



# PRODUCT SPECIFICATION

## INSULKRIMP QUICK DISCONNECTS

### 1.0 SCOPE

- A. THIS PRODUCT SPECIFICATION COVERS THE INSULKRIMP QUICK DISCONNECTS WITH NYLON/PVC INSULATION FOR 26 AWG TO 10 AWG WIRE.

### 2.0 PRODUCT DESCRIPTION

#### 2.1 INSULATED QUICK DISCONNECTS

- A. 19003 FULLY INSULATED FEMALE QUICK DISCONNECTS 26 – 10 AWG
- B. 19004 FULLY INSULATED MALE COUPLERS 22 – 10 AWG
- C. 19005 FULLY INSULATED FEMALE COUPLERS 22 – 10 AWG
- D. 19007 FULLY INSULATED FEMALE FLAG QUICK DISCONNECTS 22 – 10 AWG
- E. 19011 PARTIALLY INSULATED PIGGYBACK QUICK DISCONNECTS 22 – 10 AWG
- F. 19013 FULLY INSULATED PIGGYBACK QUICK DISCONNECTS 22 – 10 AWG
- G. 19017 PARTIALLY INSULATED QUICK DISCONNECTS 26 – 10 AWG
- H. 19023 FULLY/PARTIALLY INSULATED MALE QUICK DISCONNECTS 22 – 10 AWG
- I. 19606 LOW PROFILE FULLY INSULATED FEMALE QUICK DISCONNECTS 12 – 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 C26000 BRASS IN VARIOUS THICKNESSES WITH THE EXCEPTION OF 19004 AND 19023, WHICH ARE MADE FROM C26000 BRASS OR C11000 COPPER.
  - II. PLATING IS 100  $\mu$ -IN MIN MATTE TIN WITH THE FOLLOWING EXCEPTIONS
    - 1. 19004 IS PLATED WITH ZINC CHROMATE.
    - 2. 19023 IS PLATED WITH MATTE TIN OR ZINC CHROMATE.
  - III. INSULATION MATERIAL IS NYLON 94V2 OR 94V0 IN VARIOUS COLORS WITH THE FOLLOWING EXCEPTIONS:
    - 1. 19011 AND 19017 INSULATION MATERIAL IS PVC 94V2 IN VARIOUS COLORS
    - 2. 19023 PARTIALLY INSULATED MATERIAL IS PVC 94V2 IN VARIOUS COLORS OR NYLON 94V2 OR 94V0 IN VARIOUS COLORS

#### 2.3 SAFETY AGENCY APPROVALS

- A. MOST PARTS ARE UL LISTED E79133 CATEGORY RFWV
- B. MOST PARTS ARE CSA CERTIFIED 018689 CLASS 6227-01
- C. ALL PARTS ARE ROHS COMPLIANT

### 3.0 APPLICABLE DOCUMENTS AND SPECIFICATIONS

- A. UL STANDARD FOR ELECTRICAL QUICK-CONNECT TERMINALS ANSI/UL 310
- B. CSA STANDARD CSA-C22.2 NO 153-09 FOR ELECTRICAL QUICK-CONNECT TERMINALS

REVISION: <b>A3</b>	ECR/ECN INFORMATION: <u>EC No:</u> IPG2014-0348 <u>DATE:</u> 2013 / 08 / 19	TITLE: <b>PRODUCT SPECIFICATION- INSULKRIMP QUICK DISCONNECTS</b>	<u>SHEET No.</u> <b>1 of 4</b>
DOCUMENT NUMBER: <b>PS-19902-008</b>	CREATED / REVISED BY: <b>R. DERROSS/G. ROJAS</b>	CHECKED BY: <b>J. MACNEIL</b>	APPROVED BY: <b>J. MACNEIL</b>



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## 4.0 RATINGS

### 4.1 VOLTAGE

A. ALL OF THESE PARTS ARE RATED AT 600VAC.

### 4.2 CURRENT

A. THE AMPERAGE RATING IS BASED ON THE WIRE AWG APPLIED TO THE TERMINALS PER UL 310 SHOWN BELOW. 26 AND 24 AWG ARE NOT IN UL STD 310.

