

PEARL Inspect & Test Standards			
LOW VOLTAGE BUS DUCT PLUG-IN TYPE	Revision		
	Standard	Number	Date
	2010-I	3	6-2009

This standard is designed to verify that a low voltage bus duct, plug-in type is in a safe and reliable operating condition based upon the design of the original manufacturer at the time of manufacturing. PEARL testing does not verify the claims of the original equipment manufacturer as to the validity of its design criteria. In the event that the device is not in this condition then this standard cannot be used and the PEARL Reconditioning Standard needs to be followed.

PEARL does not warrant, guarantee or make any representation regarding the correctness of specifications, use for any particular purpose, quality or extent of testing, accuracy, or reliability as to any equipment, products or documentation referenced herein.

REFERENCES

The following references are use in this standard. Each of these references can be found in their respective listed locations.

Table References: Section 6000

- Table 2 Insulation resistance and test values for electrical apparatus.
- Table 11 Insulation resistance and test temperature conversion to 20°C values.

I TEST EQUIPMENT

The following test equipment is required to perform the testing requirements of this standard:

1. Insulation Resistance Test Set (Megohmmeter) 1000 Vdc minimum

One of the following pieces of test equipment is required to perform the overpotential testing requirements of this standard if it is required by the customer:

1. AC Overpotential Test Set
2. DC Overpotential Test Set

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II EVALUATION

The following procedures shall be used to determine the condition of a low voltage bus duct, plug-in type under this standard.

1 INSPECTION

1.1 Frame

- 1.1.1** Ensure that the nameplate data is legible.
- 1.1.2** Ensure that the third party listing service label is legible.
- 1.1.3** Inspect frame for missing screws, bolts, nuts, fasteners, retainers and keepers.
- 1.1.4** Inspect for unused openings.
- 1.1.5** Inspect for improper covers.
- 1.1.6** Inspect for rust and corrosion.
- 1.1.7** Inspect for missing or defective parts.
- 1.1.8** Record results on an approved PEARL Evaluation Form.

1.2 Insulation Structure

- 1.2.1** Remove bus duct covers
- 1.2.2** Inspect fiberglass tape, heat shrink tubing, or shelving for:
 - 1.2.2.1** Water damage.
 - 1.2.2.2** Deterioration.
 - 1.2.2.3** Overheating
- 1.2.3** Inspect rubber gaskets for flexibility
- 1.2.4** Inspect for missing or defective parts.
- 1.2.5** Record Results on an approved PEARL Evaluation Form.

1.3 Bus Bar/Tube

- 1.3.1** Inspect bus ends for:
 - 1.3.1.1** Corrosion.
 - 1.3.1.2** Overheating.
 - 1.3.1.3** Oxidation.
- 1.3.2** Inspect for proper alignment of each section.
- 1.3.3** Inspect phase separators for:
 - 1.3.3.1** Cracks.
 - 1.3.3.2** Deterioration.
 - 1.3.3.3** Broken Parts
- 1.3.4** Record Results on an approved PEARL Evaluation Form.

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2 TESTING

2.1 Insulation Resistance

2.1.1 Perform an insulation resistance test at test values specified in Table 2 of Section 6000 as follows:

2.1.1.1 Phase to phase

2.1.1.2 Phase to neutral

2.1.1.3 Phase to ground

2.1.2 Correct for temperature, if necessary (Table 11).

2.1.3 Record results on an approved PEARL Evaluation Form.

2.1.4 Compare test results to manufacturer's recommendations or Table 2 of Section 6000.

2.2 Overpotential Test

2.2.1 Perform an overpotential test at 2500 Vdc from phase to ground for 1 minute.

2.2.2 Record results on an approved PEARL Evaluation Form.

2.2.3 Perform an overpotential test at 2500 Vdc from phase to neutral for 1 minute.

2.2.4 Record results on an approved PEARL Evaluation Form.

2.2.5 Perform an overpotential test at 2500 Vdc from neutral to ground for 1 minute.

2.2.6 Record results on an approved PEARL Evaluation Form.

2.2.7 Compare results to manufacturer's recommendations.

2.3 Checks and Adjustments

2.3.1 Make all checks and adjustments per manufacturer's recommendations. In the absence of a manufacturer's recommendations, any check or adjustment made will be based upon procedures that will ensure the original manufacturer's design.

2.3.2 All checks and adjustments must be within the guidelines recommended in order for the product to become a PEARL labeled product.

2.3.3 Record results on an approved PEARL Evaluation Form.

2.4 Torque

2.4.1 Check all screw and bolt connections for the proper torque per manufacturer's recommendations or Table 1 of Section 6000.

2.4.2 Record results on an approved PEARL Evaluation Form.

3 EVALUATION REVIEW

In order for the device to be eligible for the Inspect & Test Quality Seal, the device needs to have passed all of the preceding Inspection (1) and Testing (2) points. Any failures in the process will require that the device be "Reconditioned" at which time the PEARL Reconditioning Standard needs to be followed.

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III PEARL CERTIFICATION

This product has now been inspected and tested and has passed all tests under the PEARL Inspect & Test Standard. The green PEARL Inspect & Test Quality Seal may now be placed on the device.