

## Changes to the Technical List of Materials

### December 14, 2018

1. Renewed Technical Acceptance for Priority Wire & Cable 12/2018 – 12/2019
  - a. y-1 - Galvanized Steel Strand
  - b. ai-1 - Rods, Ground, 13-mil
  - c. ai-3 - Rods, ground, sectional, 13-mil
  - d. av-1 - Conductor, ACSR
  - e. av-4 - Conductor, Service, (Single conductor)
  - f. av-5 - Conductor, Service Cable , (Triplex and Quadruplex)
  - g. av-6 - Conductor, Aluminum Alloy (AAAC)
  - h. av(5) - Conductor, Twisted Pair (T-2 & VR type)
  - i. Uhv-2 Cable, Underground, 600V

### December 7, 2018

1. Renewed Technical Acceptance for Powerline Hardware 12/2018 – 12/2019
  - a. w-1 Insulator, guy strain, fiberglass
  - b. ap-2 Hotline Clamps

### November 30, 2018

1. Ugk-1 Terminations, Indoor
  - a. Added TE Connectivity
    - i. Catalog numbers: CSTI-xxxJ Series (15, 25, 35 kV), CSTI-xxxG (with grounding kit) Series (15, 25, 35 kV) (11/2018 – 11/2019)
2. Ugk-2 Terminations, Outdoor
  - a. Added TE Connectivity-Energy
    - i. Catalog numbers: CSTO-xxxJ Series (15, 25, 35 kV), CSTO-xxxG (with grounding kit) Series (15, 25, 35 kV) (11/2018 – 11/2019)

### November 29, 2018

1. k-2 – Insulator, polymer distribution deadend
  - a. Added Peak Demand
    - i. Catalog numbers: CDI-DS-15, CDI-DS-28, CDI-DS-35

### November 27, 2018

1. Corrections made to Newell-PSN, LLC (Mustang Electric)
  - a. a-1, a-1.1 – Insulator, pin type
  - b. k-1, k-1.1 – Insulator, suspension
  - c. cm-1 – Insulator, Spool
  - d. ea-1 - Insulator and stud, post type, vertical

### October 26, 2018

1. b, c, d, f, I, n, o, q, s, v, x, aa, ab, as, ao, aw, ba, bh, bj, bo, br, bs, ci, cs, da, eb, ek, ft
  - a. Renewed Technical Acceptance for Grid Power Products 10/2018 – 10/2019

### October 12, 2018

1. av-1, av-5, av-6, Uhv-3
  - a. Renewed Technical Acceptance for Coreal 10/2018 – 10/2019
2. f-1
  - a. Added Aluma-Form 10/2018 – 10/2019
    - i. AF203, AF647

October 5, 2018

1. u-2, u-3, bv-1, dt-1
  - a. Renewed Technical Acceptance for Mosdorfer 10/2018 – 10/2019

September 25, 2018

2. av-4, av-5
  - a. Added Priority Wire & Cable 9/2018 – 9/2019

September 21, 2018

1. k-1, k-1.1
  - a. Renewed Technical Acceptance for Lapp Insulators LLC 9/2018 – 9/2019
2. c-1; d-1; n-1; o-1; u-1; x-1; aa,ab; ai-1, ai-2, ai(1)
  - a. Renewed Technical Acceptance for Powerline Hardware 9/2018 – 9/2019

September 7, 2018

1. a-1, a-1.1, k-1, k-1.1, cm-1, ea-1
  - a. Renewed Technical Acceptance for Fujian Hoshing Prosper Electrical Porcelain, Co., Ltd. 9/2018 – 9/2019
2. k-1, k-1.1, ea-1
  - a. Renewed Technical Acceptance for Suzhou Porcelain Insulator Works 9/2018 – 9/2019.

September 6, 2018

1. a-1, a-1.1, k-1, k-1.1, cm-1, ea-1
  - a. Renewed Technical Acceptance for Action Manufacturing 9/2018 – 9/2019.

August 14, 2018

1. a-2
  - a. Added Gamma Corona
    - i. Catalog numbers PPT series 8/2018 – 8/2019.

August 3, 2018

1. be-1, el-1
  - a. Renewed Technical Acceptance for Tavrida 8/2018 – 8/2019.

August 1, 2018

1. z-1, z-6, z-7, af-1
  - a. Renewed Technical Acceptance for Powerline Hardware.

July 31, 2018

1. Pages a-1, a-1.1, cm-1, ea-1
  - a. Revised “Mustang Electric” to “Newell-PSN, LLC”.
    - i. Newell has purchased Mustang Electric.

July 20, 2018

1. UHV-1
  - a. Revised listing format to make Insulation options clearer.

July 3, 2018

1. Pages UHV-2
  - a. Renewed Technical Acceptance for Changfeng Wire & Cable 7/2018 – 7/2019

June 28, 2018

2. Pages c-1, f-1, v-2, aa/ab, cu-1, eb-1, gj-1
  - a. Renewed Technical Acceptance for Hubbell Power Systems 6/2018 – 6/2019

June 27, 2018

3. Pages a-1, a-1.1, cm-1, ea-1
  - a. Renewed Technical Acceptance for Mustang Electric Power Products, Inc. 6/2018 – 6/2019

June 5, 2018

4. Pages av-5, Uhv(2), Uhv(3)
  - a. Renewed Technical Acceptance for Interamericana de Cables Venezuela, S.A. (ICV) 6/2018 – 6/2019.

May 25, 2018

1. Pages ah-1 Insulator Ties; bv-1 Armor Rods
  - a. Renewed Technical Acceptance for MacLean Power Systems 5/2018 – 5/2019

May 4, 2018

1. Pages c-1, i-1, n-1, o-1, aa-1.
  - a. Renewed Technical Acceptance for Aluma-Form 5/2018 – 5/2019.
2. Page av-1 Conductor, ACSR
  - a. Renewed Technical Acceptance for Jiangsu Zhongtian Technology Co., Ltd (ZTT) 5/2018 – 5/2019

April 27, 2018

1. Pages a-1, a-1.1; k-1, k-1.1; cm-1; ea-1; af-1
  - a. Renewed Technical Acceptance for Powerline Hardware 4/2018 – 4/2019

April 13, 2018

1. Multiple pole line hardware pages.
  - a. Renewed acceptance for Romagnole 4/2018 – 4/2019.

March 19, 2018

1. Page U hv-2 Cable, Underground, 600V Cable
  - a. Added Electrocables 3/2018 – 3/2019
2. Page U hv-3 Cable, Underground, 600 Volt Multi-Conductor Cable
  - a. Added Electrocables 3/2018 – 3/2019

March 8, 2018

1. Page bx-2 Automatic Splices
  - a. Added Powerline Hardware (Hobb) 3/2018 – 3/2019
    - i. Catalog numbers: PLH-42, PLH-1020, PLH-266336, PLH-397477

February 16, 2018

1. Page ae-1 Surge (lightning) Arrester, Distribution Class
  - a. Siemens
    - i. Added catalog number 3EK8 (3-36, 3-27 ratings) 2/2018 – 2/2019
    - ii. Renewed Technical Acceptance for catalog number 3EK7. 2/2018 – 2/2019

January 26, 2018

1. Page ai-1 Rods, Ground, 13-mil
  - a. Renewed Technical Acceptance for Kopell Grounding Systems Pvt., Ltd. 1/2018 – 1/2019.
2. Page ai-3 Rods, ground, sectional, 13-mil
  - a. Renewed Technical Acceptance for Kopell Grounding Systems Pvt., Ltd. 1/2018 – 1/2019.

3. Page ai(1) Rods, Ground, 10-mil
  - a. Renewed Technical Acceptance for Kopell Grounding Systems Pvt., Ltd. 1/2018 – 1/2019.
4. Page ai(3) Rods, ground, sectional, 10-mil
  - a. Renewed Technical Acceptance for Kopell Grounding Systems Pvt., Ltd. 1/2018 – 1/2019.

November 21, 2017

5. Page a-1 Insulator, pin type
  - a. Renewed Technical Acceptance for Newell-PSN, LLC Nov 2017 – Nov 2018
6. Page a-1.1 Insulator, pin type
  - a. Renewed Technical Acceptance for Newell-PSN, LLC Nov 2017 – Nov 2018
7. Page k-1 Insulators, suspension
  - a. Renewed Technical Acceptance for Newell-PSN, LLC Nov 2017 – Nov 2018
8. Page k-1.1 Insulators, suspension
  - a. Renewed Technical Acceptance for Newell-PSN, LLC Nov 2017 – Nov 2018

November 1, 2017

1. Page av-1 – Conductor, ACSR
  - a. Renewed Technical Acceptance for Coreal 11/2017 – 11/2018
2. Page av-5 - Conductor, Service Cable, (Triplex and Quadruplex)
  - a. Renewed Technical Acceptance for Coreal 11/2017 – 11/2018
3. Page av-6 – Conductor, Aluminum Alloy (AAAC)
  - a. Renewed Technical Acceptance for Coreal 11/2017 – 11/2018
4. Page by-1 - Deadend, automatic and formed Type, ACSR
  - a. Renewed Technical Acceptance for MacLean Power Systems 11/2017 – 11/2018
5. Page dt-1 - Deadend, service
  - a. Renewed Technical Acceptance for MacLean Power Systems 11/2017 – 11/2018
6. Page U hv - Cable, Underground, 600 Volt Multi-Conductor Cable
  - a. Renewed Technical Acceptance for Coreal 11/2017 – 11/2018

October 30, 2017

1. Page a-1 Insulators, pin type, porcelain
  - a. Added Peak Demand 10/2017 – 10/2018
    - i. Catalog numbers: PPT-55-2, PPT-55-3, PPT-55-4, PPT-55-5, PPT-55-6
2. Page a(2) Insulators, pint type, polymer
  - a. Added Peak Demand 10/2017 – 10/2018
    - i. Catalog numbers: HPT-55-2, HPT-55-3, HPT-55-4, HPT-55-5, HPT-55-6

October 24, 2017

1. Renewed Technical Acceptance 10/2017 – 10/2018 for: Powerline Hardware on the following pages:
  - a. Page d-1 Washers, Flat, Flat Rolled Steel
  - b. Page u-1 Deadend for galvanized steel or aluminum-clad steel guy strand
  - c. Page w-1 Insulators, guy strain, (Fiber Reinforced Plastic)
  - d. Page ap-2 Clamp, hot line, ACSR with armor rods

September 15, 2017

1. Renewed Technical Acceptance 9/2017 – 9/2018 for: NGK-Locke, Inc. on the following pages:
  - a. k-1 Insulators, suspension
  - b. k-1.1 Insulators, suspension

September 7, 2017

1. Page sd-1 Current Transformers Outdoor Type
  - a. Added Peak Demand Inc.

- i. Catalog numbers: COS-6, COM-6, COV-6, COL-6

#### September 5, 2017

2. Renewed Technical Acceptance 9/2017 – 9/2018 for: Powerline Hardware on the following pages:
  - a. c-1 – Bolt, machine
  - b. n-1 - Bolt, double arming
  - c. o-1 - Bolt, eye, oval
  - d. x-1 – Rod, anchor
  - e. aa – Nut, eye
  - f. ab – Nut, thimble eye
  - g. ai-1 - Rods, Ground, Copper-covered steel rods
  - h. ai-2 - Rods, Ground, hot-dip galvanized
  - i. ai(1) - Rods, Ground, 10-mil

#### July 31, 2017

3. Removed “(Fujian)” from Action Manufacturing listings.

#### July 27, 2017

1. Added Action Manufacturing (Fujian) from 7/2017 – 7/2018
  - a. Page a-1 – Insulator, pin type
    - i. Catalog numbers AMI-552GR, AMI-553GR, AMI-554GR
  - b. Page a-1.1 – Insulator, pin type
    - i. Catalog numbers AMI-561GR, AMI-563GR
  - c. Page k-1– Insulators, suspension
    - i. Catalog numbers AMI-529G, AMI-521G
  - d. Page k-1.1 – Insulators, suspension
    - i. Catalog numbers AMI-523G, AMI-524G
  - e. Page cm-1 – Insulator, Spool
    - i. Catalog numbers AMI-532G, AMI-531G
  - f. Page ea-1 - Insulator and stud, post type, vertical
    - i. Catalog numbers AMI-571G, AMI-571G, AMI-571G, AMI-572G, AMI-573G

#### July 21, 2017

1. Page k-2 Insulators, distribution deadend
  - a. Renewed Technical Acceptance 7/2017 – 7/2018 for: Powerline Hardware (Yikun)
  - b. Renewed Technical Acceptance 7/2017 – 7/2018 for: UAI (Zhejiang Gaoneng Electric Installation Co., Ltd.)

