



Project No.: PRJ-22-000902821	Request ID.: 20230087 (Gevrey Energy Lab)
Part No: 2445483-1	Tested date : 14-Nov-2023
Description: AMPACT BAT SMALL	Date of report: 06-Dec-2023
Customer: -	Specification: AS1154.1 - 2009
Requested by: ARJUN K A	Reason for testing: Product Validation

Scope: This report covers the Short-time current performance of AMPACT BAT Connector P/N 2445483-1 (Conductor range 4/0 ACSR – 4/0 AAC) as tested at Gevrey-Chambertin Energy / Utility products test laboratory.

Content:		Page
1. Introduction.....		2
2. Summary of Testing		3
3. Test Methods		4
4. Representative Photographs of test set-up & specimens		5
5. Customer Drawing C-2445483.....		7

Summary of test results:

	As per test request	
Short -Time Current Test	Test group 1	✓ Passed

✓ Passed / ✗ Not passed / □ Test not performed / ■ Test performed without conclusion

The report shall not be reproduced except in full without the prior approval of Bhaskara lab. Sampling is not carried out by the lab. Traceability of measurements is established to ISO standards through calibration at accredited lab. The above results relate only to the sample tested.

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1. Introduction

1.1 Purpose

Short – time current test was performed on AMPACT BAT Connector P/N 2445483-1, with conductor mentioned in Table 2 to evaluate the performance of AMPACT BAT Connector when tested in accordance with AS 1154.1 – 2009, “Insulator and Conductor Fittings for Overhead Power Lines”.

1.2 Product Description

The AMPACT BAT Connectors are used for making connections between Aluminum to Aluminum or Aluminum to Copper Conductors on bare overhead applications. This assembly provides a method of making tap connections on primary and secondary distribution lines. To accomplish the installation, the wedge is driven between two opposing conductors by tightening the hex bolt with a battery operated or pneumatic impact tool until the C-body is fully extended. This ensures the C-body develops high clamping force on the conductors and the wedge is locked in place to provide a secure and reliable connection.

1.3 Test Sequence & Specimens

Test or Examination	Group #
	1
Examination of Product	1, 3
Short – Time Current Test	2

Table 1 Test Group

Note: Number indicates the sequence in which tests were performed.

The Following Part Numbers and Quantities were used.

GROUP #	CONNECTOR P/N	QUANTITY	RUN CONDUCTOR	TAP CONDUCTOR
1	2445483-1	2	4/0 ACSR	4/0 AAC

Table 2 Test sample list

1.4 Conclusion

The AMPACT BAT Connector test samples met the Short – time current test requirements of AS1154.1-2009 and the AMPACT BAT Connector product family are deemed qualified for this specification.

2. Summary of Testing

2.1 Examination of Product

All samples were examined visually and functionally before and after tests and were in satisfactory condition.

2.2 Short -time Current Test

Each test loop was inspected visually after application of each short current. After the visual inspection there was no sign of local heating, burning, or fusing on the tested samples.

The connector temperature always remained below those of the conductor temperature.

All Specimens passed the test and are in accordance with the specification. Refer to Table 3 below for complete test results.

Test ID	Target Current (A)	Measured Current (A)	Test Duration (Sec)	Calculated I ² t from target current ((kA) ² .s)	Measured I ² t from measured current (kA) ² .s)	Target Maximum temp. rise (°C)	Measured Maximum temp. rise (°C)
Test #1	12118	11352	1.23	146.8	158.6	200	205.2
Test #2	12118	11363	1.23	146.8	159.2	200	204.8

Table 3 Test Results



3. Test Methods

3.1 Examination of Product

The sampling was performed by the requester and received at the test location Gevrey-Chambertin Energy / Utility Products Test Laboratory on 06-Nov-2023.
They were examined visually and functionally.

3.2 Short -time Current Test

Two (2) AMPACT BAT Connectors with conductors mentioned in table 2 were tested. A loop assembly was made of two (2) AMPACT BAT Connector P/N 2445483-1, with connectors installed on the Run conductor (4/0 ACSR) and Tap conductor (4/0 AAC) as shown in Fig.1 and Fig.2. The run conductor was tensioned to 2248 lbs (10 kN). The Short circuit requirement of 200°C rise on the conductor was estimated and then a total of two (2) short circuits surges were applied to the test loop as mentioned in table 3.

4. Representative Photographs of test set-up & specimens



Fig 1: Representative photograph of Bolted Ampact Tap Connector P/N 2445483-1 test setup short-time current.

