

Testing of THERMOLIGN® Full Tension Splice

For

1272-kcmil 3M Brand Composite Conductor

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Scope

This report will cover the description and results of laboratory testing of PLP's THERMOLIGN® Full-Tension Splice and 1272-kcmil 3M Brand Composite Conductor (also known as ACCR – Aluminum Conductor Composite Reinforced) manufactured by 3M Company.

The specific tests included in this report are:

- Sustained Load Test (including tensile test)

The results for each test are reported separately.

Sustained Load Test

The purpose of this test is to determine that the 1272 Splice assembly will hold at a high tension level (77% RBS) at room temperature for an extended period of time (168 continuous hours).

The test sample consisted of a 75 ft. length of 1272 ACCR conductor terminated on both ends with a PLP Dead-End Assembly, then cut in the middle, after which a PLP Splice Assembly was applied (See Figure 1). The tension (33,631 lbs) was maintained throughout the test period with the 55K Tensile Equipment.

The test sample successfully completed the 168 continuous hours, and then was tensioned in the same 55K Tensile Equipment until a failure occurred. The conductor failed in mid-span (See Figure 2) between the Splice and the Dead-End at a load of 44,180 lbs (101% RBS).

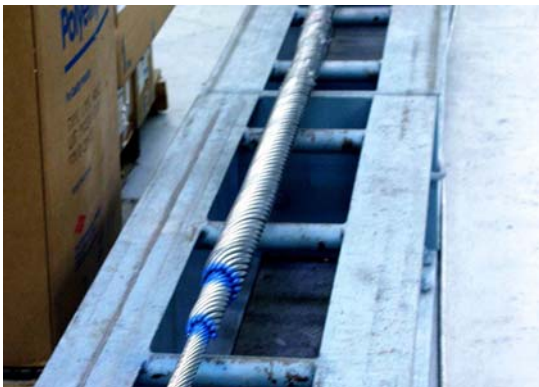


Figure 1 – THERMOLIGN Splice



Figure 2 – Failure of Conductor

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