#### July 18, 2017

2. Renewed Technical Acceptance 7/2017 – 7/2018 for: MacLean Power Systems
  - a. Page a-1 Insulators, pin type
  - b. Page k-1 Insulators, suspension
  - c. Page cm-1 Insulators, spool
  - d. Page ea-1 Insulators, post type

#### June 27, 2017

3. Renewed Technical Acceptance 6/2017 – 6/2018 for: Paslode
  - a. Page al-1 Staples, ground wire
4. Renewed Technical Acceptance 6/2017 – 6/2018 for: Mosdorfer NA, Inc.
  - a. Page u-2 Deadend for galvanized steel guy strand
  - b. Page u-3 Deadend for aluminum clad steel guy strand

- c. Page bv-1 Rods, armor
- d. Page dt-1 Deadend, service

June 20, 2017

- 1. Page a-1.1 Insulators, pin type
  - a. Correction: PPC acceptance period May 2017 – **May 2018**

June 16, 2017

- 1. Page y-1 Galvanized Steel Strand
  - a. Renewed Technical Acceptance 6/2017 – **6/2018**
    - i. Handsun Industry General Co. (Priority Wire & Cable, INC)
- 2. Page y-2 Steel Strand, aluminum clad
  - a. Renewed Technical Acceptance 6/2017 – **6/2018**
    - i. Handsun Industry General Co. (Priority Wire & Cable, INC)
- 3. Page ai-1 Rods, Ground, 13-mil
  - a. Renewed Technical Acceptance 6/2017 – **6/2018**
    - i. Handsun Industry General Co. (Priority Wire & Cable, INC)
- 4. Page ai-3 Rods, ground, sectional, 13-mil
  - a. Renewed Technical Acceptance 6/2017 – **6/2018**
    - i. Handsun Industry General Co. (Priority Wire & Cable, INC)
- 5. Page av-1 Conductor, ACSR
  - a. Renewed Technical Acceptance 6/2017 – **6/2018**
    - i. Handsun Industry General Co. (Priority Wire & Cable, INC)
- 6. Page av-4 Conductor, Service (Single conductor)
  - a. Renewed Technical Acceptance 6/2017 – **6/2018**
    - i. Handsun Industry General Co. (Priority Wire & Cable, INC)
- 7. Page av-5 Conductor, Service Cable (Triplex and Quadruplex)
  - a. Renewed Technical Acceptance 6/2017 – **6/2018**
    - i. Handsun Industry General Co. (Priority Wire & Cable, INC)
- 8. Page av-6 Conductor, Aluminum Alloy
  - a. Renewed Technical Acceptance 6/2017 – **6/2018**
    - i. Handsun Industry General Co. (Priority Wire & Cable, INC)
- 9. Page av(5) Conductor, Twisted Pair (T-2 & VR type)
  - a. Renewed Technical Acceptance 6/2017 – **6/2018**
    - i. Handsun Industry General Co. (Priority Wire & Cable, INC)
- 10. Page Uhv-2 Cable, Underground, 600 Volt Cable
  - a. Renewed Technical Acceptance 6/2017 – **6/2018**
    - i. Handsun Industry General Co. (Priority Wire & Cable, INC)

June 14, 2017

- 1. Added Grid Power Products to the following:
  - a. Page b-1 Pin, pole top, steel
    - i. U740Z, U720Z
  - b. Page c-1 Bolt, machine
  - c. Page d-1 Washers, Flat
    - i. U1076, U1079, U1080, U1081, U1086, U1088
  - d. Page f-1 Pin, Crossarm
    - i. U222Z, U3322Z
  - e. Page i-1 Bolt, carriage
  - f. Page n-1 Bolt, double arming
  - g. Page o-1 Bolt, eye, oval

- h. Page q-1 Bolt, double upset
  - i. U2396
- i. Page v-1 Guy Attachment
  - i. U25164, U6500, GA-64
- j. Page v-2 Pole Plates
  - i. PEP88
- k. Page x-1 Rod, anchor
- l. Page aa,ab Nut, eye & Nut, thimble eye
  - i. U1092, U1093, U1126, U6510
- m. Page ao-1 Bolt, strand eye, straight (thimble eye)
- n. Page aw-1 Washer, spring
  - i. U3540, U3541, U177
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- q. Page bo-1 Shackle, anchor
  - i. U2742, UAS35-BNC, UAS50-BNC
- r. Page br-1 Chain Link (End Link)
  - i. CLK-40
- s. Page bs-1 Bolt, single upset
  - i. U2344-1/2
- t. Page ci-1 Clevis, thimble
  - i. CT88, TC40
- u. Page eb-1 Bracket, Pole Top, For Post type Insulators
  - i. PB58, PB58H
- v. Page ek-1 Locknuts
  - i. U8583, U8584
- w. Page ft-1 Y-Clevis Ball
  - i. UYBC30

#### June 13, 2017

- 2. Page z-1 Anchors, expanding and plate
  - a. Added Powerline Hardware (Hobb)
    - i. Catalog numbers: P8135, P8135, P8135, P8135
- 3. Page z-7 Anchors, no wrench screw
  - a. Added Powerline Hardware (Hobb)
    - i. Catalog numbers: P6524, P6526, P6528, P6550

#### May 30, 2017

- 1. Page av-5 Conductor, Service Cable (Triplex and Quadruplex)
  - a. Renewed Interamericana de Cables Venezuela S.A. (ICV, S.A.)
- 2. Page U hv(2) U hv - Cable, Underground, 600 Volt Cable (Alternative Cable Constructions)
  - a. Renewed Interamericana de Cables Venezuela S.A. (ICV, S.A.)
- 3. Page U hv-3 Cable, Underground, 600 Volt Multi-Conductor Cable
  - a. Renewed Interamericana de Cables Venezuela S.A. (ICV, S.A.)

#### May 25, 2017

- 1. Page a-1 Insulators, pin type, porcelain
  - a. Renewed PPC Insulators
- 2. Page a(2) Insulators, pin type, polymer
  - a. Added PPC Insulators
    - i. HDPE 15-C, HDPE 15-F, HDPE 25-F, HDPE 35-F

3. Page ea-1 Insulator and Stud, post type, vertical
  - a. Added PPC Insulators
    - i. Distribution: 5115, 5120, 5127
    - ii. Distribution or Transmission: 5127, 5135, 5145

April 14, 2017

1. Page af-1 Cutouts
  - a. Renewed listing for Powerline Hardware
    - i. Modified voltage ratings from 15, 27 and 36kV to 15, 25, 27 and 36kV for PLH porcelain series.
    - ii. Modified voltage ratings from 15, 27 and 36kV to 15, 24 and 33-36kV for SIL polymer series.
2. Page a-1 Pin Insulators
  - a. Added Mustang Electric Power Products, Inc.
    - i. Catalog numbers PIP553 and PIP554.
3. Page cm-1 Spool Insulators
  - a. Added Mustang Electric Power Products, Inc.
    - i. Catalog numbers SIP531 and SIP531.



TECHNICAL  
LIST OF MATERIALS  
Acceptable for Use on Systems  
of USDA Rural Development  
Electrification Borrowers

United States Department of Agriculture  
Rural Development Utilities Programs  
Electric Programs

Current as of December 14, 2018

DISCLAIMER

*Every effort has been made to ensure the accuracy of this document.  
However, in case of discrepancies, records of Technical Standards  
Committee "A" are the authoritative source.*

## PREFACE

This list supersedes all preceding issues including revisions. Revised sheets reflecting changes in the list will be issued quarterly and should be inserted in order to keep your copy up to date.

The items shown in this publication include material and equipment for transmission and distribution facilities. Items not listed include office equipment, tools and work equipment, items of electric general plant and consumer owned wiring facilities. The listings apply only to new items of material and equipment and not to used items.

In addition to items accepted on a general basis, this list also includes items accepted on a conditional basis. As one of the conditions in the acceptance of an item on a conditional basis, contractors are required to obtain the borrower's concurrence prior to its use.

The inclusion of an item in this list does not indicate that item's manufacturer or its principals have not been debarred, suspended, proposed for debarment, declared ineligible or voluntarily excluded pursuant to Executive Order 12549, Debarment or Suspension, or any rules or regulations issued thereunder, including 7 CFR Part 3017 ("Debarment Regulations"). Therefore, borrowers must comply with the requirements imposed by the Debarment Regulations before entering into any "covered transaction", as defined by 7 CFR Part 3017, involving any item on this list.

The acceptance of an additional item or the deletion of an existing item is a function of the Technical Standards Committees. Any manufacturer desiring to have a new item placed on the list, or any user believing an existing item should be removed from the list, is invited to submit the matter to the Committees. Any communication calling attention to an error or omission in the list, such as a wrong catalog number, an obsolete item, etc., will be appreciated. All communications should be addressed to Technical Standards Committee "A" (Electric), USDA Rural Development Utilities Programs, Stop 1569, Washington, D. C. 20250-1569.

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Hook, ball .....	eh
guy.....	bj
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Oval eye bolt ..... o  
Oval tube splice..... cx  
Overhead ground wire support ..... ed

-P-

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Pipe spacer ..... dl  
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    double arming ..... ct  
    guy..... bk  
    pole bearing ..... fs  
    pole eye..... v  
Pole bearing plate ..... fs  
Pole eye plate ..... v  
Pole gain ..... bi  
Pole ground..... dh  
Pole ground wire ..... cj  
Pole keys..... z  
Pole numbers and letters ..... az  
Pole top pin bracket ..... cs  
Pole top pin, steel..... b  
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Post type insulator and stud..... ea  
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-R-

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Regulators, voltage ..... sc  
Rod, anchor..... x  
Rods, armor ..... bv  
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-S-

Saddle 15rossarm ..... fg  
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    lag..... j  
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Splice for steel strand.....	cz
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Suspension clamp.....	m
Suspension clamp with socket eye .....	ei
Suspension insulator.....	k
Swinging angle bracket.....	fu
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hook operated disconnect.....	sb
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-T-

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Thimble eye bolt, straight.....	ao
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Transformer grounding connector.....	bu
Transformer secondary bracket, insulated.....	fo
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-V-

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Voltage regulators .....	sc
Voltage transformers.....	se



-W-

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Washers ..... d  
Watt-hour meters ..... ga  
Wildlife guards ..... rp  
Wire guard, plastic ..... er  
Wire, guy ..... y  
Wireholder ..... ar  
Wireholder, clevis type ..... bt  
    conduit ..... ds  
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-Y-

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-Z-

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**Technical List  
a-1  
November 2018**

**a – Insulator, pin type**

	<b>ANSI Class:</b>	<u><b>55-2</b></u>	<u><b>55-3</b></u>	<u><b>55-4</b></u>	<u><b>55-5</b></u>	<u><b>55-6</b></u>
<u>Technical Acceptance Period</u>	<u>Manufacturer</u>					
Sept 2018 – Sept 2019	Action Manufacturing	AMI-552GR	AMI-553GR	AMI-554GR	AMI-555GR	-
Oct 2013 – Oct 2014	Ceramica Santa Terezinha S.A. (CST)	-	CST-1180	CST-1181		
Jul 2017 – Jul 2018	MacLean Power Systems	-	DP55-3	DP55-4		
Nov 2018 – Nov 2019	Newell-PSN, LLC	2355520	2355530	2355540		
Nov 2018 – Nov 2019	Newell-PSN, LLC (Mustang Electric Power Products, Inc.)	-	PIP553	PIP554	-	-
Feb 2017 – Feb 2018	Fujian Hoshing Prosper Electrical Porcelain, Co., Ltd.	-	FHP5553G	FHP5554G		
Oct 2017 – Oct 2018	Peak Demand	PPT-55-2	PPT-55-3	PPT-55-4	PPT-55-5	PPT-55-6
Apr 2018 – Apr 2019	Powerline Hardware	P55-2GR	P55-3GR	P55-4GR		
May 2017 – May 2018	PPC Insulators	253-S	261-S	366-S		

<sup>1</sup>Does not have a metal thimble.

<sup>2</sup>ANSI class 55-2, 55-3, and 55-4 pin insulators manufactured at both the Knoxville and Macomb plants are acceptable.

