

Changes to the Technical List of Materials

April 26, 2021

1. Pages a-1, a-1.1, k-1, k-1.1, cm-1, ea-1
 - a. Renewed Technical Acceptance for Newell-PSN (April 2021 – April 2022)

March 22, 2021

1. Pages av-4, av-5, Uhv-2, Uhv-3
 - a. Added World Lighting Cable Co, Ltd. (Priority Wire & Cable, INC) (3/2021 – 3/2022)
 - b. Corrected: page Uhv-3 to include Shanghai Silin Special Equipment Co., LTD. (Priority Wire & Cable, INC), which was omitted in previous versions.

March 8, 2021

1. Pages a-1, a-1.1, a-2, cm-1, ea-1
 - a. Renewed Technical Acceptance for PPC Insulators (3/2021 – 3/2022).
 - b. Revised PPC catalog number for ANSI Class 57-1 (15kV) from 5127 to 5125 on page ea-1.
 - c. Removed PPC polymer pin insulators on page a-2: HDPE 15F, HDPE 25-F, HDPE 35-F.
 - d. Removed footnotes on pages a-1, a-1.1, as neither applies to any manufacturer listed on both pages.

January 27, 2021

1. Pages w-1, aj-1, ap-2
 - a. Renewed Technical Acceptance for Powerline Hardware (1/2021 – 1/2022).

January 15, 2021

1. Pages av-1, av-5, av-6, Uhv-3
 - a. Renewed Technical Acceptance for Coreal (1/2021 – 1/2022)

January 8, 2021

1. Pages b-1, c-1, d-1, f-1, i-1, l-2, n-1, o-1, q-1, s-1, u-2, v-1, v-2, x-1, aa, ab, ao-1, as-1, aw-1, ba-1, bh-1, bj-1, bo-1, br-1, bs-1, ci-1, cs-1, cz-1, da-1, eb-1, ek-1, ft-1.
 - a. Renewed Technical Acceptance for Grid Power Products (1/2021 – 1/2022)

December 22, 2020

1. Page k-2
 - a. Renewed Technical Acceptance for Powerline Hardware (Yikun) (12/2020 – 12/2021)

December 18, 2020

1. Pages c-1; d-1; n-1; o-1; u-1; x-1; z-1,6,7; aa; ab; ai-1,2,(1)
 - a. Renewed Technical Acceptance for Powerline Hardware (Hobb) (12/2020 – 12/2021).

December 16, 2020

1. Pages f-1, v-2, aa,ab, cu-1, gj-1
 - a. Renewed Technical Acceptance for Hubbell (12/2020 – 12/2021)

December 15, 2020

1. Pages al-1
 - a. Renewed Technical Acceptance for Paslode (12/2020 – 12/2021).

December 11, 2020

1. Page ap

- a. Added Connector Manufacturing Co., LLC (12/2020 – 12/2021)
 - i. Catalog numbers: HLA2/0, HLA2/0T, HLA400, HLA400T, HLB2/0, HLB2/0T, HLB2/0LD, HLB2/0LDT, HLB400, HLB400T

December 8, 2020

- 1. Page k-2
 - a. Added TE Connectivity (12/2020 – 12/2021)
 - i. Catalog numbers: TE-DS15-CT-11, TE-DS28-CT-11, TE-DS35-CT-11, TE-DS46-CT-11, TE-DS69-CT-11
- 2. Page ea-4
 - a. Added TE Connectivity (12/2020 – 12/2021)
 - i. Catalog numbers: TE-LP15-FS1-01, TE-LP25-FS1-01, TE-LP35-FS1-01, TE-LP15-CS1-01, TE-LP25-CS1-01, TE-LP35-CS1-01

November 2, 2020

- 1. Page aj-1
 - a. Added TE Connectivity (11/2020 – 11/2021)
 - i. Catalog numbers: TGRL58

October 23, 2020

- 1. Page p-8
 - a. Added TE Connectivity (Raychem RPG) (11/2020 – 11/2021)
 - i. Catalog Numbers: TCU, TAH

