



# PRODUCT SPECIFICATION

## INSULKRIMP RINGS AND SPADES

### 1.0 SCOPE

- A. THIS PRODUCT SPECIFICATION COVERS THE INSULKRIMP RINGS AND SPADES WITH PVC INSULATION AND TIN PLATING FOR 22 AWG TO 3/0 AWG WIRE.

### 2.0 PRODUCT DESCRIPTION

#### 2.1 INSULATED RINGS AND SPADES

- A. 19054 INSULKRIMP LONG BARREL RINGS 22 – 14 AWG
- B. 19055 INSULKRIMP BRAZED LONG BARREL RINGS 22 – 14 AWG
- C. 19070 INSULKRIMP RINGS 22 – 10 AWG
- D. 19071 INSULKRIMP BRAZED RINGS 8 – 3/0 AWG
- E. 19075 INSULKRIMP STAR RINGS 22 – 14 AWG
- F. 19080 INSULKRIMP MULTI STUD RINGS 22 – 10 AWG
- G. 19089 INSULKRIMP LONG BARREL RECTANGULAR TONGUE 22 – 14 AWG
- H. 19090 INSULKRIMP RECTANGULAR TONGUE 22 – 10 AWG
- I. 19099 INSULKRIMP SNAP SPADES 22 – 10 AWG
- J. 19119 INSULKRIMP LONG BARREL FLANGED SPADES 22 – 14 AWG
- K. 19120 INSULKRIMP BRAZED LONG BARREL FLANGED SPADES 22 – 14 AWG
- L. 19121 INSULKRIMP FLANGED SPADES 22 – 10 AWG
- M. 19122 INSULKRIMP BRAZED FLANGED SPADES 22 – 10 AWG
- N. 19130 INSULKRIMP LONG BARREL BLOCK SPADES 22 – 14 AWG
- O. 19131 INSULKRIMP BLOCK SPADES 22 – 10 AWG
- P. 19142 INSULKRIMP LONG BARREL SPADES 22 – 14 AWG
- Q. 19143 INSULKRIMP BRAZED LONG BARREL SPADES 22 – 14 AWG
- R. 19144 INSULKRIMP SPADES 22 – 10 AWG
- S. 19145 INSULKRIMP BRAZED SPADES 22 – 10 AWG
- T. 19171 INSULKRIMP LONG BARREL HOOKS 22 – 14 AWG
- U. 19179 INSULKRIMP HOOKS 22 – 10 AWG
- V. 19204 INSULKRIMP 3 & 4 WAY RINGS 22 – 10 AWG

#### 2.2 DIMENSIONS, MATERIALS, PLATINGS AND MARKINGS

- A. THE DIMENSIONAL CHARACTERISTICS ARE IDENTIFIED ON THE SALES DRAWINGS.
- B. MATERIALS:
- I. BASE MATERIAL IS C11000 COPPER IN VARIOUS THICKNESSES.
  - II. PLATING IS MATTE TIN .000100(0.00254) MINIMUM THICKNESS.
  - III. INSULATION MATERIAL IS PVC IN VARIOUS COLORS.

#### 2.3 SAFETY AGENCY APPROVALS

- A. 22 AWG THROUGH 1/0 AWG PARTS ARE UL LISTED E32244 CATEGORY ZMVV
- B. 22 AWG THROUGH 2 AWG PARTS ARE CSA CERTIFIED LR18689 CLASS 6223-02
- C. ALL PARTS ARE ROHS COMPLIANT

|                     |                                                           |                                                                           |                   |
|---------------------|-----------------------------------------------------------|---------------------------------------------------------------------------|-------------------|
| REVISION:           | ECR/ECN INFORMATION:                                      | TITLE:                                                                    | SHEET No.         |
| <b>C</b>            | EC No: <b>WNA2010-0414</b><br>DATE: <b>2011 / 08 / 01</b> | <b>PRODUCT SPECIFICATION-<br/>INSULKRIMP RING AND SPADE<br/>TERMINALS</b> | <b>1 of 3</b>     |
| DOCUMENT NUMBER:    | CREATED / REVISED BY:                                     | CHECKED BY:                                                               | APPROVED BY:      |
| <b>PS-19902-009</b> | <b>E. THRODAHL</b>                                        | <b>J. MACNEIL</b>                                                         | <b>J. MACNEIL</b> |