**Technical List  
a-1.1  
November 2018**

**a – Insulator, pin type**

<u>Technical Acceptance Period</u>	<u>Manufacturer</u>	<u>ANSI Class:</u>	<u>56-1</u>	<u>56-3</u>	<u>56-4</u>
Sept 2018 – Sept 2019	Action Manufacturing		AMI-561GR	AMI-563GR	-
Oct 2013 – Oct 2014	Ceramica Santa Terezinha S.A. (CST)		CST-23103	CST-23105	-
Jul 2017 – Jul 2018	MacLean Power Systems		DP56-1	-	-
Nov 2018 – Nov 2019	Newell-PSN, LLC		2365610	2365630	-
Nov 2018 – Nov 2019	Newell-PSN, LLC (Mustang Electric Power Products, Inc.)		PIP561	-	-
Apr 2016 – Apr 2017	Fujian Hoshing Prosper Electrical Porcelain, Co., Ltd.		FHP6561G	-	-
Apr 2018 – Apr 2019	Powerline Hardware		P56-1GR	P56-3GR	P56-4GR
May 2017 – May 2018	PPC Insulators		1027 ST	2045-S	-

<sup>1</sup>Does not have a metal thimble.

<sup>2</sup>ANSI class 55-2, 55-3, and 55-4 pin insulators manufactured at both the Knoxville and Macomb plants are acceptable.

**Technical List  
a-2  
August 2018**

**a – Insulators, pin type (polymer)**

	<b>ANSI Class:</b>	<b><u>55-2</u></b>	<b><u>55-3</u></b>	<b><u>55-4</u></b>	<b><u>55-5</u></b>	<b><u>55-6</u></b>	<b><u>55-7</u></b>
<b><u>Technical Acceptance Period</u></b>	<b><u>Manufacturer</u></b>						
8/2018 – 8/2019	Gamma Corona	-	PPT15CA	PPT15FA	PPT25FA PPT25FB PPT25JA PPT25JB	PPT35FA PPT35JA	PPT35JB
5/2017 – 5/2018	PPC Insulators, Inc.	-	-	HDPE 15F	HDPE 25-F	HDPE 35-F	
10/2017 – 10/2018	Peak Demand	HPT-55-2	HPT-55-3	HPT-55-4	HPT-55-5	HPT-55-6	

**b – Pin, pole top, steel**

DISTRIBUTION

<u>Technical Acceptance Period</u>		12.5/7.2 or 13.2/7.62 kV	24.9/14.4 kV
	Pin length, inches:	20	20
	Thread diameter, inches:	1	1-3/8
	Hole spacing, inches:	8	8
	RUS Specification:	D-3	DT-3
10/2018 – 10/2019	Grid Power Products	U740, U740Z	U720, U720Z
2/2014 – 2/2015	Milano	607	608
4/2018 – 4/2019	Romagnole	R-740	R-720

Pins listed below have 4-1/2" offset which eliminates the use of Item cs

TRANSMISSION

NOTE:

1. Flared type pins may be mounted with either side against the pole.

**Technical List**

**c-1**

**October 2018**

**c – Bolt, machine**

Applicable Specification: ANSI C135.1, “Standards for Galvanized Steel Bolts and Nuts” except that the lengths are in the ranges given below.

Applicable Sizes:	1/2 inch diameter, 6 through 10 inch length
	5/8 inch diameter, 6 through 24 inch length
	3/4 inch diameter, 6 through 26 inch length
	7/8 inch diameter, 6 through 28 inch length

The following manufacturers have shown compliance with the applicable specifications for machine bolts:

**Technical Acceptance Period**

**Manufacturer**

---

5/2018 – 5/2019	Aluma-Form
9/2015 – 9/2016	Cooper Power Systems
10/2018 – 10/2019	Grid Power Products
2/2014 – 2/2015	Milano
4/2018 – 4/2019	Romagnole
9/2018 – 9/2019	Powerline Hardware
6/2018 – 6/2019	Hubbell Power Systems

\*\*Static proof\*\* design available.

**d – Washers, Flat**

Flat Rolled Steel

		2-1/4 x 2-1/4	3 x 3	4 x 4	4 x 4	1-3/8 round	1-3/4 round
	<b>Size, inches:</b>						
	<b>Thickness, in.:</b>	3/16	1/4	3/16	1/2	12 gauge	10 gauge
	<b>Hole Diam., in.:</b>	13/16	13/16	13/16	13/16	9/16	11/16
<b>Technical Acceptance Period</b>	<b>Manufacturer</b>						
3/2015 – 3/2016	Cooper	DF2W5	DF2W7	-	DF1W2	-	-
10/2018 – 10/2019	Grid Power Products	U1076	U1079	U1080	U1081	U1086	U1088
4/2018 – 4/2019	Romagnole	-	R-1079	-	-	-	R-1088
9/2018 – 9/2019	Powerline Hardware	P1076	P1079	P6829	-	P1086	-

Flat Cast

		3 x 3					
	<b>Size, inches:</b>	3 x 3					
	<b>Thickness, in.:</b>	1/4					
	<b>Hole Diam., in.:</b>	13/16					
<b>Technical Acceptance Period</b>	<b>Manufacturer</b>						

Spurred

		3"					
	<b>Size, inches:</b>	3"					
	<b>Thickness, in.:</b>	3/16"					
	<b>Hole Diam., in.:</b>	13/16"					
<b>Technical Acceptance Period</b>	<b>Manufacturer</b>						

(A) Aluminum Alloy

(M) Malleable Iron

(N) Nodular Iron



**d – Washers, Curved**

	<u>Curved Cast</u>			
Size, inches:	2-1/4 x 2-1/4	3 x 3	3 x 4	4 x 4
Thickness, in.:	1/4	5/16	7/16	1/2
Hole Diam., in.:	11/16	11/16	15/16	13/16

(A) Aluminum Alloy (M) Malleable Iron (N) Nodular Iron

	<u>Curved Rolled Steel</u>
Size, inches:	4 x 4 (1)
Thickness, in.:	1/4
Hole Diam., in.:	15/16

**Technical Acceptance  
Period**

2/2014 – 2/2015 Milano 952

Curved Rolled Steel

Sizes, inches:	4 x 4 (1)
Thickness, in.:	1/4
Hole Diam., in.:	15/16

1. To be used only on transmission systems.

**f – Pin, Crossarm**  
(With square washer, nut and MF locknut)

DISTRIBUTION

<u>Technical</u> <u>Acceptance Period</u>		<u>Long Shank</u>		<u>Short Shank</u>	
	Thread (inches diam.)	1	1-3/8	1	1-3/8
	Length above base (in.)	5	7	5	7
	Length below base (in.)	5-3/4	7	1-1/2	1-3/4
	Shank (inches diam.)	5/8	5/8	5/8	3/4
2/2014 – 2/2015	Milano	626	621	972	4045
10/2018 – 10/2019	Grid Power Products	-	U647	U222Z	-
10/2018 - 10/2019	Aluma-Form, Inc.	AF203	AF647	-	-

Clamp Type Pin

<u>Technical</u> <u>Acceptance Period</u>		1	1-3/8
	Thread (inches diam.)		
	Length above base (in.)	5-3/4	7
10/2018 – 10/2019	Grid Power Products	U3322Z	U3324Z
4/2018 – 4/2019	Romagnole	R-14322	R-14322-1
6/2018 – 6/2019	Hubbell Power Systems, Inc.	14322P	14321P

Washer Plate for Clamp Type Pin

These plates are equipped with lugs to prevent slippage of pin along 26rossarm. They may be used to replace the bottom plate on pins already installed.

Technical  
Acceptance Period

**h – Brace, Crossarm, steel**

Wherever item “h” is shown on a construction drawing, use a brace from page cu.

**i – Bolt, carriage**

Applicable Specification: ANSI C135.1, “Standard for Galvanized Steel Bolts and Nuts.”

Applicable Sizes: 3/8 inch diameter, 3 through 6 inch length  
1/2 inch diameter, 3 through 6 inch length

The following manufacturers have shown compliance with the applicable specifications for carriage bolts.

**Technical Acceptance Period**

**Manufacturer**

---

5/2018 – 5/2019  
9/2015 – 9/2016  
10/2018 – 10/2019  
2/2014 – 2/2015  
4/2018 – 4/2019

Aluma-Form  
Cooper Power Systems  
Grid Power Products  
Milano  
Romagnole

**j – Screw, lag**

Applicable Specifications: ANSI C135.3 “Standard for Zinc Coated Ferrous Lag Screws”

Applicable Sizes: ½ inch diameter, 4 inch length  
½ inch diameter, 5 inch length  
5/8 inch diameter, 4 inch length  
5/8 inch diameter, 5 inch length

The following manufacturers have shown compliance with the applicable specifications for lag screws:

**Technical Acceptance Period**

Sept 2015 – Sept 2016

**Manufacturer**

Cooper Power Systems

k – Insulators, suspension

	ANSI Class Type	52-9A Clevis	52-1 Clevis	52-4 Clevis	52-3 Ball & Socket
	Disc Diameter	4-1/4"	6"	9" or 9-1/2"	9" or 9-1/2"
	M & E Rating, lbs.	10,000	10,000	15,000	15,000
	Leakage	6-3/4"	7"	11-1/2"	11-1/2"
	Flashover, kV: Dry	60	60	80	80
	Flashover, kV: Wet	30	30	50	50
	NOTES	(3) (4)	(3) (4)	(5)	(2)

Technical Acceptance Period	Manufacturer	Catalog Number			
Sept 2018 – Sept 2019	Action Manufacturing	AMI-529G	AMI-521G		
Oct 2013 – Oct 2014	Ceramica Santa Terezinha S.A. (CST)	CST-24304	CST-24303	-	-
Sept 2018 – Sept 2019	Lapp Insulator Co, LLC (Dalian Insulator Co., LTD)	-	-	008100-70-D	008200-70-D
Sept 2017 – Sept 2018	NGK-Lock, Inc.	-	-	-	20S840* 20S195*
Nov 2018 – Nov 2019	Newell-PSN, LLC	2325290	2325210	-	-
Feb 2017 – Feb 2018	Fujian Hoshing Prosper Electrical Porcelain, Co., Ltd.	FHP2529A0G	FHP252100G	-	-
Jul 2017 – Jul 2018	MacLean Power Systems	DP52-9A	-	-	-
Apr 2018 – Apr 2019	Powerline Hardware	-	P52-1G	P52-4G	P52-3G
Sept 2018 – Sept 2019	Suzhou Porcelain Insulator Works	24209	24201A	-	-

Notes:

\* zinc sleeve

- (1) Use two for 24.9/14.4 kV deadends.
- (2) To be used only on transmission lines.
- (3) To be used only on distribution lines.
- (4) Use two insulators for 12.5/7.2 kV deadends and three for 24.9/14.4 kV deadends.
- (5) Use two insulators for 24.9/14.4 kV deadends.

**Technical List  
k-1.1  
November 2018**

**k – Insulators, suspension**

	ANSIClass Type	52-3 Ball & Socket	52-4 Clevis	52-5 Ball & Socket	52-6 Clevis
	Disc Diameter	10"	10"	10"	10"
	M & E Rating,lbs.	15,000	15,000	25,000	25,000
	Leakage	11-1/2"	11-1/2"	11"	11"
	Flashover;kV: Dry	80	80	80	80
	Flashover,kV:Wet	50	50	50	50
	NOTES	(2)	(1)	(2)	-

Technical Acceptance Period	Manufacturer	Catalog Number			
Sept 2018 – Sept 2019	Action Manufacturing	AMI-523G	AMI-524G	-	-
Aug 2011 – Aug 2012	Ceramica Santa Terezinha S.A. (CST)	CST-8.02.19.01	CST-8.02.19.04	CST-8.02.28.04	-
Sept 2018 – Sept 2019	Lapp Insulator Co, LLC (Dalian Insulator Co., LTD)	-	-	005960A-70-D	-
Sept 2018 – Sept 2019	Lapp Insulator Co, LLC (NGK Insulators Tangshan Co., Ltd.)	-	-	-	002300-70-K
Nov 2018 – Nov 2019	Newell-PSN, LLC	2325230	2325240	2325250	2325260
Sept 2017 – Sept 2018	NGK-Locke, Inc.	-	20S580	30S255* 30S295*	30S257
Feb 2017 – Feb 2018	Fujian Hoshing Prosper Electrical Porcelain, Co., Ltd.	FHP2523G	FHP2524G	-	-
Apr 2018 – Apr 2019	Powerline Hardware	P52-3G	P52-4G	-	-
Sept 2018 – Sept 2019	Suzhou Porcelain Insulator Works	24203A	24204A	24205A	24206A

**Notes:**

- \* zinc sleeve
- (1) Use two for 24.9/14.4 kV deadends.
- (2) To be used only on transmission lines.
- (3) To be used only on distribution lines.
- (4) Use two insulators for 12.5/7.2 kV deadends and three for 24.9/14.4 kV deadends.
- (5) Use two insulators for 24.9/14.4 kV deadends.