July 17, 2020

- 1. Renewed Technical Acceptance for ICV (7/2020 – 7/2021)
 - a. Pages av-5, Uhv-2, Uhv-3

June 30, 2020

- 1. Renewed Technical Acceptance for Powerline Hardware (6/2020 – 6/2021)
 - a. Pages a-1, a1.1, k-1, k-1.1, af-1, cm-1, ea-1

June 17, 2020

- 1. Renewed Technical Acceptance for MacLean Power Systems (6/2020 – 6/2021)
 - a. Pages u-2; u-3; ah-1; by-1; dt-1

June 9, 2020

- 1. Renewed Technical Acceptance for Kopell Grounding Systems Pvt., Ltd. (6/2020 – 6/2021)
 - a. Pages ai-1; ai-3; ai(1); ai(3)

June 1, 2020

- 1. Added Has Celik (6/2020 – 6/2021)
 - a. Page y-1

May 19, 2020

- 1. Renewed Technical Acceptance for Apar Industries (5/2020 – 5/2021)
 - a. Pages a-1; a-6

May 13, 2020

- 1. Renewed Technical Acceptance for Newell-PSN (5/2020 – 5/2021)
 - a. Pages a-1; a-1.1; k-1; cm-1; ea-1

April 29, 2020

1. Renewed Technical Acceptance for Romagnole (4/2020 – 4/2021)
 - a. Pages b-1, c-1, d-1, f-1, i-1, n-1, o-1, q-1, x-1, aa, ab, ac-1, ai-2, ao-1, ba-1, bb-1, bs-1, cs-1, dy-1, ek-1

April 7, 2020

1. Renewed Technical Acceptance for Aluma-Form (4/2020 – 4/2021)
 - a. Pages c-1, f-1, i-1, o-1, aa;ab, dy-1

April 2, 2020

1. Renewed Technical Acceptance for Intelli and Coppersteel Bimetalicos Ltda. (4/2020 – 4/2021)
 - a. Pages ai-3, y-2

March 24, 2020

1. Granted Technical Acceptance to TE Connectivity (3/2020 – 3/2021)
 - a. Pages ai-1, ai-3

March 19, 2020

1. Renewed PPC Insulators (Mar 2020 – Mar 2021)
 - a. Pages a-1, a-1.1, a-2, cm-1, ea-1
 - b. Correction on page ea-1: Revised “5127” to “5125” in the ANSI 57-1 column.

March 16, 2020

1. Renewed Technical Acceptance for Powerline Hardware (Hobb International) (Mar 2020 – Mar 2021)
 - a. Pages w-1, ap-2
2. Renewed Technical Acceptance for Priority Wire & Cable (Mar 2020 – Mar 2021)
 - a. Shanghai SiLin
 - i. Pages y-1, y-2, av-1, av-4, av-5, av-6, av(5), U hv-2
 - b. Handsun
 - i. Pages ai-1, ai-3

March 10, 2020

1. Renewed Technical Acceptance for Fujian and Suzhou (Mar 2020 – Mar 2021)
 - a. Pages a-1, a-1.1, k-1, k-1.1, cm-1, ea-1

February 10, 2020

1. Updated all references of “U-1” to “7 CFR 1728.204”.
 - a. Page U hv-1.

January 9, 2020

1. Correction to Page aj-1
 - a. Powerline Hardware clamp P 58 is also suitable for copper covered ground rods.

January 8, 2020

1. Page aj-1 Ground Rod Clamp
 - a. Added Powerline Hardware (1/2020 – 1/2021)
 - i. Cat#: P 58

January 7, 2020

1. Added Centennial Infrastructure Products (1/2020 – 1/2021)
 - a. Page c-1 Machine Bolts
 - b. Page n-1 Double Arming Bolts

November 21, 2019

1. Renewed Technical Acceptance for Grid Power Products 11/2019 – 11/2020.
 - a. Pages b-1, c-1, d-1, f-1, i-1, l-1, n-1, o-1, q-1, s-1, u-2, v-1, v-2, x-1, aa, ab, ao-1, as-1, aw-1, ba-1, bh-1, bj-1, bo-1, br-1, bs-1, ci-1, cs-1, cz-1, da-1, eb-1, ek-1, ft-1,