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## 3.0 APPLICABLE DOCUMENTS AND SPECIFICATIONS

- A. 22 THROUGH 1/0 AWG UL LISTED TO STANDARD 486A & B
- B. 22 THROUGH 2 AWG CSA CERTIFIED TO STANDARD C22.2 NO 65

## 4.0 RATINGS

### 4.1 VOLTAGE

- A. ALL UL/CSA LISTED PARTS UNDER THIS SPEC ARE RATED AT 600VAC.

### 4.2 CURRENT

- A. THE AMPERAGE RATING IS BASED ON THE WIRE AWG APPLIED TO THE TERMINALS PER UL 486 A & B SHOWN BELOW.

| WIRE AWG | MAX AMPERE RATING |
|----------|-------------------|
| 22       | -                 |
| 20       | -                 |
| 18       | -                 |
| 16       | -                 |
| 14       | 15                |
| 12       | 20                |
| 10       | 30                |
| 8        | 50                |
| 6        | 65                |
| 4        | 85                |
| 2        | 115               |
| 1        | 130               |
| 1/0      | 150               |

### 4.3 TEMPERATURE

- A. OPERATING - 105°C (221°F)

### 4.4 FLAMMABILITY

- A. ALL PARTS UNDER THIS SPECIFICATION HAVE PVC INSULATION WITH UL FLAMMABILITY RATING OF 94V-0.

|                                         |                                                                                   |                                                                                     |                                   |
|-----------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-----------------------------------|
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# PRODUCT SPECIFICATION

## 5.0 PERFORMANCE

### 5.1 ELECTRICAL REQUIREMENTS

| ITEM | DESCRIPTION                                      | TEST CONDITION                                                                                                                                                   | REQUIREMENT                                                              |
|------|--------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|
| 1    | Temperature Rise as a result of Current Cycling* | The Test Specimens shall complete 500 cycles of equal current on and off (1 hr ea.) at the current levels noted in Table 7 for 75C*.                             | Temperature Rise must not exceed 125C over Ambient                       |
| 2    | Static Heating Sequence - Static Heating*        | The Test Samples must carry continuous current as noted in Table 7* until stabilization.                                                                         | Temperature Rise must not exceed 50C over Ambient                        |
| 3    | Static Heating Sequence - Secureness*            | The Test Samples, with correct conductor length, are fastened thru a bushing, at the height indicated and with a mass suspended from the free end per Table 26*. | The Test Samples must be intact at the transition area after 30 minutes. |
| 4    | Static Heating Sequence – Pullout*               | The Test Samples from Secureness Test are subjected to a Direct Axial Pull with a Force Applied per Table 27*                                                    | The Test Samples must withstand Table 27* Force applied for 1 minute     |

### 5.2 MECHANICAL REQUIREMENTS

| ITEM | DESCRIPTION                 | TEST CONDITION                                                                                                                                                  | REQUIREMENT                                                          |
|------|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|
| 5    | Wire Pullout Force* (Axial) | Test Samples Crimped to Min/Max wire awg are subjected to an axial pullout force on the wire at a rate of $25 \pm 6$ mm ( $1 \pm \frac{1}{4}$ inch) per minute. | The Test Samples must withstand Table 27* Force applied for 1 minute |

\* See UL Standard 486A & B for Test Descriptions and Table information

## 6.0 PACKAGING

Parts shall be packaged to protect against damage during handling, transit and storage.

|                     |                                                           |                                                                           |                   |
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- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
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- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



#### Как с нами связаться

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