**k – Insulator, polymer distribution deadend**

Technical Acceptance Period	Manufacturer	Catalog Numbers
9/2018 – 9/2019	Powerline Hardware (Yikun)	P8215-S P8225-S P8235-S
11/2015 – 11/2016	Salisbury	9501U-SI (silicone – 15 kV) 9502U-SI (silicone – ANSI DS-28) 9502L-EP (silicone – 25 kV) 9503U-SI (silicone – 35 kV)
7/2017 – 7/2018	UAI (Zhejiang Gaoneng Electric Installation Co., Ltd.)	FXB-15/45(70)CT FXB-25/45(70)CT FXB-36/45(70)CT
11/2018 – 11/2019	Peak Demand	CDI-DS-15 CDI-DS-28 CDI-DS-35

NOTE: When insulators from this page are used, adjust construction drawing material list quantities as necessary. Recommended maximum working load is 5,000 lbs.



**n – Bolt, double arming**

Applicable Specification: ANSI C135.1, “Standard for Galvanized Steel Bolts and Nuts.”

Applicable Sizes: 5/8 inch diameter, 12 inch through 24 inch length  
3/4 inch diameter, 20 inch through 24 inch length

The following manufacturers have shown compliance with the applicable specifications for double arming bolts:

**Technical Acceptance Period**

**Manufacturer**

---

5/2018 – 5/2019	Aluma- Form
9/2015 – 9/2016	Cooper Power Systems
10/2018 – 10/2019	Grid Power Products
2/2014 – 2/2015	Milano
4/2018 – 4/2019	Romagnole
9/2018 – 9/2019	Powerline Hardware

**Technical List**

**o-1**

**October 2018**

**o – Bolt, eye, oval**

Applicable Specification: ANSI C135.4, "Standards for Galvanized Ferrous Eye Bolts and Nuts for Overhead Line Construction."

Applicable Sizes: 5/8 inch diameter, 6 through 20 inch length  
3/4 inch diameter, 8 through 20 inch length

**Technical Acceptance Period**

**Manufacturer**

---

5/2018 – 5/2019	Aluma-Form
9/2018 – 9/2019	Powerline Hardware
10/2018 – 10/2019	Grid Power Products
11/2013 – 11/2014	Hubbell Power Systems (3/4 inch diameter ONLY)
4/2018 – 4/2019	Romagnole
2/2014 – 2/2015	Milano
8/2014 – 8/2015	Cooper Power Systems

**Shoulder Eye Bolt  
for Transmission Structures**

Applicable Sizes: 3/4 inch diameter, 8 inch through 20 inch length

**Technical Acceptance Period**

**Manufacturer**

---

**Catalog Number**

Technical List  
q-1  
October 2018

**q – Bolt, double upset**

Applicable Specification: "RUS Specifications for Single and Double Upset Spool Bolts," D-5

<u>Technical Acceptance</u> <u>Period</u>	Diameter, inches:	5/8	5/8	5/8	5/8
		Length, inches:	<u>7</u>	<u>8</u>	<u>9</u>
10/2018 – 10/2019	Grid Power Products	-	-	-	U2396
4/2018 – 4/2019	Romagnole	-	R-2394	R-2395	R-2396

s – Clevis, secondary swinging

Applicable Specifications: "RUS Specifications for Secondary Swinging Clevises," D-6

Technical Acceptance Period	Manufacturer	Clevis only*	Clevis with 1-3/4" groove spool	Clevis with 3" groove spool
10/2018 – 10/2019	Grid Power Products	U0322	-	-
2/2014 – 2/2015	Milano	253	-	-
9/2014 – 9/2015	Cooper Power Systems	DC4S1	-	-

\*Catalog Number does not include spool. See page cm for spool type insulators.

Technical List  
u-1  
September 2018

**u – Deadend for galvanized steel or  
aluminum-clad steel guy strand**

<u>Technical Acceptance Period</u>	<u>Manufacturer</u>	<u>3-Bolt Guy Clamp</u>	
		<u>Light (1/2" bolts)</u>	<u>Heavy (5/8" bolts)*</u>
9/2018 – 9/2019	Powerline Hardware	P930	P931

\*For use on transmission.

**u – Deadend for galvanized steel guy strand**

<u>Technical Acceptance Period</u>	<u>Strand Size</u>	<u>1/4"</u>	<u>9/32"</u>	<u>5/16"</u>	<u>3/8"</u>	<u>7/16"</u>
			<u>Automatic</u>			
			<u>Formed Type</u>			
<b>10/2018 – 10/2019</b>	<b><u>Mosdorfer NA, Inc.</u></b> For standard guy*	GDE0259	GDE0310	GDE0327	GDE0360	GDE0460
<b>11/2017 – 11/2018</b>	<b><u>MacLean Power Systems</u></b> for standard guy*	DE-S1104	-	DE-S1106	DE-S1107	DE-S1108

\* Class B galvanizing. When guy wire has Class C galvanizing, formed deadend should also have Class C galvanizing.

**Technical List  
u-3  
October 2018**

**u – Deadend for aluminum clad steel guy strand**

<u>Technical Acceptance Period</u>	Strand Size:	3#10 (4M)	7#12 (6M)	7#11 (8M)	7#10 (10M)	7X.110” (11.5M)	7#9 (12.5M)	7X.121” (14M)	7#8 (16M)	7X.148” (20M)
<u>Formed Type Aluminum-Clad Steel Guy Strand</u>										
4/2012 – 4/2013	<u>Hubbell (IBRAP)</u>	-	AWDE4110	AWDE4113	AWDE4116	-	AWDE4119	AWDE4120	AWDE4122	AWDE4126
11/2017 – 11/2018	<u>MacLean Power Systems</u>	-	DE-AC4110	-	DE-AC4116	-	DE-AC4119	-	DE-AC4122	DE-AC4126
10/2018 – 10/2019	Mosdorfer NA, Inc.	AWDE0230	AWDE0247	AWDE0280	AWDE0313	AWDE0336	AWDE0355	AWDE0364	AWDE0394	AWDE0474
10/2011 – 10/2012	<u>Utility Standard (HD Supply, Inc.)</u>	-	-	-	USARWDE4116	-	-	-	-	-

Automatic  
Aluminum-Clad Steel Guy Strand

**v – Guy Attachment**

for 5/8" bolt

	Type:	Formed Strap	Angle Bolt Eye	Guy Hook	Guy Hook*
Technical Acceptance Period	Maximum Working Load Rating:	23,130 N (5200 lbs.)	23,130 N (5200 lbs.)	23,130 N (5200 lbs.)	37,800 N (8500 lbs.)
3/2015 – 3/2016	Cooper Power Systems	-	-		DG21H2
10/2018 – 10/2019	Grid Power Products	U25164	U6500	GA-64	-

\*This hook may be used in place of the wrapped guy arrangement in assemblies E3-2 and E3-3.



v – Pole Plates

Technical Acceptance Period	Maximum Working Load Rating:	Type: Pole Eye Plate 37,800 N. (8500 lbs.)
	<u>(5/8" Bolt)</u>	
3/2015 – 3/2016	Cooper Power Systems	
	<u>(3/4" Bolt)</u>	
3/2015 – 3/2016	Cooper Power Systems	
10/2018 – 10/2019	Grid Power Products	PEP88
6/2018 – 6/2019	Hubbell (Chance)	GEP6

**v – Pole Bands**

<u>Technical Acceptance Period</u>	<u>Type:</u>	<u>Pole Bands</u>
	<u>Maximum Working Load Rating:</u>	<u>10,000 lbs.</u>
3/2015 – 3/2016	Cooper	DG40B1, DG40B2

**Technical List**  
**w-1**  
**December 2018**

**w – Insulators, guy strain**  
(Fiber Reinforced Plastic)

<u>Technical Acceptance Period</u>	<u>Manufacturer</u>	<u>11,000</u>	<u>Ultimate Stregnth (lbs.)</u> <u>15,000</u>	<u>21,000</u>
12/2018 – 12/2019	Powerline Hardware	-	PCC Series	PCE Series

**Technical List**

**x-1**

**October 2018**

**x – Rod, anchor**

Applicable Specification: ANSI C135.2, “Standards for Galvanized Ferrous Strand Eye Anchor Rods”

Applicable Sizes:           Single guy: 5/8 inch diam. 6, 7 and 8 feet long  
  3/4 inch diam. 8, 9 and 10 feet long  
  1 inch diam. 9 and 10 feet long

Double guy: 5/8 inch diam. 7 and 8 feet long  
                  3/4 inch diam. 8, 9 and 10 feet long  
                  1 inch diam. 9 and 10 feet long

Single Guy: Drive: 5/8 inch diam. 7 and 8 feet long  
                  3/4 inch diam. 8, 9 and 10 feet long  
                  1 inch diam. 9 and 10 feet long

Double Guy: Drive: 5/8 inch diam. 7 and 8 feet long  
                  3/4 inch diam. 8, 9 and 10 feet long  
                  1 inch diam. 9 and 10 feet long

The following manufacturers have shown compliance with the applicable specifications. Some manufacturers cannot supply all sizes listed above. Check with manufacturer or distributor for availability.

**Technical Acceptance Period**

**Manufacturer**

10/2018 – 10/2019

4/2018– 4/2019

9/2018 – 9/2019

Grid Power Products

Romagnole

Powerline Hardware

**y – Galvanized Steel Strand**

Usage: Guy, Distribution or Transmission Line  
Overhead Static Wire

ASTM Specification: A 475 – For Guy Strand  
A 363 – For Overhead Static Wire

Following grades/diameters of steel wire strands are preferred sizes:

For Guying

<u>Siemens-Martin</u>	<u>High Strength</u>	<u>Extra High Strength Grade</u>	
<u>Distribution Line</u>	<u>Dist. or Trans.</u>	<u>Distribution</u>	<u>Transmission</u>
1/4" dia.	1/4" dia.	1/4" dia.	1/4" dia.
3/8"	9/32"	9/32"	9/32"
7/16"	5/16"	5/16"	5/16"
	3/8"	3/8"	3/8"
	7/16"		7/16"

For Overhead Static Wire (Groundwire)

<u>High Strength</u>	<u>Extra High Strength Grade</u>
3/8" dia.	5/16" dia.
7/16"	3/8"
	7/16"

**Technical Acceptance Period**

**12/2018 – 12/2019**

**Manufacturer** \_\_\_\_\_

Shanghai Silin Special Equipment Co.,  
Ltd. (Priority Wire & Cable, INC)

Note: The buyer should specify Class A, B, or C coating per ASTM A363 or A475.

**y – Steel Strand**

Aluminum-Clad  
Specifications: ASTM B415 and B416

For overhead groundwire

(Joint and splice requirements for wire and strand to meet ASTM A363)  
AWG Sizes: (a) 7 No. 10, (c) 7 No. 9, (d) 7 No. 8, (e) 7 No. 7 AWG

**Technical Acceptance Period**

<b>6/2017 – 6/2018</b>	Shanghai Silin Special Equipment Co., Ltd. (Priority Wire & Cable, INC)	(a), (c), (d), (e)
<b>12/2013 – 12/2014</b>	Bekaert Xinhua Metal Products Co., Ltd.	(a), (c), (d), (e)
<b>7/2016 – 7/2017</b>	Coppersteel Bimetalicos Ltda.	(a), (c), (d), (e)

For guy strand

(M is rated breaking load in thousand lbs)

M Sizes: 6M (7 No. 12), 8M (7 No. 11), 10M (7 No. 10), 11.5M (7 x 0.110"), 12.5M (7 No. 9), 14M (7 x 0.121"),  
16M (7 No. 8), 18M (7 x 0.139"), 20M (7 x 0.148")

**Technical Acceptance Period**

<b>6/2017 – 6/2018</b>	Shanghai Silin Special Equipment Co., Ltd. (Priority Wire & Cable, INC)	6M, 8M, 10M, 12.5M, 14M, 16M, 20M
<b>12/2013 – 12/2014</b>	Bekaert Xinhua Metal Products Co., Ltd.	6M, 8M, 10M, 12.5M, 14M, 16M, 18M, 20M
<b>7/2016 – 7/2017</b>	Coppersteel Bimetalicos Ltda.	10M, 12.5M, 14M, 16M

z - Anchors, Expanding and Plate

DISTRIBUTION

		6,000	8,000	10,000	12,000
	Designated Maximum holding power-lbs.	6,000	8,000	10,000	12,000
	Min. Area (sq. in.)	90	100	120	135
	Rod Dia. (inch $\frac{3}{4}$ )	$\frac{3}{4}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{3}{4}$
	Rod Length (feet)	7	7	8	-
<u>Technical Acceptance Period</u>	<u>Manufacturer</u>	<u>Type</u>			
8/2018 – 8/2019	Powerline Hardware (Hobb)	8-way	P8135	P8135	P8135

NOTE: Where galvanized anchors are listed, the same anchors un-galvanized (black asphalt coated) are also acceptable.