TABLE 4.2.B

WIRE AWG	MAX AMPERE RATING
26	-
24	-
22	3
20	4
18	7
16	10
14	15
12	20
10	24

## 4.3 MAXIMUM OPERATING TEMPERATURE – 105C (221F)

## 5.0 PERFORMANCE – SAMPLE PREPARATION, WIRE REQUIREMENTS, TESTS DESCRIPTIONS AND TABLE INFORMATION ARE PER UL STANDARD 310.

### 5.1 ELECTRICAL REQUIREMENTS

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT
1	Dielectric Strength Test	As Received Samples to be tested at 3400 volts (600 Volt Rating) for 1 minute.	No Breakdown (Puncture) thru the Insulation is allowed
2	Assembled Conditioning	Samples Assembled (crimped) to wire to be Conditioned at 136C for 7 days	The Insulation will not harden, soften, crack, deform or loosen to effect insulation qualities
3	Contact Resistance (Low Level)	Mate connectors: Apply a maximum voltage of 20 mV and a current of 100 mA	10 milliohms MAXIMUM [initial]

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4	Non-Assembled Conditioning	Samples not Assembled to wire to be Conditioned at 100C for 7 days	The Insulation will not harden, soften, crack, deform or loosen after Crimping to effect insulation qualities
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## 5.2 MECHANICAL REQUIREMENTS

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT
5	Crimp 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 ( $\pm \frac{1}{4}$ inch) per minute.	The Test Samples must withstand Table 10.1 Force applied for 1 minute
6	Engage / Disengage Test	Samples to be Mated/Unmated to Unplated Brass Test Tabs for 6 Mating Cycles	Samples must meet the Requirements of Table 11.1
7	Secureness of Insulation Test as Received	The Insulation on Terminal Samples will be pulled Axially with 1 lb (4.5N) for 1 minute	The Insulation will not be Damaged or Removed
8	Secureness of Insulation Test as Assembled (Crimped)	The Insulation on Terminal Samples will be pulled Axially with 5 lbs (22.3N) for 1 minute	The Insulation will not be Damaged or Removed

## 5.3 ENVIRONMENTAL REQUIREMENTS

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT
9	Temperature Test	The Test Specimens shall be subjected to continuous current per Table 4.2.B until Stabilization.	Temperature Rise must not exceed 30C
10	Heat Cycling Test	The Temperature Test Samples shall complete 500 cycles of equal current on and off (45 min on/ 15 min off) at the current levels noted in Table 12.1.	Temperature Rise shall not rise more than 15C from 24 <sup>th</sup> Cycle and not more than 85C at the 500 <sup>th</sup> Cycle

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Table 10.1

WIRE AWG	MIN PULL FORCE (LBS)
26	-
24	-
22	8
20	13
18	20
16	30
14	50
12	70
10	80

TABLE 11.1

Tab size	First Insertion Force (lbs)	First Withdrawal Force (lbs)	Sixth Withdrawal Force (lbs)
.250 x .032 (6.35 x 0.81)	16 MAX	3 MIN, 16 MAX	3 MIN
.205 x .020 (5.21 x 0.51)	15 MAX	3 MIN, 20 MAX	2 MIN
.205 x .032 (5.21 x 0.81)	15 MAX	3 MIN, 20 MAX	2 MIN
.187 x .020 (4.75 x 0.51)	15 MAX	3 MIN, 20 MAX	2 MIN
.187 x .032 (4.75 x 0.81)	15 MAX	3 MIN, 20 MAX	2 MIN
.110 x .020 (2.79 x 0.51)	12 MAX	2 MIN, 14 MAX	1 MIN
.110 x .032 (2.79 x 0.81)	12 MAX	2 MIN, 14 MAX	1 MIN

TABLE 12.1

Wire AWG	Current Cycling Amperes
22	6
20	8
18	14
16	20
14	30
12	40
10	48

## 6.0 PACKAGING

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

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