November 14, 2019

1. Renewed Technical Acceptance for Coreal 11/2019 – 11/2020.
 - a. Pages av-1, av-5, av-6, Uhv-3

October 15, 2019

1. Renewed Technical Acceptance for Powerline Hardware (Yikun) 10/2019 – 10/2020.
 - a. Page k-2 – Insulators, distribution deadend, polymer
2. Renewed Technical Acceptance for Powerline Hardware (Hobb) 10/2019 – 10/2020.
 - a. Pages c-1, d-1, n-1, o-1, u-1, x-1, z-1, z-6, z-7, aa, ab, ai-1, ai-2, ai(1)

September 25, 2019

1. Renewed Technical Acceptance for Peak Demand Inc. 9/2019 – 9/2020.
 - a. a-1 Insulators, pin type, porcelain
 - b. a-2 Insulators, pint type, polymer
 - c. k-2 – Insulator, polymer distribution deadend
 - d. sd-1 Current Transformers Outdoor Type

August 28, 2019

1. Revised and Renewed Tavrida listing to upgraded max. rating of 800A. 8/2019 – 8/2020.
 - a. be-1 – Recloser, vacuum interruption with solid dielectric
 - b. el-1 – Sectionlizer

August 26, 2019

1. Renewed Technical Acceptance for Powerline Hardware 8/2019 – 8/2020.
 - a. k-2 Insulator, polymer distribution deadend
 - b. z-1 Anchors, expanding plate
 - c. z-6 Anchors, power-installed screw

August 16, 2019

1. Removed Smart Grid Solutions (*these items have been moved to the [domestic List of Materials](#)*)
 - a. go-1 Fault Indicators, overhead
 - b. Ugo-1 Fault Indicators, underground

June 21, 2019

1. Renewed Technical Listing for Smart Grid Solutions 6/2019 – 6/2020
 - a. Pages go, Ugo

June 7, 2019

1. Renewed Technical Listing for MacLean Power Systems 6/2019 – 6/2020
 - a. Pages u-2, u-3, ah-1, bv-1, dt-1

May 24, 2019

1. Renewed Technical Listing for Interamericana de Cables Venezuela S.A. (ICV, S.A.)5/2019 – 5/2020.
 - a. Pages av-5, Uhv-2, Uhv-3

April 16, 2019

1. Renewed Technical Listing for Powerline Hardware 4/2019 – 4/2020.
 - a. Pages a-1, a-1.1, k-1, k-1.1, af-1, cm-1, ea-1

April 1, 2019

1. Revised listing for Tavrida from 630A to 800A max rating.
 - a. Pages be-1 and el-1.

February 7, 2019

1. Renewed Technical Acceptance for Kopell Grounding Systems 2/2019 – 2/2020.
 - a. Pages ai-1, ai-3, ai(1), ai(3)

February 6, 2019

1. Added Grid Power Products 2/2019 – 2020.
 - a. Pages l-2, u-2, cz-1

January 31, 2019

1. Renewed Technical Acceptance for PPC Insulators 2/2019 – 2/2020.
 - a. Pages a-1, a-1.1, a-2, cm-1, ea-1

January 30, 2019

1. Renewed Technical Acceptance for Newell-PSN and Mustang Electric 2/2019 – 2/2020.
 - a. Pages a-1, a1.1, k-1, k-1.1, cm-1, ea-1

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
 - o. Page ba-1 Bolt, Angle Eye
 - p. Page bj-1 Guy Hook
 - i. DGH6X
 - 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 April 26, 2021

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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Technical List
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April 26, 2021

a – Insulator, pin type

	ANSI Class:	<u>55-2</u>	<u>55-3</u>	<u>55-4</u>	<u>55-5</u>	<u>55-6</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		
April 2021 – April 2022	Newell-PSN, LLC	2355520	2355530	2355540		
April 2021 – April 2022	Newell-PSN, LLC (Mustang Electric Power Products, Inc.)	-	PIP553	PIP554	-	-
Mar 2020 – Mar 2021	Fujian Hoshing Prosper Electrical Porcelain, Co., Ltd.	-	FHP5553G	FHP5554G		
Sept 2019 – Sept 2020	Peak Demand Inc.	PPT-55-2	PPT-55-3	PPT-55-4	PPT-55-5	PPT-55-6
Jun 2020 – Jun 2021	Powerline Hardware	P55-2GR	P55-3GR	P55-4GR		
Mar 2021 – Mar 2022	PPC Insulators	253-S	261-S	366-S	380-S	386-ST