Technical List  
z-6  
August 2018

z - Anchors, Power-Installed Screw, Distribution

Technical Acceptance Period	Manufacturer	Catalog Number	Rating (lbs.)
8/2018 -8/2019	<u>Powerline Hardware (Hobb)</u>	P6524 P6526 P6528 P6550	(see catalog)



Technical List  
z-7  
August 2018

z - Anchors, No Wrench Screw

Technical Acceptance Period	Manufacturer	Catalog Number	Rating (lbs.)
8/2018 -8/2019	<u>Powerline Hardware (Hobb)</u>	P6524 P6526 P6528 P6550	(see catalog)

Technical List

aa,ab

October 2018

aa – Nut, eye  
ab – Nut, thimble eye

<u>Technical</u> <u>Acceptance Period</u>	Manufacturer	aa			ab	
		Oval eye nut 5/8"	Oval eye nut 3/4"	Thimble Eyelet	Thimble eye nut 5/8"	Thimble eye nut 3/4"
9/2014 – 9/2015	Cooper Power Systems	DG2E3	-	DG6E1	DG1E1	-
10/2018 – 10/2019	Grid Power Products	U1092	U1093	U1126	U6510	-
9/2018 – 9/2019	Powerline Hardware	P1092	P1093	-	P6510	P6511
6/2018 – 6/2019	Hubbell (Chance)	-	6503	-	-	6511
4/2018 – 4/2019	Romagnole	R-1093	R-1092	-	R-12587	-
5/2018 – 5/2019	Aluma-Form, Inc.	AF1092	AF1093	-	-	-

Technical List  
ac-1  
April 2018

**ac - Brace, sidearm diagonal**

<u>Technical Acceptance Period</u>	<u>Manufacturer</u>	<u>1-1/2 inch angle 3/16" x 5'</u>	<u>1-3/4 inch angle 3/16" x 7'</u>
4/2018 – 4/2019	Romagnole	R-6984	-

**Technical List**  
**ae-1**  
**February 2018**

**ae - Surge (lightning) Arrester, Distribution Class**

<u>Technical Acceptance Period</u>	<u>Manufacturer</u>	<u>Type</u>	<u>Ratings, kV</u>	<u>Housing</u>	<u>Duty</u>
			<b><u>SiC Type</u></b>		
			<b><u>MOV Type</u></b>		
<b>2/2018 – 2/2019</b>	Siemens Energy, Inc.	3EK7	9-27	Polymer	Normal
		3EK7	9-27	Polymer	Heavy
		3EK8	3-36	Polymer	Heavy
		3EK8	3-27	Polymer	Riser Pole

**Technical List**  
**ae-2**  
**May 2016**

**ae – Surge Arrester, Substation\***

Technical Acceptance Period	Manufacturer	MOV Type		Accepted Ratings – kV	Housing	Manufacturer's Classification
		Type				
5/2016 – 5/2017	TE Connectivity	PBA		3-192	Polymer	Intermediate
		PAA		3-108	Polymer	Intermediate

\*For instructions concerning application at substations refer to RUS Bulletin 1724E-300, "Design Guide for Rural Substations." In the purchase of arresters, care should be taken to select the type and voltage rating in accordance with the line voltage and the type of construction (grounded or ungrounded).

- (1) Energy ratings based on single impulse ratings.
- (2) Meets Class H energy levels per IEEE Std C62.11™-2012 standard.

**Technical List  
af-1  
August 2018**

**af - Cutouts, Distribution, Open**

<b>Technical Acceptance Period</b>	<b>Manufacturer</b>	<b>Catalog Number</b>	<b>Type</b>	<b>Voltage Rating</b>
<b>5/13/2010 – 5/18/2011</b>	S & C Electric Co.	89021R10	XS	15kV
		89032R10	XS	27kV
<b>11/4/2013 – 11/2014</b>	Hubbell Power Systems, Inc.		C-Polymer	27kV
			C-Polymer (load break)	27kV
<b>8/2018 – 8/2019</b>	Powerline Hardware (Wenzhou Yikun Electric Co., Ltd.)		PLH-Porcelain	15, 25, 27, 36kV
			SIL-Polymer	15, 24, 33-36kV
<b>3/2016 – 3/2017</b>	Utility Solutions, Inc. (Wenzhou Yikun Electric Co., Ltd.)	USCO-001	Porcelain	15kV
		USCO-003	Porcelain	25kV
		USCO-004	Porcelain	25kV
		USCO-005	Polymer	15kV
		USCO-007	Polymer	25kV
		USCO-008	Polymer	25kV

NOTE: The buyer should specify the load rating, voltage rating, interrupting rating and required accessories.

Cutouts used on underground riser poles should be loadbreak type or have hooks for portable load interrupters.

**af – Cutouts, Distribution, Open**  
with Linkbreak Attachment

<b>Technical Acceptance Period</b>	<b>Manufacturer</b>	<b>Type</b>	<b>Voltage Rating</b>
<b>4/2012 – 4/2013</b>	Hubbell Power Systems, Inc.	C-Polymer	27kV

ah – Tie, insulator, formed type

<u>Technical Acceptance Period</u>	<u>Manufacturer</u>	<u>Catalog Number</u>	<u>Type</u>
5/2018 – 5/2019	<u>MacLean Power Systems</u>	DT-AC DWT DST-A ST-A DBST-AC QST-AC SPT	Top Tie-Formed “Armorlock” top tie-formed Double top tie-formed Side tie-formed Double side tie-formed “Quick” spool tie-formed Spool tie-formed

NOTES: All ties should be ordered for the specific conductor size and insulator type.



**ai - Rods, Ground, 13-mil**

Applicable Size: The standard length is 8 feet and catalog numbers listed below are for this length. Longer rods may be required for special conditions.

Copper-covered ground rods are listed with a **13-mil minimum** at any point and a 15-mil average covering of copper. All purchases should specify that a factory certification of the thickness of the copper must accompany the shipment of the rods.

Copper-covered steel rods

<u>Technical Acceptance Period</u>		<u>5/8"</u>	<u>3/4"</u>
9/2018 – 9/2019	Powerline Hardware	PLH 588C	-
1/2018 – 1/2019	Kopell Grounding Systems Pvt., Ltd.	EN 58813	EN 34813
12/2018 – 12/2019	Handsun Industry General Co. (Priority Wire & Cable, INC)	HS58 8-15	HS34 8-15

**ai - Rods, Ground**

Applicable Size: The standard length is 8 feet and catalog numbers listed below are for this length. Longer rods may be required for special conditions.

Hot Dip Galvanized Steel

<u>Technical Acceptance Period</u>	<u>Manufacturer</u>	<u>5/8"</u>	<u>3/4"</u>
4/2018 – 4/2019	Romagnole	R-8578	R-8618
9/2018 – 9/2019	Powerline Hardware	PLH 588G	-

NOTE: The 2007 National Electrical Safety Code requires that the diameter of galvanized ground rods be not less than 0.625 inch. Suppliers should not be providing galvanized ground rods with smaller diameters.

**ai - Rods, ground, sectional, 13-mil**

Galvanized Steel and Copper-Covered Steel

Copper-covered ground rods are listed with a **13-mil minimum** at any point and a 15-mil average covering of copper. All purchases should specify that a factory certification of the thickness of the copper must accompany the shipment of the rods. Rods are copper-covered unless marked galvanized steel.

Sectional Ground Rods

Technical Acceptance Period	Manufacturer	8' long	10' long	Coupling	Driving studs
1/2018 – 1/2019	Kopell Grounding Systems Pvt., Ltd.	EN 58813-SC EN 34813-SC	EN 581013-SC -	ENCO58 ENCO34	ENDS58 ENDS34
12/2018 – 12/2019	Handsun Industry General Co. (Priority Wire & Cable, INC)	HSS58 8-15	HSS34 10-15	-	-
7/2016 – 7/2017	Intelli	IHP834 IHP858 IH834 IH858	IHP1034 IHP1058 IH1034 IH1058	LEH-34-R LEH-58-R	- -

NOTE: The 2007 National Electrical Safety Code requires that the diameter of galvanized ground rods be not less than 0.625 inch. Some suppliers may still be providing ground rods with smaller diameters.

**ai - Rods, Ground, 10-mil**

These copper-covered ground rods are listed with a **10-mil minimum** at any point. They must also be Underwriters Laboratory (UL) listed. All purchases should verify that rods have official UL mark.

Copper-covered steel

<u>Technical Acceptance Period</u>	<u>Manufacturer</u>	<u>5/8" x 8'</u>	<u>3/4" x 8'</u>	<u>5/8" x 10'</u>	<u>3/4" x 10'</u>
1/2018 – 1/2019	Kopell Grounding Systems Pvt., Ltd.	EN588	EN348	EN5810	EN3410
9/2018 – 9/2019	Powerline Hardware	PLH-588C 10MIL	-	-	-

**ai - Rods, ground, sectional, 10-mil**

Galvanized steel and Copper-covered steel

Copper-covered ground rods are listed with a **10-mil minimum** at any point. They must also be Underwriters Laboratory (UL) listed. All purchases should verify that rods have official UL mark. Rods are copper-covered unless marked galvanized steel.

Sectional Ground Rods

Technical Acceptance Period	Manufacturer	Rod				Coupling		Driving studs	
		<u>5/8" x 8'</u>	<u>3/4" x 8'</u>	<u>5/8" x 10'</u>	<u>3/4" x 10'</u>	<u>5/8"</u>	<u>3/4"</u>	<u>5/8"</u>	<u>3/4"</u>
1/2018 – 1/2019	Kopell Grounding Systems Pvt., Ltd.	EN588- SC	EN348- SC	EN5810- SC	ENS3410- SC	ENCO58	ENCO34	ENDS58	ENDS34

NOTE: The diameter of all galvanized ground rods must meet the latest edition of the National Electrical Safety Code (NESC).

Technical List  
aj-1  
March 2010

aj - Clamp, Ground Rod

<u>Technical Acceptance Period</u>	<u>Manufacturer</u>	<u>For 5/8" Copper- Covered Rod</u>	<u>For 3/4" Galv.or Stainless Steel Rod</u>	<u>For 5/8" Galv.or Stainless Steel Rod</u>
3/25/2010 – 3/30/2011	ERICO, Inc.	SP58	-	SP58

\*Includes disposable molds.

**al - Staples, ground wire**

Applicable Specification: ANSI C135.14, "Standards for Staples with Rolled or Slash Points"  
16 gauge Standard 1/2", 15/16" Crown Staples  
18 gauge Standard 3/8" Crown Staples

Technical Acceptance Period

Manufacturer

Jun 2017 – Jun 2018

Paslode

2.50mm Series  
3.15mm Series  
4.50mm Series  
5.00mm Series

**an – Transformers, distribution, Pole type**

Primary Voltage 7.62/13.2 kV

Applicable Specification: IEEE C57.12.90 “Standard Test Code for Liquid-Immersed Transformers”

<u>Technical Acceptance Period</u>	<u>Manufacturer</u>	<u>Type</u>	<u>Primary Bushings</u>	<u>Primary Voltage (kV)</u>	<u>Rating (kVA)</u>
<b>2/2012 – 2/2013</b>	Magnetron, S.A.	conventional	two	13.2/7.6–5 - 500	



**Technical List**

**ao-1**

**October 2018**

**ao - Bolt, strand eye, straight (thimble eye)**

Applicable Specification: ANSI C135.4, "Standards for Galvanized Ferrous Eye Bolts and Nuts for Overhead Line Construction."

Applicable Sizes: 5/8 inch, 6 through 12 inch length 3/4 inch, 8 through 12 inch length

The following manufacturers have shown compliance with the applicable specification:

<b>Technical Acceptance Period</b>	<b>Manufacturer</b>
10/2018 – 10/2019	Grid Power Products
4/2018– 4/2019	Romagnole

**ap – Clamp, hot line**  
 ACSR with armor rods

Clamps listed below have spring action and enclosed thread chambers.

Technical Acceptance Period	Manufacturer	Tap Conductor	Conductor Size				
			477 & 336.4	4/0 & 3/0	2/0	1/0 & 2	4
12/2018 – 12/2019	Powerline Hardware	Aluminum Copper	P1530AGP	P1520AGP P1530AGP	P1520AGP P1530AGP	P1520AGP P1530AGP	P1520AGP P1530AGP

as – Clevis, service swinging

Applicable Specifications“ "RUS Specifications for Service Swinging Clevis"s," D-7

<u>Technical Acceptance Period</u>	<u>Manufacturer</u>	<u>Clevis Only*</u>	<u>Clevis with Wet Process Spool</u>	<u>Clevis with Dry Process Spool</u>
10/2018 – 10/2019	Grid Power Products	U1614	-	-
2/2014 – 2/2015	Milano	257	-	-
9/2014 – 9/2015	Cooper Power Systems	DC7S2	-	-

\*Catalog number does not include spool; for spool insulators see Item cm.

