

General:						
TUV India Control Number: (SAP Number)	010101170521/8 (8119336085)		Branch:	MUMBAI		
Notification Number:	AS Per Email Dtd.17.08.2021		Date(s) of Inspection:	18/08/2021		
Project Name & Location:	ISTS II, 250 MWp		Inspection Location:	UNIT –SOLAR PLOT NO S38/1, VILLAGE-SARAVALI, BOISAR- 401501		
TUVIPL Client Name:	MAHINDRA SUSTEN		End User Name:	ISTS		
DEC / PMC / EPC Name: (If applicable)	-		DEC / PMC / EPC Assignment Number: (If applicable)	-		
Vendor Name & Location:	Karamtara Engineering Private Limited		P.O. Number: (Client PO on Vendor)	4900014573 Dated 20/05/2021		
Sub Vendor Name & Location: (If applicable)	-		P.O. Number: (If applicable – Vendor PO on Sub Vendor)	-		
Stages Of Inspection:						
<input type="checkbox"/> Kick Off / Pre Inspection Meeting		<input type="checkbox"/> Material Identification		<input type="checkbox"/> Interim Stages		
<input checked="" type="checkbox"/> Document Review		<input checked="" 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
20	MECH_FAST_0 00307D	M12 x 40 Hex Bolt + 1 Hex Nut + 2 PW 5.6 HDG	EA	363874	363874	363874
Reference Documents:						
Sr. No.	Document Name	Client Document Number	Vendor Document Number	Approval Status		
1)	PR/MR/ARM	Not Applicable	Not Applicable	Not Applicable		
2)	QAP/ITP/QCP	IMS-QH-QAP-003-001 Rev.11 Dtd.24.11.2020	Not Applicable	Provided By Client		
3)	Drawing(s)	Not Applicable	C-700 Rev.01 Dtd.02.06.2021	Provided By Client		
4)	Datasheet(s)	Not Applicable	Not Applicable	Not Applicable		
5)	Procedure(s)	Not Applicable	Not Applicable	Not Applicable		
6)	Others(Specify)	Not Applicable	Not Applicable	Not Applicable		
Inspection Activities Carried Out:						
Stages Witnessed:						
1)	As per QAP sampling plans, Samples were randomly selected from offered qty. of hex bolts, hex nuts & pack washers for visual inspection, dimensional Inspection & physical testing witness.					
2)	As per QAP sr. no. 3.1.1 & 3.3.1, Visual Inspection of hex bolts, hex nuts & pack washers randomly selected as per sampling plan from offered qty. was witnessed to check surface finish, condition & workmanship- Inspected items found with good workmanship & free from injurious surface defects.					
3)	As per QAP sr. no. 3.1.2, 3.1.3 & 3.3.2, Dimensional Inspection of hex bolts, hex nuts & pack washers randomly selected as per sampling plan from offered qty. was witnessed to check shank diameter, width across flat, width across corner, thickness,					

