@rediffmail.com



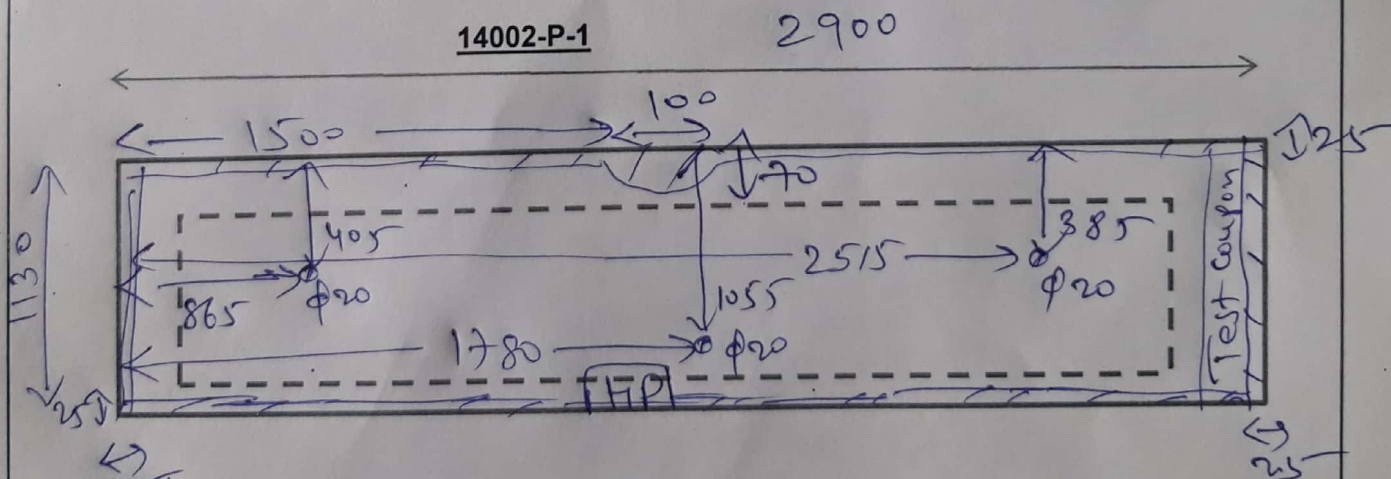
TEST REPORT

Date: 16.06.2020

Test Report No	: 5281/2020
Customer Name and Address	: M/s. Explofab Metals India (P) Ltd, Hyderabad
Clad Plate Identification	Clad Plate Size, mm 14002-P-1 2900 x 1130 x (32+8)
Material Specification	: SA240 Gr.316L + SB575 UNS N06022
Type of Test	: Ultrasonic Examination
Test Plate Condition	: As clad, Stress Relieved & Flattened
Equipment Used	Reference Block : V2 Block Ultrasonic Flaw detector: Einstein-II DGS SI.No.E2334-1209 Calibration Due Date: 25/04/2021 Test Gain : 70 + 6db Probe Used : Ø24mm 4 MHz TR Probe Reference Reflector : BWE 80% of FSH
Scanning Area	: 100% Surface Area from Clad Surface
Surface Condition	: Smooth
Couplant	: Water
Technique	: Pulse Echo Contact Method

TEST RESULTS :

Ultrasonic test has been carried out for above stated clad plate as per SA578 Level.B S1 & Quality Level Class.1 of SA265 and found three discontinuity indications of size Ø20mm observed at clad interface as shown in below sketch and found satisfactory



HP- Clad plate identification hard punch area ,

Note : All Dimensions are in mm. Drawing not to scale ,

Nonbond areas

Test Witnessed by:

Mr.Venkatesh Boddu
M/s.TUV - NORD, Hyderabad



For Bharat Technical Labs

Authorised Signatory

K. Sainath
Level II, RT,UT,MT,PT,



Chemical, Mechanical, Metallurgical & Non Destructive Testing Services



SAI INDUSTRIAL & METALLURGICAL LABS

NABL Accredited Laboratory in Chemical & Mechanical Fields as per ISO/IEC 17025:2005

S.N. 5-7-9/6A, Sangeeth Nagar, Near Metro, Kukatpally, Hyderabad - 500 072.

Phone: 7207035565, 9246245379, 9246151379

E-mail: sailabs09@yahoo.com, psmn66@gmail.com



CALIBRATION CERTIFICATE

CERTIFICATE No: SIML/BTL/CAL/UT/557

DATE: 26.04.2020

Customer Name : M/s. BHARAT TECHNICAL LABS,
BALANAGAR, HYDERABAD.

Equipment Make : Modsonic Instruments Mfg. Co. (P) Ltd

Equipment Model : EINSTEIN-II DGS

Equipment Sl. No : E-2334-1209

Calibration Date: 26.04.2020 Valid Up to: 25.04.2021

We Certify that the above Machine was tested and Certified by us in accordance with the ASTM E 317 using 'V1' block. Following are the values of the important parameters evaluated by us.

1. **Horizontal Linearity:** Non-Linearity with in $\pm 1\%$ for 0% to 100% F.S range.
2. **Vertical Linearity:** Non-Linearity with in $\pm 5\%$ for 0% to 100% F.S range.
3. **Amplitude Linearity:** Non-Linearity with in $\pm 5\%$ for 0dB to maximum dB.

4.

a. **Near Surface Resolution:** 4MHz $\varnothing 10$ mm probe could resolve a flat bottom hole $\varnothing 3$ mm at a metal distance of 5mm from the near surface.

b. **Far Surface Resolution:** 4MHz $\varnothing 10$ mm probe could resolve a flat bottom hole $\varnothing 1.2$ mm at a metal distance of 6mm from the far surface.

Sensitivity: Machine and Probe Combination, it should detect minimum $\lambda/2$ size discontinuity signal to noise ratio 6:1.

Penetration: 2MHz $\varnothing 24$ mm probe on V1 block Perspex material should give 4 or 5 full scale reflections with noise level of about 10%.

For SAI INDUSTRIAL & METALLURGICAL LABS



V. SRIKANTH.

ASNT Level III (UT, PT, RT, MT)