**av – Conductor, ACSR**

Applicable Specification: ASTM Specification B 232

Preferred Sizes:

<u>Distribution</u>	<u>Transmission</u>
4 – 6/1	1/0 – 6/1
4 – 7/1	2/0 – 6/1
2 – 6/1	3/0 – 6/1
2 – 7/1	4/0 – 6/1
1/0 – 6/1	266.8 kcmil – 26/7
2/0 – 6/1	336.4 kcmil – 26/7
3/0 – 6/1	477 kcmil – 26/7
4/0 – 6/1	556.5 kcmil – 26/7
266.8 kcmil 18/1	795 kcmil – 26/7
336.4 kcmil 18/1	954 kcmil – 54/7
477 kcmil 18/1	

NOTE: Larger sizes may be used where the engineer’s study shows they are required.

The following manufacturers have shown compliance with the applicable specifications:

<u>Technical Acceptance Period</u>	<u>Manufacturer</u>
<b>8/2014 – 8/2015</b>	American Furukawa, Inc.
<b>3/2017 – 3/2018</b>	Apar Industries, Ltd.
<b>10/2018 – 10/2019</b>	Coreal
<b>5/2018 – 5/2019</b>	Jiangsu Zhongtian Technology Co., Ltd (ZTT)
<b>12/2018 – 12/2019</b>	Shanghai Silin Special Equipment Co., Ltd. (Priority Wire & Cable, INC)
<b>9/2015 – 9/2016</b>	Sterlite Technologies Limited
<b>4/2016 – 4/2017</b>	Sunni Electric Wire & Cable Co., Ltd.

NOTES:

1. Conductors with 18/1 stranding have different sag characteristics than conductors with 6/1 or 26/7 stranding. This difference in sag characteristics must be taken into consideration in the line design.
2. 266.8 kcmil 26/7, 336.4 kcmil 26/7, and 477 kcmil 26/7 may be used for distribution underbuild on transmission lines.

**Technical List**

**av-2**

**June 2013**

**av - Conductor, copper**

Applicable Specifications: ASTM Specification B1 for hard-drawn solid  
ASTM Specification B8 for hard drawn stranded and soft stranded  
ASTM Specification B3 for soft or annealed solid

Preferred Sizes: Hard-drawn solid - 4 and 6  
Soft or annealed solid - 4 and 6  
Hard-drawn stranded - 2x3, 1/0 x 7, 2/0 x 7  
Soft stranded - 4 and 6

The following manufacturers have shown compliance with the applicable specifications:

**Technical Acceptance Period** Manufacturer

**Technical List**  
**av-4**  
**December 2018**

**av - Conductor, Service**  
(Single conductor)

<b>Technical Acceptance Period</b>	<b>Manufacturer</b>	<b>Aluminum</b>	<b>Copper</b>
<b>12/2018 – 12/2019</b>	Shanghai Silin Special Equipment Co., Ltd. (Priority Wire & Cable, INC)	X	-
<b>4/2016 – 4/2017</b>	Sunni Electric Wire & Cable Co., Ltd.	X	-
<b>9/2018 – 9/2019</b>	Priority Wire & Cable	X	-

Applicable Specification: ICEA S-95-658 / NEMA WC70

Insulation: Cross-linked thermosetting polyethylene or equal.

Conductor: MHD copper or HD (Aluminum 1350) aluminum (Compact or compressed stranded conductor is acceptable.)

Marking: Manufacturer's name and type of insulation shall be clearly shown in durable markings on the surface of the insulation at intervals no greater than 24 inches.

Technical List  
av-5  
December 2018

**av - Conductor, Service Cable**  
(Triplex and Quadruplex)

<b>Technical Acceptance Period</b>	<b>Manufacturer</b>	<b>Aluminum</b>	<b>Copper</b>
10/2018 – 10/2019	Coreal	X	-
6/2018 – 6/2019	Interamericana de Cables Venezuela S.A. (ICV, S.A.)	X	-
12/2018 – 12/2019	Shanghai Silin Special Equipment Co., Ltd. (Priority Wire & Cable, INC)	X	-
4/2016 – 4/2017	Sunni Electric Wire & Cable Co., Ltd.	X	-
11/18/2010 – 11/23/2011	Has Celik ve Halat San.Tic. A.S.	X	-
9/2018 – 9/2019	Priority Wire & Cable	X	-

Applicable Specifications: RUS Specification D-2, Specifications for 600 Volt Neutral-Supported  
Secondary Service Drop Cables.

**av – Conductor, Aluminum Alloy (AAAC)**

Applicable Specification: ASTM Specification B399

Preferred Sizes:

DISTRIBUTION		TRANSMISSION	
6201	ACSR Equiv.	6201	ACSR Equiv.
48,690 cmil – 7 str.*	4	123,300 cmil – 7 str.**	1/0
77,470 cmil – 7 str.*	2	155,400 cmil – 7 str.**	2/0
123,300 cmil – 7 str.	1/0	195,700 cmil – 7 str.**	3/0
155,400 cmil – 7 str.	2/0	246,900 cmil – 7 str.	4/0
195,700 cmil – 7 str.	3/0	312,800 cmil – 19 str.	266,800 cmil
246,900 cmil – 7 str.	4/0	394,500 cmil – 19 str.	336,400 cmil
		559,500 cmil – 19 str.	477,000 cmil
		652,400 cmil – 19 str.	556,500 cmil
		927,200 cmil – 37 str.	795,000 cmil

\*Not recommended for multiphase lines with span lengths exceeding 300 ft.

\*\*Not recommended for suspension type construction.

The following manufacturers have shown compliance with the applicable specifications:

<u>Technical Acceptance Period</u>	<u>Manufacturer</u>	<u>Type</u>
<b>6/2014 – 6/2015</b>	American Furukawa, Inc.	6201
<b>3/2017 – 3/2018</b>	Apar Industries, Ltd.	6201
<b>10/2018 – 10/2019</b>	Coreal	6201
<b>12/2018 – 12/2019</b>	Shanghai Silin Special Equipment Co., Ltd. (Priority Wire & Cable, INC)	6201
<b>9/2015 – 9/2016</b>	Sterlite Technologies Limited	
<b>4/2016 – 4/2017</b>	Sunni Electric Wire & Cable Co., Ltd.	6201



Technical List  
av(1)  
June 2015

av - conductor

Technical Acceptance Period

Manufacturer

Conditions

6/2015 – 6/2016

American Furukawa, Inc.  
ACSS/TW conductors using  
preferred conductor sizes.

1. To obtain experience.
2. Conductor handling and installation shall be in accordance with manufacturer's recommendations.
3. Indicate type of steel core wire and class (if applicable) of coating.

**av – Conductor, Twisted Pair (T-2 & VR type)**

Preferred Conductor Sizes  
(equivalent in diameter to the following ACSR conductors)\*

Transmission Lines

336.4 kcmil - 26/7  
477 kcmil - 26/7  
556.5 kcmil - 26/7  
795 kcmil - 26/7  
954 kcmil - 54/7  
1272 kcmil - 54/19

**T-2 type (ACSR-II)**

Aluminum Conductor Steel Reinforced- Twisted Pair  
ACSR or AAAC (6201)

<u>Technical Acceptance Period</u>	<u>Manufacturer</u>	<u>Conditions</u>
12/2018 – 12/2019	Shanghai Silin Special Equipment Co., Ltd. (Priority Wire & Cable, INC)	1. To obtain experience. 2. Conductor handling and installation shall be in accordance with manufacturer's recommendations. 3. Use accessories recommended by the manufacturer and accepted by RUS

**VR-2 type**

Aluminum Conductor Steel Reinforced- Twisted Pair  
ACSR or AAAC (6201)  
Vibration Damping

<u>Technical Acceptance Period</u>	<u>Manufacturer</u>	<u>Conditions</u>
12/2018 – 12/2019	Shanghai Silin Special Equipment Co., Ltd. (Priority Wire & Cable, INC)	1. To obtain experience. 2. Conductor handling and installation shall be in accordance with manufacturer's recommendations. 3. Use accessories recommended by the manufacturer and accepted by RUS

NOTES:

1. Larger sizes may be used where the engineer's study shows they are required.
2. Conductor diameter should be within 10% of ACSR equivalent diameter size.

**aw – Washer, spring**

Clip  
1/4" x 1-3/4" x 3-1/2"

Technical Acceptance Period	Manufacturer	Bolt Size		
		5/8"	3/4"	7/8"
3/2015 – 3/2016	Cooper Power Systems	DF17W3	DF17W4	-
10/2018 – 10/2019	Grid Power Products	U3540	U3541	-

**Double Coil Lock**

Technical Acceptance Period	Manufacturer	Bolt Size			
		5/8"	3/4"	7/8"	1"
10/2018 – 10/2019	Grid Power Products	U177	-	-	-

**Technical List**  
**ax-1**  
**April 2012**

**ax - Cutout and Arrester, Combination**

Technical Acceptance Period	Nominal System Voltage	For 12.5Y/7.2 kV			For 13.2Y/7.6 kV		For 24.9Y/14.4 kV		
		Cutout Max. Voltage Rating	Application	Cutout Current Rating	Application	Cutout Current Rating	Application	Cutout Current Rating	
		<u>7.8 kV</u>			<u>15 kV</u>			<u>18 kV</u>	
								<u>27 kV</u>	
		1∅ Trans.	1∅ Sect.	3∅ Bank	1∅ Trans.	3∅ Bank	1∅ Trans.	3∅ Bank	
		<u>50*</u>	<u>100</u>	<u>100</u>	<u>50*</u>	<u>100</u>	<u>50*</u>	<u>100</u>	
		Catalog Numbers							
	Manufacturer	Type	Mounting						

<b>4/2012 – 4/2013</b>	Hubbell Power Systems, Inc.	Crossarm	-	-	-	-	-	-	CP7 Series (Polymer)
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Either normal duty or heavy duty distribution class arresters listed on page ae-1 are acceptable for use with these combination units.

\*These cutouts have open links and must not be used where fault currents are high or for sectionalizing.

(L) Indicates loadbreak type is available.

**ba - Bolt, Angle Eye**

Thimble Type

Applicable Specification: ANSI C135.4, "Standards for Galvanized Ferrous Eye Bolts and Nuts for Overhead Line Construction"

Applicable Sizes : 5/8 inch, 6 through 12 inch length  
3/4 inch, 8 through 12 inch length

The following manufacturers have shown compliance with the applicable specifications:

<u>Technical Acceptance Period</u>	<u>Manufacturer</u>
10/2018 – 10/2019	Grid Power Products
4/2018 – 4/2019	Romagnole

Technical List  
bb-1  
April 2018

bb - Brace, sidearm vertical

<u>Technical Acceptance</u> <u>Period</u>	<u>Manufacturer</u>	<u>26" brace 24" bolt-hole spacing</u>	<u>50" brace 24" bolt-hole spacing</u>
4/2018 – 4/2019	Romagnole	-	R-1508

**be - Recloser, vacuum interruption with solid dielectric**

<u>Technical Acceptance Period</u>	<u>Manufacturer</u>
8/2018 – 8/2019	<u>Tavrida</u> Three phase, OSM15 Series*, vacuum interruption, solid dielectric, 630 amps maximum continuous, 16000 amps RMS symmetrical interruption, 15.5 kV maximum for 12.5/7.2 kV.
8/2018 – 8/2019	Three phase, OSM25 Series*, vacuum interruption, solid dielectric, 630 amps maximum continuous, 12500 amps RMS symmetrical interruption, 27 kV maximum for 24.9/14.4 kV.

NOTES:

1. Series trip reclosers with ratings greater than 100 amp for 12.5/7.2 kV application, greater than 200 amp for 24.9/14.4 kV application, and 280 amp for 34.5/19.9 kV application are acceptable only with ground trip device. Shunt trip reclosers without ground trip devices may not be used with trip settings higher than 200 amp for 12.5/7.2 kV application, greater than 400 amp for 24.9/14.4 kV application, and 560 amp for 34.5/19.9 kV application.
2. Reclosers are not acceptable with load current, bushing CT battery chargers.
3. \* These units are compatible with multiple control modules.

**Technical List**  
**bh-1**  
**October 2018**

**bh - Clevis, Service Deadend**

Applicable Specification: "RUS Specification for Service Deadend Clevises," D-8

Technical Acceptance Period	Manufacturer	Clevis Only*	Clevis with dry process spool	Clevis with wet process spool
10/2018 – 10/2019	Grid Power Products	U0313	-	-
2/2014 – 2/2015	Milano	252	-	-
9/2014 – 9/2015	Cooper Power Systems	DC3F1 DC2C1	-	-

\*Catalog number does not include spool; for spool see Page cm.