Technical List
a-1.1
April 26, 2021

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	-	-
April 2021 – April 2022	Newell-PSN, LLC		2365610	2365630	-
April 2021 – April 2022	Newell-PSN, LLC (Mustang Electric Power Products, Inc.)		PIP561	-	-
Mar 2020 – Mar 2021	Fujian Hoshing Prosper Electrical Porcelain, Co., Ltd.		FHP6561G	-	-
Jun 2020 – June 2021	Powerline Hardware		P56-1GR	P56-3GR	P56-4GR
Mar 2021 – Mar 2022	PPC Insulators		1027 ST	2045-S	-

a – Insulators, pin type (polymer)

	ANSI Class:	<u>55-2</u>	<u>55-3</u>	<u>55-4</u>	<u>55-5</u>	<u>55-6</u>	<u>55-7</u>
<u>Technical Acceptance Period</u>	<u>Manufacturer</u>						
8/2018 – 8/2019	Gamma Corona	-	PPT15CA	PPT15FA	PPT25FA PPT25FB PPT25JA PPT25JB	PPT35FA PPT35JA	PPT35JB
9/2019 – 9/2020	Peak Demand Inc.	HPT-55-2	HPT-55-3	HPT-55-4	HPT-55-5	HPT-55-6	

Technical List
b-1
January 8, 2021

b – Pin, pole top, steel

DISTRIBUTION

<u>Technical Acceptance Period</u>		<u>12.5/7.2 or 13.2/7.62 kV</u>	<u>24.9/14.4 kV</u>
	Pin length, inches:	20	20
	Thread diameter, inches:	1	1-3/8
	Hole spacing, inches:	8	8
	RUS Specification:	D-3	DT-3
1/2021 – 1/2022	Grid Power Products	U740, U740Z	U720, U720Z
2/2014 – 2/2015	Milano	607	608
4/2020 – 4/2021	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.

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

4/2020 – 4/2021	Aluma-Form
1/2020 – 1/2021	Centennial Infrastructure Products
9/2015 – 9/2016	Cooper Power Systems
1/2021 – 1/2022	Grid Power Products
2/2014 – 2/2015	Milano
4/2020 – 4/2021	Romagnole
12/2020 – 12/2021	Powerline Hardware (Hobb)
6/2018 – 6/2019	Hubbell Power Systems

**Static proof" design available.

d – Washers, Flat

Flat Rolled Steel

		Size, inches:	2-1/4 x 2-1/4	3 x 3	4 x 4	4 x 4	1-3/8 round	1-3/4 round
		Thickness, in.:	3/16	1/4	3/16	1/2	12 gauge	10 gauge
		Hole Diam., in.:	13/16	13/16	13/16	13/16	9/16	11/16
<u>Technical Acceptance Period</u>	<u>Manufacturer</u>							
3/2015 – 3/2016	Cooper	DF2W5	DF2W7	-	DF1W2	-	-	-
1/2021 – 1/2022	Grid Power Products	U1076	U1079	U1080	U1081	U1086	U1088	U1088
4/2020 – 4/2021	Romagnole	-	R-1079	-	-	-	R-1088	R-1088
12/2020 – 12/2021	Powerline Hardware (Hobb)	P1076	P1079	P6829	-	P1086	-	-

Flat Cast

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

Spurred

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

(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

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

Technical
Acceptance Period

		Long Shank	Short Shank	
2/2014 – 2/2015	Milano	626	621	972 4045
1/2021 – 1/2022	Grid Power Products	-	U647	U222Z -
4/2020 -4/2021	Aluma-Form	AF203	AF647	- -

