

Heyco Products, Inc.	LAB 4-UL-635	Rev. 1
Title: Test Procedure – Insulating Bushings	Effective Date: 12/23/2004	

APPROVAL AUTHORITY:	SIGNATURE:

1. Purpose/Application

This instruction details the processes and forms (where applicable) required for testing insulating bushings.

2. Procedures:

- 2.1 Obtain samples of the insulating bushing to be evaluated and allow them to stabilize for 48 hours at room temperature and humidity. (Approximately 73 °F and 50% R.H.)
- 2.2 Cut 6 (six) samples of an insulated wire that has a diameter equal to 40% of the inside diameter of the bushing into 36" lengths.
- 2.3 Assemble 6 (six) untested samples of the insulating bushing in a test plate with the minimum recommended thickness and with a hole of intended size and shape.
- 2.4 Assemble 6 (six) additional untested samples of the insulating bushing in a test plate of maximum thickness and with a hole of intended size and shape.
- 2.5 Perform the installation test as follows with 3 (three) of each type of test assembly:
 - 2.5.1 Support the test assembly so that the plane of the bushing opening is vertical.
 - 2.5.2 Insert one unused sample of wire into the bushing with 6" extending from the exit side of the bushing.
 - 2.5.3 Grasp the 6" length of wire and pull the remaining length through the bushing in a steady motion over 1.5 seconds.
 - 2.5.4 Inspect the bushing for displacement from the test plate. No displacement should be evident.
 - 2.5.5 Inspect the wire insulation for cuts or damage. No damage should be evident.
 - 2.5.6 Record the results on the Insulating Bushing Test Form. (See LAB 4-UL 635-1).
- 2.6 Perform the elevated temperature test as follows:
 - 2.6.1 Place 3 (three) of each type of test assembly in a circulating air oven that is set at 100 C, or 20 C higher than the rating of the bushing, which ever is greater.
 - 2.6.2 Let samples condition for 7 (seven) hours.
 - 2.6.3 Remove samples and let stabilize at room temperature and humidify for ½ hour.
 - 2.6.4 Visually inspect the samples – they should not be warped, charred or blistered.
 - 2.6.5 Record the results on the Insulating Bushing Test Form. (See LAB 4-UL 635-1)
 - 2.6.6 Perform the installation test on the oven condition samples as described above.
- 2.7 Attach a list of all equipment used and the calibration date of the equipment to the test report.
- 2.8 Attach a drawing of the part that was tested to the test report for reference.
- 2.9 Test reports will be filed in the laboratory for a minimum of (3) three years.

3. References

ISO9001:2000 Standard – elements: 6.3, 6.4, 7.5.1, 7.5.2.

4. Revisions

- 12/23/04** – Reformatted for posting on company Intranet.
- 01/04/2003** - This document was rewritten to conform to the ISO9001:2000 standard. It replaces ISO9001:1994 documents: LM 40, LM 41.