Date : 22nd April 2024.

Customer : Indian Metals Solutions Pvt Ltd.

Lab Address : SURVEY NO 115, C/O JAYSUKHBHAI DOBARIYA
PADDHRI BYPASS, RAJKOT JAMNAGAR HIGHWAY
NEAR ESSAR PETROL PUMP, MOVIYA
Rajkot, Gujarat, 360110, INDIA.
dj@indianmetal.solutions

Contact Person : Mr. Dhananjay Joshi.

Project Number : 4790918275

Project Scope : cUL US Lab qualification for Witness Test Data Program (WTDP)as per UL 467(For non-Insulated connectors/terminals).

Subject : Letter Report for completion of Lab Qualification Project 4790918275 under UL WTDP.

Dear Mr. Dhananjay Joshi,

We have completed our work under the above project and this letter will serve as a letter report of our findings. For the record we are using requirements from the below standards;

1) UL 467, Grounding and Bonding Equipment, Edition 11, Issue Date 04/29/2022.
2) CSA C22.2 No. 41:22, Grounding and Bonding Equipment, Edition 7, Issue Date 04/29/2022.

CCN : KDER (GROUNDING AND BONDING EQUIPMENT)

DETAILED EVALUATION OF LAB COMMENTS AND REQUIREMENTS

The following tests are witnessed with the below referenced requirements.

Sl. No.	Test Name / Lab requirement	Requirements - standard/clause	Comments
1	Short time Current test	UL467, CL. NO.: 7.5/8.5/9.5	Current range certified from 270A to 23900A with respective test time in second. Test procedure, process, test method and test Set up (Equipment) verified and found OK.
2	Secureness Test (part of	UL 467, CL.NO.: 7.1.	Test procedure, process, test method and test Set up

	Mechanical Sequence)		(Equipment) verified and found OK. The Instrument is capable of test from minimum conductor range 16 AWG(CU-0.9Kg), 12 AWG(AL-0.7Kg) up to maximum conductor range 2000 Kcmil (AL-54.5Kg & CU-109Kg).
3	Pull out Test Mechanical Sequence)	UL 467, CL.NO.: 7.1	Test procedure, process, test method and test Set up (Equipment) verified and found OK. The instrument is capable of testing from 134N (13.66Kg) up to 4450N (454Kg).
4	Tightening force for ground clamps	UL467, CL. NO: 8.2.	Demonstrated successfully.
5	Test Method	UL467, CL. NO: 9	Demonstrated successfully.
6	Ambient Temperature Measurement	For Short time current test, ambient temperature defined by customer. For mechanical test seq. refer UL486A and UL486B / 9.1.2.	Ambient Temperature found with in a standard range. Ambient Temperature declaration by customer – 25 deg. C (+/- 4 deg. C) Temperature and humidity measurement instruments found with in a calibration range.
7	Sampling requirement	UL467, CL. NO: 8	Customer is well aware of sampling process.
8	Preparation of Specimens	UL467	Customer has successfully demonstrated the preparation of Specimens.
9	Conductor Type / details	As per UL486A and UL486B / 10.14. (Table 15 and 16)	For Short time current customer has used concentric stranded uninsulated copper conductor. Customer has successfully demonstrated the testing with CU concentric (for short time current test) & compact stranded conductor (for mechanical sequence test) as per cUL US requirement.
10	Test Sequence	Mechanical Sequence test: UL 467, CL.NO.: 7.1.	Customer is well aware of test sequence and demonstrated the secureness and pullout test sequentially.
11	Calibration Report for testing and measuring equipment.	-	All the calibration reports are in place and easily reachable.

Conclusion:

This complete the work anticipated under Project 4790918275 and we are closing the project with this Letter. You will be invoiced for the charges incurred to date. All information related to this project will be placed in our files for future reference.

Your business is very important to us and if there is any additional information that we may provide to you about the investigation or UL's other services, please do not hesitate to contact us.

Sincerely,

Nikhil Bhatt
Sr. Project Engineer
UL Solutions

Reviewed by:

Kalirajan C
Sr. Project Engineer
UL Solutions