Clamp Type Pin

Technical
Acceptance Period

Thread (inches diam.)	1	1-3/8
Length above base (in.)	5-3/4	7

1/2021 – 1/2022	Grid Power Products	U3322Z	U3324Z
4/2020 – 4/2021	Romagnole	R-14322	R-14322-1
12/2020 – 12/2021	Hubbell Power Systems, Inc.	14322P	14321P

Washer Plate for Clamp Type Pin

These plates are equipped with lugs to prevent slippage of pin along 30rossarm. 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

4/2020 – 4/2021
9/2015 – 9/2016
1/2021 – 1/2022
2/2014 – 2/2015
4/2020 – 4/2021

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

Technical List

k-1

April 26, 2021

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*
April 2021 – April 2022	Newell-PSN, LLC	2325290	2325210	-	-
Mar 2020 – Mar 2021	Fujian Hoshing Prosper Electrical Porcelain, Co., Ltd.	FHP2529A0G	FHP252100G	-	-
Jul 2017 – Jul 2018	MacLean Power Systems	DP52-9A	-	-	-
Jun 2020 – Jun 2021	Powerline Hardware	-	P52-1G	P52-4G	P52-3G
Mar 2020 – Mar 2021	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
April 26, 2021

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
April 2021 – April 2022	Newell-PSN, LLC	2325230	2325240	2325250	2325260
Sept 2017 – Sept 2018	NGK-Locke, Inc.	-	20S580	30S255* 30S295*	30S257
Mar 2020 – Mar 2021	Fujian Hoshing Prosper Electrical Porcelain, Co., Ltd.	FHP2523G	FHP2524G	-	-
Jun 2020 – June 2021	Powerline Hardware	P52-3G	P52-4G	-	-
Mar 2020 – Mar 2021	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
12/2020 – 12/2021	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
9/2019 – 9/2020	Peak Demand Inc.	CDI-DS-15 CDI-DS-28 CDI-DS-35
12/2020 – 12/2021	TE Connectivity (Raychem)	TE-DS15-CT-11 TE-DS28-CT-11 TE-DS35-CT-11 TE-DS46-CT-11 TE-DS69-CT-11

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

I – Deadend for steel strand (overhead ground wire)

TRANSMISSION

For high strength, extra high strength steel strand and aluminum clad steel strand

<u>Technical Acceptance Period</u>	<u>Manufacturer</u>	<u>High Strength Steel</u>		<u>Aluminum-clad steel</u>			<u>Extra High Strength</u>		
		<u>3/8"</u>	<u>7/16"</u>	<u>7 No. 9 AWG</u>	<u>7 No. 8 AWG</u>	<u>7 No. 7 AWG</u>	<u>5/16"</u>	<u>3/8"</u>	<u>7/16"</u>
				<u>Compression Type</u>					
				<u>Formed Type*</u>					
* Class B galvanizing. When overhead ground wire has Class C galvanizing, formed deadend should also have Class C galvanizing.									
				<u>Automatic Type</u>					
1/2021 – 1/2022	Grid Power Products	AGDE38U	AGDE716U	-	-	-	AGDE516U	AGDE38U	AGDE716U
				<u>Clamp Type</u>					

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
1/2020 – 1/2021	Centennial Infrastructure Products
9/2015 – 9/2016	Cooper Power Systems
1/2021 – 1/2022	Grid Power Products
2/2014 – 2/2015	Milano
4/2020 – 4/2021	Romagnole
12/2020 – 12/2021	Powerline Hardware (Hobb)

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

4/2020 – 4/2021	Aluma-Form
12/2020 – 12/2021	Powerline Hardware (Hobb)
1/2021 – 1/2022	Grid Power Products
11/2013 – 11/2014	Hubbell Power Systems (3/4 inch diameter ONLY)
4/2020 – 4/2021	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

p – Connectors, Compression
Applicable Specification: ANSI C119.4

DISTRIBUTION

<u>Technical Acceptance Period</u>		<u>Aluminum to aluminum</u>	<u>Aluminum to copper</u>	<u>Copper to copper</u>	<u>Tap Connections (Al to Al,Al to Cu)</u>
11/2020 – 11/2021	TE Connectivity (Raychem RPG)	TCU TAH			TCU TAH

NOTE: These connectors are acceptable when installed using tools and dies in accordance with the connector manufacturer's recommendations.