**Technical List**  
**bj-1**  
**October 2018**

bj - Guy Hook

Applicable Specification: Edison Electric Institute Specification TD-11- 1951, "Specifications for Guy Hooks and Guy Strain Plates."

<u>Technical Acceptance Perod</u>	<u>Manufacturer</u>	<u>Catalog #</u>
10/2018 – 10/2019	Grid Power Products	DGH6X

Technical List  
bo-1  
October 2018

bo - Shackle, anchor

Distribution

<u>Technical Acceptance Period</u>	<u>Manufacturer</u>	<u>20,000 lbs.</u> <u>5/8" Pin</u>
10/2018 – 10/2019	Grid Power Products	U2742

Transmission

<u>Technical Acceptance Period</u>	<u>Manufacturer</u>	30,000 lbs. <u>3/4" bolt</u>	50,000 lbs. <u>7/8" bolt</u>
10/2018 – 10/2019	Grid Power Products	UAS35-BNC	UAS50-BNC

br – Chain Link (End Link)

<u>Technical Acceptance Period</u>	<u>Manufacturer</u>	<u>Catalog Number</u>
10/2018 – 10/2019	Grid Power Products	CLK-40

**Technical List**  
**bs-1**  
**October 2018**

**bs – Bolt, single upset**

Applicable Specifications: "RUS Specifications for Single Upset Spool Bolts," D-5

**Technical Acceptance**

<b><u>Period</u></b>		Diameter, inches:	5/8	5/8	5/8	5/8
		Length, inches:	7	8	9	10
8/2014 – 8/2015	Cooper Power Systems	-	-	-	DC2E4	DC2E5
10/2018 – 10/2019	Grid Power Products	-	-	-	-	U2344-1/2
4/2018 – 4/2019	Romagnole	-	-	R-2342	R-2343	R-2344

Technical List  
bv-1  
October 2018

**bv - Rods, armor**  
(includes standard, double insulator, and tapping rods)

<u>Technical Acceptance Period</u>	<u>MANUFACTUER</u>	<u>CATALOG #</u>
		<u>Aluminum or aluminum alloy rods for use on ACSR</u>
10/2018 – 10/2019	Mosdorfer NA, Inc.	AAR 0309, AAR 0390, AAR 0437, AAR 0846
5/2018 – 5/2019	MacLean Power Systems	AR-A 0.244, AR-A 0.309, AR-A 0.390, AR-A 0.437, AR-A 0.552

Copperweld rods for copper or CWC conductor

Alumoweld rods for aluminum clad steel (Alumoweld)  
overhead ground wire

Technical List  
bx-2  
March 2018

bx - Splice, automatic

Manufacturer	Catalog #	AAC	AAAC	ACSR
Powerline Hardware (Hobb)	PLH-42	#2 - #4	#2 - #4	#2 - #4
	PLH-1020	1/0 - 2/0	1/0 - 2/0	1/0 - 2/0
	PLH-266336	266-336	312.8	336 (18/1), 266 (26/7)
	PLH-397477	397-477	394.5	397-477 (18/1)

by - Deadend, automatic and formed Type

ACSR

<u>Technical Acceptance Period</u>	<u>Manufacturer</u>	<u>Catalog Number</u>
11/2011 – 11/2012	*Utility Standard (HD Supply, Inc.)	USDG 4542
11/2017 – 11/2018	MacLean Power Systems	DG-AC4541, DG-AC4542, DG-AC4544, DG-AC4545, DG-AC4546, DG-AC4547

\*For use on conductors 4/0 and smaller only.

Technical List  
ci-1  
October 2018

ci - Clevis, thimble

<u>Technical Acceptance Period</u>	<u>Manufacturer</u>	<u>Rated Strength</u>		
		<u>20,000 lbs.</u>	<u>40,000 lbs.</u>	<u>50,000 lbs.</u>
10/2018 – 10/2019	Grid Power Products	CT88	TC40	-



Technical List  
da-1  
October 2018

da - Bracket, insulated

<u>Technical Acceptance Period</u>	<u>Manufacturer</u>	<u>Bracket without Insulator</u>	<u>Bracket with 1-3/4" Spool Insulator</u>	<u>Bracket with 3" Spool Insulator</u>
10/2018 – 10/2019	Grid Power Products	U1300	-	-

**eb - Bracket, Pole Top**  
For Post type Insulators

DISTRIBUTION

<u>Technical Acceptance Period</u>	<u>Manufacturer</u>	<u>Catalog No.</u>
10/2018 – 10/2019 6/2018 – 6/2019	Grid Power Products Hubbell (Chance) (14.4 or 7.2 kV)	PB58 1B3

TRANSMISSION

<u>Technical Acceptance Period</u>	<u>Manufacturer</u>	<u>Catalog No.</u>
10/2018 – 10/2019	Grid Power Products	PB58H

Technical List  
cm-1  
November 2018

cm – Insulator, Spool

	Type:	<u>Secondary</u> <u>(Wet Process)</u>		<u>Service</u>	
				<u>Wet Process</u>	<u>Dry Process</u>
	Groove Diameter:	<u>1-3/4"</u>	<u>3"</u>	<u>1-3/8"</u>	<u>1-3/8"</u>
	ANSI Class:	53-2	53-4	53-1	NA
<b><u>Technical Acceptance</u></b>					
<b><u>Period</u></b>					
Sept 2018 – Sept 2019	Action Manufacturing	AMI-532G	AMI-534G	AMI-531G	-
Oct 2013 – Oct 2014	Ceramica Santa Terezinha S.A. (CST)	CST-1108	-	CST-1101	-
Jul 2017 – Jul 2018	MacLean Power Systems	DP53-2	-	DP53-1	-
Nov 2018 – Nov 2019	Newell-PSN, LLC (Mustang Electric Power Products, Inc.)	SIP532/2335320	-	SIP531/2335310	-
Feb 2017 – Feb 2018	Fujian Hoshing Prosper Electrical Porcelain, Co., Ltd.	FHP3532G	-	FHP3531G	-
Apr 2018 – Apr 2019	Powerline Hardware	P53-2G	P53-4G	P53-1G	-
Dec 2013 – Dec 2014	PPC Insulators	5101	5119	5112	-

Technical List  
cs-1  
October 2018

**cs - Bracket, Pole Top Pin**

For Transmission and 24.9/14.4 kV Distribution

Applicable Specifications: "RUS Specifications for Pole Top Brackets for Channel Type Pins," D-14

<u>Technical Acceptance Period</u>	<u>Manufacturer</u>	<u>Catalog Number</u>
4/2018 – 4/2019	Romagnole	R-2157
10/2018 – 10/2019	Grid Power Products	U2157

Technical List  
 cu-1  
 June 2018

**cu – Brace, crossarm, 26-inch (side-mounted)**

<u>Technical Acceptance Period</u>	<u>Manufacturer</u>	Douglas Fir or Southern Yellow Pine	Apitong	Fiber Reinforced Plastic
Jun 2018 – Jun 2019	Hubbell Power Systems		CAF626	-

Note: Braces listed above have 26-inch hole spacing. They are to be used in place of the flat steel braces previously listed on page h.

**cu – Brace, crossarm, 60-inch (underarm)**

<u>Technical Acceptance Period</u>	<u>Manufacturer</u>	Span, inches:	60	60
		Drop, inches:	18	30
Jun 2018 – Jun 2019	Hubbell Power Systems		CRA6018	CRA6030
Mar 2016 – Mar 2017	MacLean Power Systems		CRBR-35*	-

\*Denotes Fiber Reinforced Plastic, all others are wood.

**dt - Deadend, service**

For deadending triplex type service cable, Drawing K2.2.

Technical Acceptance Period	Manufacturer	ACSR Size	Catalog Number	
			Wedge Type	Formed Type
11/2015 – 11/2016	Hubbell (Fargo)	#6 - #2	SW7195	-
		#4 - 1/0	SW7187	-
		2/0 - 4/0	SW7197	-
11/2017 – 11/2018	MacLean Power Systems	6	-	HSG-4500
		4	-	HSG-4502
		2	-	HSG-4504
		1/0	-	HSG-4506
		2/0	-	HSG-4507
		4/0	-	HSG-4509
10/2018 – 10/2019	Mosdorfer NA, Inc.	4	-	SG 0257
		2	-	SG 0325
		1/0	-	SG 0400
		2/0	-	SG 0450
		3/0	-	SG 0510
		4/0	-	SG 0580

**du - Link, Extension**

DISTRIBUTION

Manufacturer   Catalog Number

TRANSMISSION

(25,000 lbs. min. strength)

Manufacturer                      Catalog Number  
Preformed Line Products        LCE-66-14

Guy Extension Link  
(For "H" Structure)

Manufacturer    One Guy Attachment    Two Guy Attachment

NOTE: The distribution extension links may be substituted for anchor shackle (Item bo), eye bolt (Item o) and eye nut (Item aa) for both small and large conductor drawings shown in RUS Form 803 and RUS Bulletin 50-3 at the option of the owner.

**Technical List  
du(1)**

**du - Connecting Links for Pole Bands**

Conditions - To obtain experience.in conjunction with pole bands [Item fv(1)]

For Use With Medium Duty Pole Bands

<u>Manufacturer</u>	<u>Link to Insulators</u>	<u>Size</u>	<u>Minimum Strength Rating</u>
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Link to Guy

For Use With Heavy Duty Pole bands

<u>Manufacturer</u>	<u>Link to Insulators</u>	<u>Size</u>	<u>Minimum Strength Rating</u>
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Link to Guy



**Technical List**  
**dy-1**  
**April 2018**

**dy - Bolt, eye, double arming**

Applicable Specification: ANSI C135.4, "Standards for Galvanized Ferrous Eye Bolts and Nuts for Overhead Line Construction."

Applicable Sizes            5/8 inch, 14 through 26 inch length  
                                     3/4 inch, 14 through 26 inch length

The following manufacturers have shown compliance with the applicable specifications:

<u>Technical Acceptance Period</u>	<u>Manufacturer</u>
4/2018 – 4/2019	Romagnole

ea - Insulator and stud, post type, vertical

		<u>DISTRIBUTION (RUS Minimum Requirements)</u>				
		System voltage, kV:	12.5/7.2	12.5/7.2	24.9/14.4	
		Leakage, inches:	7-1/2	10	15	
		Cantilever strength (pounds):	1875	1875	1875	
		Flashover, dry, kV:	65	70	95	
		Flashover, wet, kV:	40	50	65	
<u>Technical Acceptance Period</u>						
Sept 2018 – Sept 2019	Action Manufacturing	AMI-571G	AMI-571G	AMI-571G		
Jul 2017 – Jul 2018	<u>MacLean Power Systems</u>	DP57-1	DP57-1	DP57C-02 DP57F-04		
Feb 2017 – Feb 2018	<u>Fujian Hoshing Prosper Electrical Porcelain, Co., Ltd.</u>	FHP7571MG FHP7571NG	FHP7571G FHP7571QG	FHP7571GG FHP7571PG		
Nov 2018 – Nov 2019	<u>Newell-PSN, LLC (Mustang Electric Products, Inc.)</u>	-	-	LPP071C LPP071F		
Apr 2018 – Apr 2019	<u>Powerline Hardware</u>	P57-1G	P57-1G	-		
May 2017 – May 2018	<u>PPC Insulators</u>	5115	5120	5127		
		<u>DISTRIBUTION or TRANSMISSION</u>				
		ANSI Class:	57-1	57-2	57-3	57-4
		System voltage, kV:	15	22	34.5	46
<u>Technical Acceptance Period</u>						
Sept 2018 – Sept 2019	Action Manufacturing	-	AMI-572G	AMI-573G	-	
Oct 2013 – Oct 2014	<u>Ceramica Santa Terezinha S.A. (CST)</u>					
Oct 2013 – Oct 2014	7" Stud		CST-10602-L	-	-	
Oct 2013 – Oct 2014	1-3/4" Stud without stud		CST-10602-S -	- CST-10603	- -	
Jul 2017 – Jul 2018	<u>MacLean Power Systems</u> (without stud)		DP57-2	-	-	
Feb 2017 – Feb 2018	<u>Fujian Hoshing Prosper Electrical Porcelain, Co., Ltd.</u> without stud		FHP7572G	FHP7573G	-	
May 2017 – May 2018	<u>PPC Insulators</u>	5127	5135	5145	-	
Apr 2018 – Apr 2019	<u>Powerline Hardware</u>		P57-2G	P57-3G	P57-4G	
Sept 2018 – Sept 2019	<u>Suzhou Porcelain Insulator Works</u>		28712N	28779N	28784N	

ea - Insulators, horizontal post type

<u>Manufacturer</u>	<u>34.5 kV</u>	<u>69 kV</u>	<u>115 kV</u>
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**Technical List  
ea(1)**

**ea - Insulator, post type**

<u>Manufacturer</u>	<u>Conditions</u>
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**Technical List  
ea(2)**

**ea - Insulator, post type  
(Polymer)**

Manufacturer

Conditions

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**Technical List**  
**ea(3)**

<b>ea - Insulators, horizontal post type</b> (polymer for wood and fiberglass transmission poles) (clamp end fittings and curved bases for use for round poles)							
Voltage:	34.5 kV	46 kV	69 kV	115 kV	138 kV	138 kV	
ANSI Class:	51-34	51-35	51-36	250-54	250-60	250-66	
Rated SCL (lbs.):	2400	2400	2400	2650	2300	2000	
Manufacturer							Conditions

\* Notes :

1. Flat base for use with flat surface poles
2. Universal base for flat as well as curved poles
3. Two hole blade end fitting available.

