

PEARL Reconditioning Standards			
<b>LOW VOLTAGE WIRE AND CABLE SHIELDED – MULTIPLE CONDUCTORS</b>	Revision		
	Standard	Number	Date
	4125	5	11-2008

The term "reconditioning" is defined as "the process of returning electrical equipment to safe and reliable operating condition based upon the design of the original manufacturer at the time of manufacturing."

## 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 9: Wire and Cable Insulation Resistance Test Values

Table 10: Medium Voltage Wire and Cable Maximum Test Voltage Values

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 reconditioning 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 reconditioning standard if it is required by the customer:

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

One of the following pieces of test equipment is required to perform the measuring requirements of this reconditioning standard:

1. Mechanical Cable Measuring System
2. Electronic (Resistance Type) Cable Measuring System

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## II RECONDITION EVALUATION

These steps are used to determine what will be required to recondition this product under this standard.

### 1 INSPECTION

#### 1.1 Reel

- 1.1.1 Inspect for signs of damage.
- 1.1.2 Inspect for missing screws, bolts and nuts.
- 1.1.3 Inspect for damaged ends.
- 1.1.4 Inspect for damaged core.
- 1.1.5 Inspect for rust and corrosion, if applicable.
- 1.1.6 Record Results on an approved PEARL Evaluation Form.

#### 1.2 Insulation

- 1.2.1 Ensure that the surface markings are legible.
- 1.2.2 Ensure that the third party listing service label is legible.
- 1.2.3 Inspect for signs of damage
- 1.2.4 Inspect for signs of overheating, swelling and deterioration.
- 1.2.5 Inspect for discolored, cracked or brittle insulation and/or jacket.
- 1.2.6 Inspect for signs of sharp bends.
- 1.2.7 Inspect ends of cable for proper seals.
- 1.2.8 Record results on an approved PEARL Evaluation Form.

#### 1.3 Conductor(s)

- 1.3.1 Inspect for signs of corrosion, discoloration and oxidation.
- 1.3.2 Record Results on an approved PEARL Evaluation Form.

#### 1.4 Shield

- 1.4.1 Inspect for signs of damage.
- 1.4.2 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 voltage given in Table 9 of Section 6000.

**2.1.1.1** Conductor to ground

**2.1.1.2** Conductor to conductor

**2.1.1.3** Conductor to shield

**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 9 of Section 6000.

### Overpotential Test

**2.2.1** Perform an overpotential test for 1 minute at test values given in Table 10 of Section 6000.

**2.2.1.1** Conductor to ground

**2.2.1.2** Conductor to conductor

**2.2.1.3** Conductor to shield

**2.2.2** Perform an overpotential test for 1 minute at test values given in Record results on an approved PEARL Evaluation Form.

**2.2.3** Compare results to manufacturer's recommendations or Table 10 of Section 6000

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### III RECONDITION PROCEDURES

The following procedures are in a recommended order and are required to recondition this product. PEARL recognizes that, based upon actual product design and/or as found condition, some of these procedures may not be applicable. The testing requirement must be completed before the product can be labeled as a PEARL reconditioned product.

#### 1 RECONDITIONING

##### 1.1 Reel

1.1.1 Repair or replace damaged or defective reel.

1.1.2 Record results on an approved PEARL Reconditioning Test Form.

##### 1.2 Wire and Cable

1.2.1 Remove and discard damaged or defective wire and cable.

1.2.2 Measure length.

1.2.3 Record results on an approved PEARL Reconditioning Test Form.

##### 1.3 Final Assembly

1.3.1 Ensure that the reel is sturdy.

1.3.2 Seal wire and cable ends.

1.3.3 Ensure that the surface markings are complete, correct and legible

1.3.4 Labeling

1.3.4.1 Ensure that the nameplate/label data is complete, correct and legible.

1.3.4.2 Ensure that the third party listing service marking is legible.

1.3.5 Record results on an approved PEARL Reconditioning Test Form.

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## **2 TESTING**

### **2.1. Insulation Resistance**

**2.1.1** Perform an insulation resistance test at test voltage given in Table 9 of Section 6000.

**2.1.1.1** Conductor to ground

**2.1.1.2** Conductor to conductor

**2.1.1.3** Conductor to shield

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

**2.1.3** Record results on an approved PEARL Reconditioning Test Form.

**2.1.4** Compare test results to manufacturer's recommendations or Table 9 of Section 6000.

**2.1.5** The test results must be within the guidelines recommended in order for the product to become a PEARL labeled product.

### **2.2 Overpotential Test**

**2.2.1** Perform an overpotential test for 1 minute at test values given in Table 10 of Section 6000.

**2.2.1.1** Conductor to ground

**2.2.1.2** Conductor to conductor

**2.2.2** Record results on an approved PEARL Reconditioning Test Form.

**2.2.3** Compare results to manufacturer's recommendations or Table 10 of Section 6000.

**2.2.4** The test results must be within the guidelines recommended in order for the product to become a PEARL labeled product.

## **IV PEARL CERTIFICATION**

This product has now been reconditioned under the PEARL Reconditioning Standard. The blue PEARL Reconditioning Quality Seal may now be placed on the device.