Technical List
 q-1
 January 8, 2021

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>
1/2021 – 1/2022	Grid Power Products	-	-	-	U2396
4/2020 – 4/2021	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
1/2021 – 1/2022	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
December 18, 2020

**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>
12/2020 – 12/2021	Powerline Hardware(Hobb)	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>			
1/2021 – 1/2022	<u>Grid Power Products</u>	AGDE14	AGDE516	AGDE516	AGDE38	AGDE716
			<u>Formed Type</u>			
10/2018 – 10/2019	<u>Mosdorfer NA, Inc.</u> For standard guy*	GDE0259	GDE0310	GDE0327	GDE0360	GDE0460
6/2020 – 6/2021	<u>MacLean Power Systems</u> for standard guy*	DE-S1104 DE-S9104	- -	DE-S1106 DE-S9106	DE-S1107 DE-S9107	DE-S1108 DE-S9108

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

Technical List
u-3
June 17, 2020

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</u> <u>Aluminum-Clad Steel Guy Strand</u>										
4/2012 – 4/2013	<u>Hubbell (IBRAP)</u>	-	AWDE4110	AWDE4113	AWDE4116	-	AWDE4119	AWDE4120	AWDE4122	AWDE4126
6/2020 – 6/2021	<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
1/2021 – 1/2022	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	
1/2021 – 1/2022	Grid Power Products	PEP88
12-2020 – 12/2021	Hubbell (Chance)	GEP6

v – Pole Bands

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

Technical List
w-1
January 27, 2021

w – Insulators, guy strain
(Fiber Reinforced Plastic)

Technical Acceptance Period	Manufacturer	<u>11,000</u>	Ultimate Stregnth (lbs.) <u>15,000</u>	<u>21,000</u>
1/2021 – 1/2022	Powerline Hardware	-	PCC Series	PCE Series

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.

<u>Technical Acceptance Period</u>	<u>Manufacturer</u>
1/2021 – 1/2022	Grid Power Products
4/2020 – 4/2021	Romagnole
12/2020 – 12/2021	Powerline Hardware (Hobb)

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

Manufacturer

3/2020 – 3/2021

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

6/2020 – 6/2021

Has Celik

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

3/2020 – 3/2021	Shanghai Silin Special Equipment Co., Ltd. (Priority Wire & Cable, INC)	(a), (c), (d), (e)
12/2013 – 12/2014	Bekaert Xinhua Metal Products Co., Ltd.	(a), (c), (d), (e)
4/2020 – 4/2021	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

3/2020 – 3/2021	Shanghai Silin Special Equipment Co., Ltd. (Priority Wire & Cable, INC)	6M, 8M, 10M, 12.5M, 14M, 16M, 20M
12/2013 – 12/2014	Bekaert Xinhua Metal Products Co., Ltd.	6M, 8M, 10M, 12.5M, 14M, 16M, 18M, 20M
4/2020 – 4/2021	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 ³ / ₄)	³ / ₄	⁵ / ₈	³ / ₄	³ / ₄
	Rod Length (feet)	7	7	8	-
<u>Technical Acceptance Period</u>	<u>Manufacturer</u>	<u>Type</u>			
12/2020 – 12/2021	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
December 18, 2020

z - Anchors, Power-Installed Screw, Distribution

Technical Acceptance Period	Manufacturer	Catalog Number	Rating (lbs.)
12/2020 – 12/2021	<u>Powerline Hardware (Hobb)</u>	P6524 P6526 P6528 P6550	(see catalog)

Technical List
z-7
December 18, 2020

z - Anchors, No Wrench Screw

Technical Acceptance Period	Manufacturer	Catalog Number	Rating (lbs.)
12/2020 – 12/2021	<u>Powerline Hardware (Hobb)</u>	P6524 P6526 P6528 P6550	(see catalog)

Technical List
aa,ab
January 8, 2021

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	-
1/2021 – 1/2022	Grid Power Products	U1092	U1093	U1126	U6510	-
12/2020 – 12/2021	Powerline Hardware (Hobb)	P1092	P1093	-	P6510	P6511
12/2020 – 12/2021	Hubbell (Chance)	-	6503	-	-	6511
4/2020 – 4/2021	Romagnole	R-1093	R-1092	-	R-12587	-
4/2020 – 4/2021	Aluma-Form	AF1092	AF1093	-	-	-

Technical List
ac-1
April 2020

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>
4/2020 – 4/2021	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>
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SiC Type

MOV Type

2/2018 – 2/2019

Siemens Energy, Inc.