<b>ea - Insulators, horizontal post type</b> (polymer for steel and concrete transmission poles)				
Voltage:	115 kV	138 kV	138 kV	
ANSI Class:	250-60	250-66	250-75	
Manufacturer				Conditions

Technical List  
ek-1  
October 2018

ek - Locknuts

MF Type

For Bolt Diam., in.:    3/8    1/2    5/8    3/4    7/8

**Technical Acceptance**  
Period

**Manufacturer**

9/2015 – 9/2016	Cooper Power Systems	-	-	DF3N4	DF3N6	-
10/2018 – 10/2019	Grid Power Products	-	-	U8583	U8584	-
4/2018 – 4/2019	Romagnole	-	-	R-8583	-	-

**Technical List**  
**el-1**  
**August 2018**

**el - Sectionalizer**

Technical Acceptance Period	Manufacturer
8/2018 – 8/2019	<u>Tavrida</u> Sectionalizer, three-phase, OSM15 Series* and OSM25 Series*, 15 and 27 kV, 630 amps max.

NOTES: \* These units are compatible with multiple control modules.



**fc - Capacitors, Shunt**

Manufacturer	Size	12470/7200 Volts		
		1 Bushing	2 Bushing	3 Bushing
Shreem Electric	50 kvar	SE7200501B	SE7200502B	-
	100 kvar	SE7201001B	SE7201002B	-
	150 kvar	SE7201501B	SE7201502B	-
	200 kvar	SE7202001B	SE7201502B	-
	300 kvar	SE7203001B	SE7203002B	-
	400 kvar	SE7204001B	SE7204002B	-
	500 kvar	SE7205001B	SE7205002B	-

Manufacturer	Size	24900/14400 Volts		
		1 Bushing	2 Bushing	3 Bushing
Shreem Electric	50 kvar	SE1440501B	SE1440502B	-
	100 kvar	SE1441001B	SE1441002B	-
	150 kvar	SE1441501B	SE1441502B	-
	200 kvar	SE1442001B	SE1442002B	-
	300 kvar	SE1443001B	SE1443002B	-
	400 kvar	SE1444001B	SE1444002B	-
	500 kvar	SE1445001B	SE1445002B	-

ft - Y-Clevis Ball

Technical Acceptance Period	Manufacturer	Catalog Number
10/2018 – 10/2019	Grid Power Products	UYBC30

**gj - Crossarm Assemblies**

Braceless, wood

<u>Technical Acceptance Period</u>	<u>Manufacturer</u>	<u>Dimensions</u>
6/2018 – 6/2019	<u>Hubbell Power Systems</u> CHDDEA86EBREA	4-1/4" x 5-1/2" x 8'-0"

Technical List  
go  
July 2015

go - Fault Indicator, overhead

Technical Acceptance Period	Manufacturer	Type
7/2015 – 7/2016	Smart Grid Solutions	FI-3A

Technical List  
rp-1  
January 2016

**rp - Wildlife Guards**  
Bushings and Live Parts Covers

<u>Technical Acceptance Period</u>	<u>Manufacturer</u>	<u>Catalog Number</u>
1/2016 – 1/2017	<u>Salisbury</u>	38-25SCS, 38-50SCS, 50-50SCS, 58-25SCS, 58-50SCS, 34-25SCS, 34-50SCS, 100-25SCS, 125-25SCS

NOTE: The material composition of these items does not contain a flame-retardant unless specified by the manufacturer.

**Technical List**  
**sb**  
**February 2011**

**sb - Switch, disconnect (single-pole, hook-operated station class)**

NEMA standard switches for station or line  
structure use where single-pole switching is permissible

<u>Technical Acceptance Period</u>	<u>Manufacturer</u>	<u>Type</u>	<u>Voltage Ratings</u>	<u>System Voltages Line-to-Line</u>
2/9/2011 – 2/9/2012	Turner Electric	THS(PL)	15 thru 27 kV	12.5, 13.2, 24.9 kV

(L) Means solid material load interrupters are available and accepted.

(LV) Means vacuum interrupters are available and accepted.

\* With steel base only.

(PL) Means hooks for portable load interrupters are available for voltages 34.5 kV and below. Consult switch manufacturer concerning loop switching applications at higher voltages.

**Technical List**  
**sd-1**  
**September 2017**

sd - Current Transformers  
Outdoor Type

<u>Technical Acceptance Period</u>	<u>Manufacturer</u>	<u>600 V</u>	<u>15 kV</u>	<u>25 kV</u>	<u>34.5 kV</u>	<u>69 kV</u>
9/2017 – 9/2018	Peak Demand Inc.	COS-6 COM-6 COV-6 COL-6				

NOTE: The transformer types listed above are accepted in all standard ratios. Insulation class, voltages, ratios and other necessary information should be specified when ordering.

Technical List  
U ae  
August 2014

**U ae - Arresters, Surge**  
(For Underground System Pole Risers)

MOV Type

<u>Technical Acceptance Period</u>	<u>Manufacturer</u>	<u>Type</u>	<u>Accepted Ratings - kV</u>	<u>Duty</u>	<u>Manufacturer' Classification</u>	<u>Housing</u>
8/2014 – 8/2015	Siemens Energy, Inc.	3EK7	9,10,18,27	Heavy	Riser pole	Polymer



U gk - Terminations, Indoor

(When ordering specify conductor size, type, whether  
copper or aluminum and insulation diameter)

<u>Technical Acceptance Period</u>	<u>Manufacturer</u>	<u>Catalog No.</u>
		<u>PREMOLDED</u>
		<u>HEAT SHRINK</u>
		<u>COLD SHRINK</u>
11/2018 – 11/2019	<u>TE Connectivity - Energy</u>	CSTI-xxxJ Series (15, 25, 35 kV) CSTI-xxxG (with grounding kit) Series (15, 25, 35 kV)
		<u>INSULATED WRAP</u>

U gk - Terminations, outdoor  
 (with mounting hardware)\*

(When ordering, specify conductor size, type, whether  
 copper or aluminum, insulation diameter, and type of  
 mounting desired)

Technical Acceptance Period	Manufacturer	Catalog Number
		<u>POLYMER</u> <u>PREMOLDED</u>
		<u>HEAT SHRINK</u>
		<u>COLD SHRINK</u>
11/2018 – 11/2019	<u>TE Connectivity - Energy</u>	CSTO-xxxJ Series (15, 25, 35 kV) CSTO-xxxG (with grounding kit) Series (15, 25, 35 kV)
		<u>PORCELAIN</u>

\*Mounting Hardware is used to attach termination to mounting bracket (U hd or U hj).  
 NOTE: Some of the above terminators may require ordering the mounting hardware separately.

**Technical List**  
**U go**  
**July 2015**

**U go - Fault Indicator, underground**  
(For Construction Unit UM 6-4)

<u>Technical Acceptance Period</u>	<u>Manufacturer</u>	<u>Type</u>
7/2015 – 7/2016	Smart Grid Solutions	FI-3C

Note: Fault indicators that require the drilling or cutting to the enclosure for mounting is not acceptable.

Technical List  
U hc-1  
March 2015

**U hc - Cable Supports**  
15 and 25 kV

<u>Technical Acceptance Period</u>	<u>Manufacturer</u>	<u>Catalog Number</u>	<u>Grip Dia. Range (inches)</u>
3/2015 – 3/2016	Slingco Amreica, Inc.	ZCS1893	0.50 - 0.63
		ZCS1894	0.63 - 0.75
		ZCS1895	0.75 - 1.00
		ZCS1896	1.00 - 1.25
		ZCS1897	1.25 - 1.50
		ZCS1898	1.50 - 1.75
		ZCS1899	1.75 - 2.00

**U hv - Cable, Underground**  
15 kV, 25 kV and 35 kV Cable

(Alternative Insulation Compound)

Applicable Specification: RUS Specification U-1  
Conductor (15 kV): Copper or Aluminum - #2 AWG through 1000 kcmil  
Conductor (25 kV): Copper or Aluminum - #1 AWG through 1000 kcmil

Insulation: Tree-retardant Crosslinked Polyethylene (XLP-TR)  
(I) indicates Pirelli IE.7100 XLP-TR  
(II) indicates AT Plastic PowerGuard 320TR  
(III) indicates Union Carbide HFDB-4202  
(IV) indicates Nova Borealis LE 4212  
(V) indicates Dow HFDB 8202  
(VI) indicates Dow Endurance™ HFDC 4202 EC

Ethylene Propylene Rubber  
(VII) indicates Electric Cable Compounds (ECC), Inc. ERI-3728-5

Neutral: Copper Concentric Neutral  
Jacket: High Molecular Weight Polyethylene

<u>Manufacturer</u>	<u>Insulation(s)</u>	<u>Flat Strap Neutral Available</u>
American Furukawa	XLP-TR (VI)	No

**U hv - Cable, Underground**

600 Volt Cable

Applicable Specification: RUS Specification U-2

Conductor: Copper, #4 AWG and larger; Aluminum, #2 AWG and larger

Insulation: Cross-Linked polyethylene (XLPE)

<u>Technical Acceptance Period</u>	<u>Manufacturer</u>	<u>Type Conductor</u>
7/2018 – 7/2019	Changfeng Wire & Cable Co., Ltd.	Aluminum
3/2018 – 3/2019	Electrocables	Aluminum
1/2016 – 1/2017	Joy Sense	Aluminum
12/2018 – 12/2019	Shanghai Silin Special Equipment Co., LTD. (Priority Wire & Cable, INC)	Copper & Aluminum
4/2016 – 4/2017	Sunni Electric Wire & Cable Co., Ltd.	Aluminum

NOTES: The manufacturers shown above have indicated that their 600 volt cable is suitable for use on 480 volt corner grounded delta circuits.

The above cable may be supplied with UL label for Type USE.

**U hv - Cable, Underground**

600 Volt Cable

(Alternative Cable Constructions)

Applicable Specification: RUS Specification U-2 (except as indicated below)

NOTE: Manufacturers listed below are accepted for alternatives A, B, C, D and/or E for the products listed on pages U hv-2 and U hv-3.

Alternative A: 8000 series aluminum alloy in accordance with ASTM B800 or B801.

Alternative B: Stranding in accordance with ASTM B786 for aluminum 1350 conductors or ASTM B787 for copper conductors.

Alternative C: Abuse resistant (ruggedized) (single or two layer) insulation in accordance with ICEA S-81-570.

Alternative D: Self-healing

Alternative E: Stranding in accordance with ASTM B 901 for Compressed Round Stranded Aluminum Conductors Using Single Input Wire Construction

<u>Technical Acceptance Period</u>	<u>Manufacturer</u>	<u>Alternative</u>
6/2018 – 6/2019	Interamericana de Cables Venezuela, S.A. (ICV)	(A)

**U hv - Cable, Underground**

600 Volt Multi-Conductor Cable

Applicable Specification: RUS Specification U-2  
Conductor: Copper, #4 AWG and larger; Aluminum, #2 AWG and larger

Insulation: Cross-Linked polyethylene (XLPE)  
Cable Configuration: 3 Insulated Conductors Triplexed

<u>Technical Acceptance Period</u>	<u>Manufacturer</u>	<u>Type Conductor</u>
10/2018 – 10/2019	Coreal	Aluminum
3/2018 – 3/2019	Electrocables	Aluminum
6/2018 – 6/2019	Interamericana de Cables Venezuela S.A. (ICV, S.A.)	Copper or Aluminum
1/2016 – 1/2017	Joy Sense	Aluminum
4/2016 – 4/2017	Sunni Electric Wire & Cable Co., Ltd.	Aluminum

The above cable may be supplied with UL label for Type USE.