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

	thread pitch, thread length, total length, ID, OD - All dimensions found to meet the drawing & specification requirements.
4)	As per QAP sr. no. 3.1.7, Chemical test on test samples of hex bolts, hex nuts & pack washers randomly selected as per sampling plan from offered qty. was witnessed & chemical composition found to meet relevant material specification requirements.
5)	As per QAP sr. no.3.1.8, Manufacturer marking verification on hex bolts & nuts randomly selected as per sampling plan from offered qty. was witnessed and marking found as per specification requirements.
6)	As per QAP sr. no.3.2.1, Coating thickness of hex bolts, hex nuts & pack washers randomly selected as per sampling plan from offered qty. was witnessed and coating thickness found to meet the minimum requirement of 43 microns.
7)	As per QAP sr. no. 3.2.2.2, Mass of zinc coating on hex bolt & nut samples randomly selected as per sampling plan from offered lot was theoretically calculated by multiplying actual coating thickness by 7 and test result found to meet specification requirement.
8)	As per QAP sr. no. 3.2.2.3, Preece test witnessed on test samples of hex bolts, hex nuts & pack washers randomly selected as per sampling plan from offered qty. to check uniformity of zinc coating - Zinc coating found uniform & no copper deposition observed.
9)	As per QAP sr. no. 3.2.2.3, Witnessed adhesion test on test samples of hex bolts, hex nuts & pack washers randomly selected as per sampling plan from offered qty. to check adhesion of zinc coating and no peel off observed.
10)	As per QAP sr. no. 3.2.3: Visual inspection of hex bolts, hex nuts & pack washers randomly selected as per sampling plan from offered qty. was witnessed to check surface finish - Inspected qty. found in HDG condition and free from injurious surface defects.
11)	As per QAP sr. no. 3.1.4, Physical testing (i.e. wedge tensile load test, proof load test & hardness test) on samples of hex bolt randomly selected as per sampling plan from offered qty. was witnessed at vendors in-house laboratory facilities and test result found to meet material specification requirements.
12)	As per QAP sr. no. 3.1.6, Physical testing (i.e. proof load test & hardness test) on nut samples randomly selected as per sampling plan from offered qty. was witnessed at vendors in-house laboratory facilities and test result found to meet material specification requirements.
13)	As per QAP sr. no.3.2.4, All hex. bolts, hex nuts & pack washers randomly selected as per sampling plan from offered qty. was found with anti rust oil coat applied on it.

Documents Reviewed:

1)	As per QAP sr. no.1.1, Raw material test certificates for offered lot of hex bolts, hex nuts & pack washers as declared by vendor was reviewed and found to meet specification requirements.
2)	Material test certificate for zinc ingots as declared & submitted by vendor for offered lot was reviewed and found to meet specification & QAP requirements. (Make: Hindustan Zinc Ltd.)
3)	As per QAP sr. no.2, In-process inspection report for offered lot of hex bolts, hex nuts & pack washers as declared & submitted by vendor was reviewed and found in order.
4)	Calibration certificates for measuring & testing equipment's used during inspection was reviewed and found in order.

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 or Write Yes (whichever is applicable)	
						See Note 1 & 2	See Note 3
1)	Universal Testing Machine	0-1000 KN	8/2013-5271	09/10/2021	2020/42448/03 Dtd.12/10/2020	Yes	-
2)	Digital Rockwell Hardness Testing Machine	As Per CC	087-2019/20	09/10/2021	2020/42448/01 Dtd.12/10/2020	Yes	-
	Vickers		09/2014-				

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

TUV INDIA PRIVATE LIMITED

INSPECTION VISIT REPORT

IVR-010101170521/8-1-Rev.0



3)	Hardness Testing Machine	As Per CC	1505 (VH-01)	13/02/2022	2021/44418/02 Dtd.17/02/2021	Yes	-
4)	Coating Thickness Gauge	0-1250 Microns	17814	24/03/2022	2021/44992/005 Dtd.25/03/2021	Yes	-
5)	Digital Vernier Caliper	0-150 MM	A19217687	16/08/2021	2020/41530/91 Dtd.15/08/2021	Yes	-

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):

Acceptable

IRN can be issued for all items

Pending activities:

Nil

Identification of inspected Item(s):

3% qty. of randomly selected & Inspected fastener boxes affixed with double soft stamp sticker as TUVIPL-968 near manufacturers identification sticker for further identification.

Areas of Concerns:

Nil

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

Nil

Attachments:

<input type="checkbox"/> Inspection records – Total Page Nos. 21	<input type="checkbox"/> Master List of calibrated Instruments / equipment : None
<input checked="" type="checkbox"/> Inspection Photos – Refer Page Nos. 4 to 9	<input type="checkbox"/> Others (Specify) :

Authorised Signature:**TUV India representative:****Vendor / Sub Vendor Representative** (If Applicable):**Name:** abhishek Ghadigaonkar**Date:** 22/08/2021**Name:****Distribution List:** ☒ TUVI Client / End User ☒ TUVI Executing Branch / TUV Originating Branch ☒ Vendor / Sub Vendor**Revision Number** (If Applicable): 0 –**This Document Supersedes IVR No. :-**