3EK7
3EK7
3EK8
3EK8

9-27
9-27
3-36
3-27

Polymer
Polymer
Polymer
Polymer

Normal
Heavy
Heavy
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
June 30, 2020

af - Cutouts, Distribution, Open

Technical Acceptance Period	Manufacturer	Catalog Number	Type	Voltage Rating
5/13/2010 – 5/18/2011	S & C Electric Co.	89021R10	XS	15kV
		89032R10	XS	27kV
11/4/2013 – 11/2014	Hubbell Power Systems, Inc.		C-Polymer	27kV
			C-Polymer (load break)	27kV
6/2020 – 6/2021	Powerline Hardware (Wenzhou Yikun Electric Co., Ltd.)		PLH-Porcelain	15, 25, 27, 36kV
			SIL-Polymer	15, 24, 33-36kV
3/2016 – 3/2017	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

<u>Technical Acceptance Period</u>	<u>Manufacturer</u>	<u>Type</u>	<u>Voltage Rating</u>
4/2012 – 4/2013	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>
6/2020 – 6/2021	<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>
12/2020 – 12/2021	Powerline Hardware (Hobb)	PLH 588C	-
6/2020 – 6/2021	Kopell Grounding Systems Pvt., Ltd.	EN 58813	EN 34813
3/2020 – 3/2021	Handsun Industry General Co. (Priority Wire & Cable, INC)	HS58 8-15	HS34 8-15
3/2020 – 3/2021	TE Connectivity (Kopell)	CGR5808U13**	CGR3408U13**

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>
4/2020 – 4/2021	Romagnole	R-8578	R-8618
12/2020 – 12/2021	Powerline Hardware (Hobb)	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.

Technical List

ai-3

June 9, 2020

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
6/2020 – 6/2021	Kopell Grounding Systems Pvt., Ltd.	EN 58813-SC EN 34813-SC	EN 581013-SC -	ENCO58 ENCO34	ENDS58 ENDS34
3/2020 – 3/2021	Handsun Industry General Co. (Priority Wire & Cable, INC)	HSS58 8-15	HSS34 10-15	-	-
4/2020 – 4/2021	Intelli	IHP834 IHP858 IH834 IH858	IHP1034 IHP1058 IH1034 IH1058	LEH-34-R LEH-58-R	- -
3/2020 – 3/2021	TE Connectivity (Kopell)	CGR5808S13** CGR3408S13**	CGR5810S13* CGR3410S13*		

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.

Technical List
ai(1)
December 18, 2020

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>
6/2020 – 6/2021	Kopell Grounding Systems Pvt., Ltd.	EN588	EN348	EN5810	EN3410
12/2020 – 12/2021	Powerline Hardware (Hobb)	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>
6/2020 – 6/2021	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
January 27, 2021

aj - Clamp, Ground Rod

Technical Acceptance Period	Manufacturer	For 5/8" Copper- Covered Rod	For 3/4" Galv.or Stainless Steel Rod	For 5/8" Galv.or Stainless Steel Rod
1/2021 – 1/2022	Powerline Hardware (Hobb)	P 58	-	P 58
11/2020 – 11/2021	TE Connectivity	TGRL58		

Technical List
al-1
December 15, 2020

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

12/2020 – 12/2021

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>
2/2012 – 2/2013	Magnetron, S.A.	conventional	two	13.2/7.6–5 - 500	

Technical List
ao-1
January 8, 2021

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:

Technical Acceptance Period	Manufacturer
1/2021 – 1/2022	Grid Power Products
4/2020– 4/2021	Romagnole