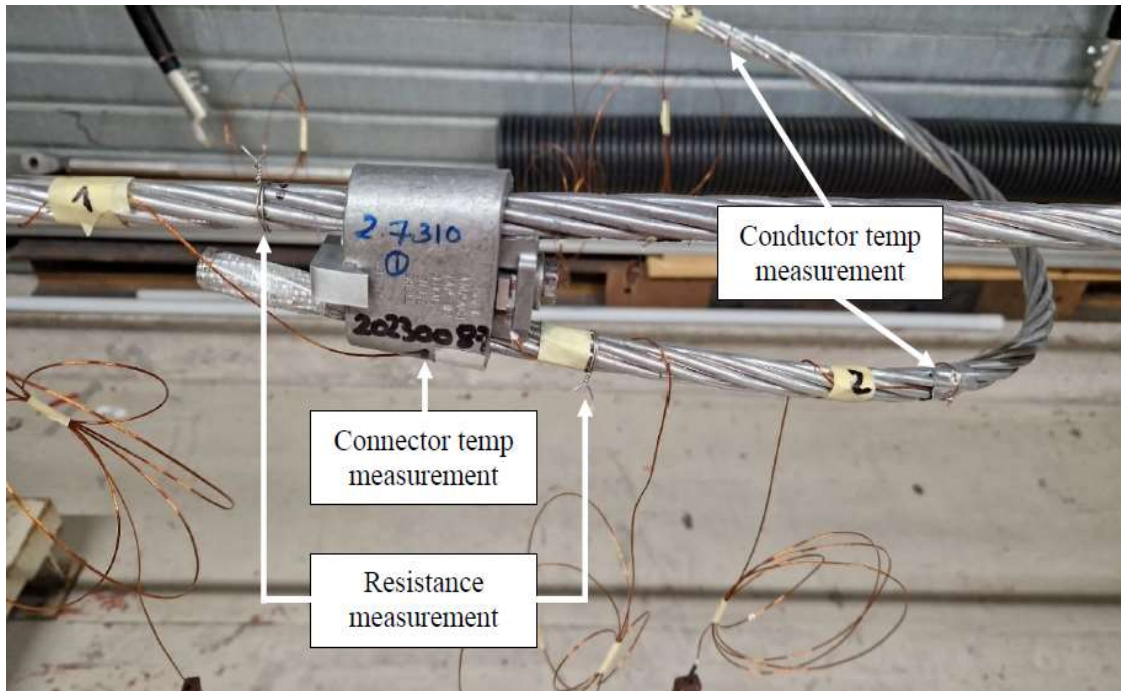


Fig 2: Representative photograph of Bolted Ampact Tap Connector P/N 2445483-1 test setup short-time current.

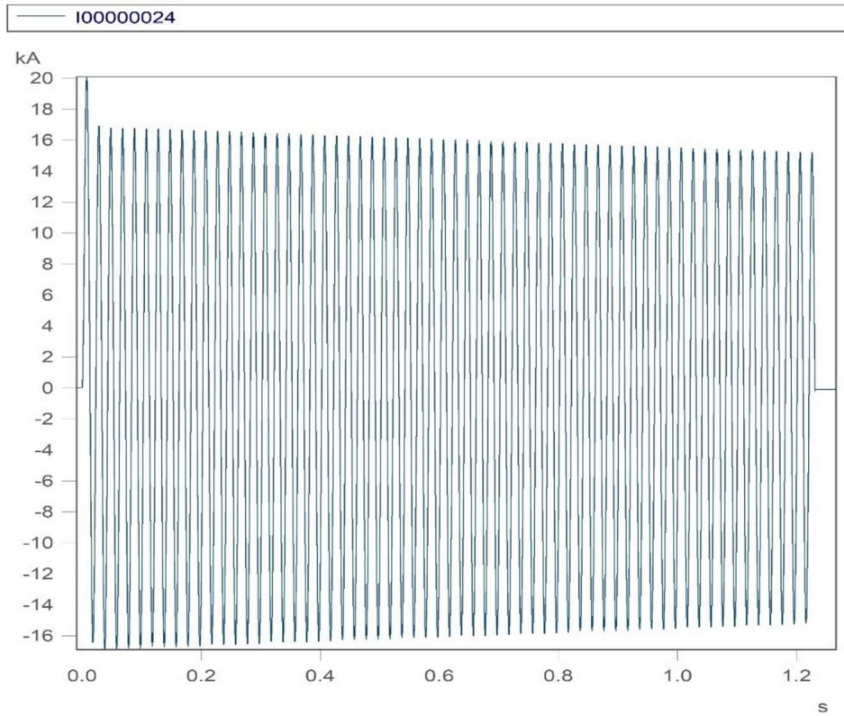


Fig 3: Wave from short-time current circuit-1 (Test #1)

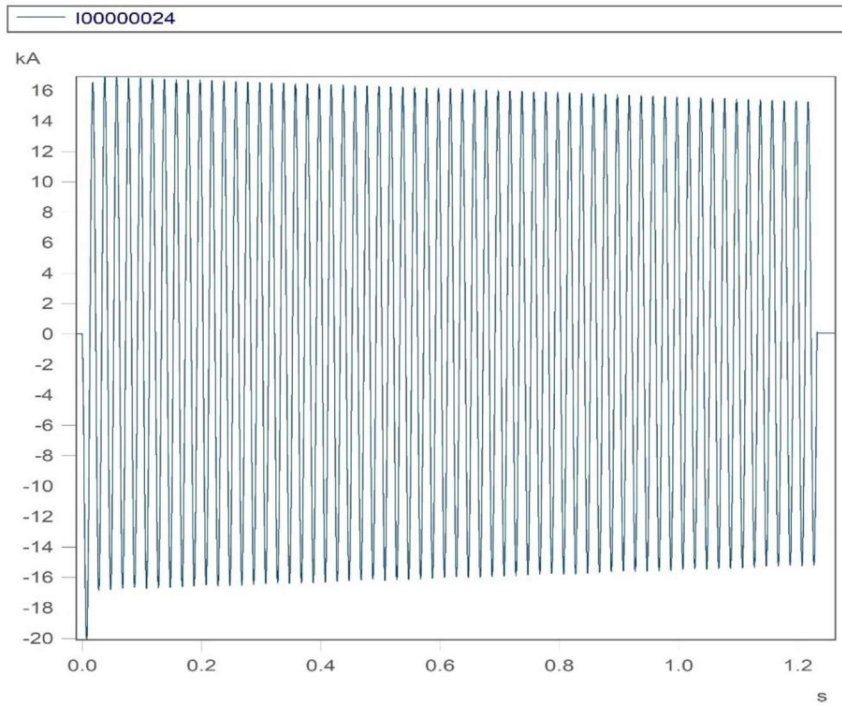


Fig 4: Wave from short-time current circuit-2 (Test #2)



Document History

Change Date	Rev.	Page	Main Changes (short description)	Name
14 Mar 2024	A	-	First release - Product Validation	Lijith Sathyanathan

End of test report