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IVR-010101170521/8-1-Rev.0



Inspection Pictures

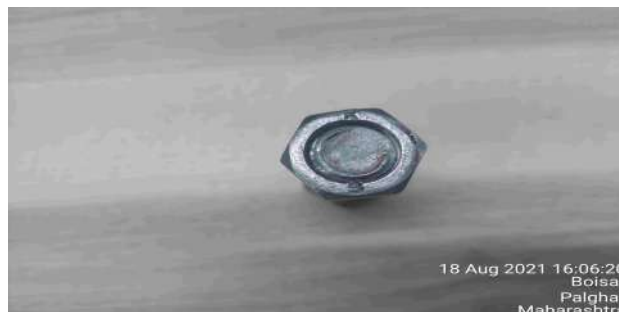
Offered Qty. Of Fasteners For Inspection

Identification Sticker On Offered Fasteners Boxes



Marking Verification For Fasteners

Marking Verification For Fasteners



Dimensions Checked For Fasteners

Dimensions Checked For Fasteners



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INSPECTION VISIT REPORT
IVR-010101170521/8-1-Rev.0



Inspection Pictures

Dimensions Checked For Fasteners



Dimensions Checked For Fasteners



Dimensions Checked For Fasteners



Dimensions Checked For Fasteners



Dimensions Checked For Fasteners



Dimensions Checked For Fasteners



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INSPECTION VISIT REPORT
IVR-010101170521/8-1-Rev.0



Inspection Pictures

Dimensions Checked For Fasteners



Dimensions Checked For Fasteners



Dimensions Checked For Fasteners



Visual Inspection Witnessed



Physical Testing Witnessed For Fasteners



Physical Testing Witnessed For Fasteners



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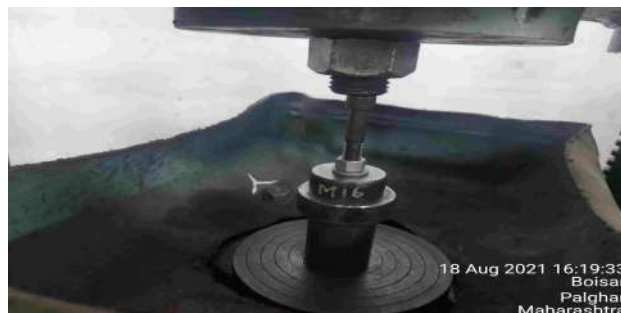


Inspection Pictures

Physical Testing Witnessed For Fasteners



Physical Testing Witnessed For Fasteners



Physical Testing Witnessed For Fasteners



Physical Testing Witnessed For Fasteners



Physical Testing Witnessed For Fasteners



Physical Testing Witnessed For Fasteners









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INSPECTION VISIT REPORT
 IVR-010101170521/8-1-Rev.0



Inspection Pictures	
Physical Testing Witnessed For Fasteners	Physical Testing Witnessed For Fasteners
	
Coating Thickness Checked For Fasteners	Coating Thickness Checked For Fasteners
	
Coating Thickness Checked For Fasteners	HDG Coating Testing Witnessed For Fasteners
	

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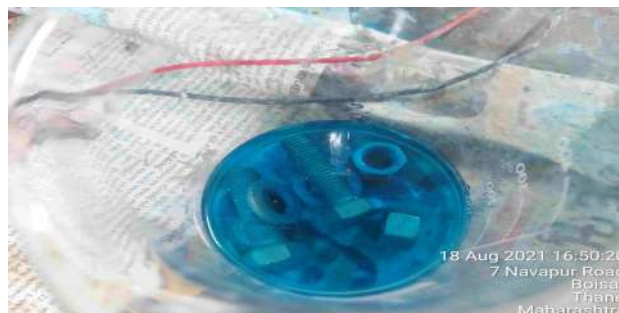


Inspection Pictures

HDG Coating Testing Witnessed For Fasteners



HDG Coating Testing Witnessed For Fasteners



HDG Coating Testing Witnessed For Fasteners



TUVIPL Identification On 3% Inspected Items



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