Technical List
ap-1
December 11, 2020

ap – Clamp, hot line
Copper and Copperweld-copper Conductor
(Clamps with internal springs and enclosed threads)

Technical Acceptance Period	<u>Conductor</u> Copper: Copperweld-copper:	<u>Conductor Size</u> 6 thru 2/0 8A thru 2A
12/2020 – 12/2021	<u>Manufacturer</u> Connector Mfg. Co.	HLB2/0 HLB2/0T HLB2/0LD HLB2/0LDT

Technical List
ap-2
January 27, 2021

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
1/2021 – 1/2022	Powerline Hardware	Aluminum	P1530AGP	P1520AGP	P1520AGP	P1520AGP	P1520AGP
		Copper		P1530AGP	P1530AGP	P1530AGP	P1530AGP
12/2020 – 12/2021	Connector Mfg. Co.	Aluminum		HL4/0	HLA2/0	HLA2/0	HLA2/0
					HLA2/0T	HLA2/0T	HLA2/0T
		Copper		HLB400 HLB400T	HLB2/0 HLB2/0T HLB2/0LD HLB2/0LDT	HLB2/0 HLB2/0T HLB2/0LD HLB2/0LDT	HLB2/0 HLB2/0T HLB2/0LD HLB2/0LDT

Technical List
as-1
January 8, 2021

as – Clevis, service swinging

Applicable Specifications "RUS Specifications for Service Swinging Clevis," 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>
1/2021 – 1/2022	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>
8/2014 – 8/2015	American Furukawa, Inc.
5/2020 – 5/2021	Apar Industries, Ltd.
1/2021 – 1/2022	Coreal
5/2018 – 5/2019	Jiangsu Zhongtian Technology Co., Ltd (ZTT)
3/2020 – 3/2021	Shanghai Silin Special Equipment Co., Ltd. (Priority Wire & Cable, INC)
9/2015 – 9/2016	Sterlite Technologies Limited
4/2016 – 4/2017	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
March 22, 2021

av - Conductor, Service
(Single conductor)

Technical Acceptance Period	Manufacturer	Aluminum	Copper
3/2020 – 3/2021	Shanghai Silin Special Equipment Co., Ltd. (Priority Wire & Cable, INC)	X	-
3/2021 – 3/2022	World Lighting Cable Co, Ltd. (Priority Wire & Cable, INC)	X	-
4/2016 – 4/2017	Sunni Electric Wire & Cable Co., Ltd.	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
March 22, 2021

av - Conductor, Service Cable
 (Triplex and Quadruplex)

Technical Acceptance Period	Manufacturer	Aluminum	Copper
1/2021 – 1/2022	Coreal	X	-
7/2020 – 7/2021	Interamericana de Cables Venezuela S.A. (ICV, S.A.)	X	-
3/2020 – 3/2021	Shanghai Silin Special Equipment Co., Ltd. (Priority Wire & Cable, INC)	X	-
3/2021 – 3/2022	World Lighting Cable 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	-

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>
6/2014 – 6/2015	American Furukawa, Inc.	6201
5/2020 – 5/2021	Apar Industries, Ltd.	6201
1/2021 – 1/2022	Coreal	6201
3/2020 – 3/2021	Shanghai Silin Special Equipment Co., Ltd. (Priority Wire & Cable, INC)	6201
9/2015 – 9/2016	Sterlite Technologies Limited	
4/2016 – 4/2017	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>
3/2020 – 3/2021	Shanghai Silin Special Equipment Co., Ltd. (Priority Wire & Cable, INC)	<ol style="list-style-type: none">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>
3/2020 – 3/2021	Shanghai Silin Special Equipment Co., Ltd. (Priority Wire & Cable, INC)	<ol style="list-style-type: none">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	-
1/2021 – 1/2022	Grid Power Products	U3540	U3541	-

Double Coil Lock

Technical Acceptance Period	Manufacturer	Bolt Size			
		5/8"	3/4"	7/8"	1"
11/2019 – 11/2020	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	1Ø Trans.	1Ø Sect.	3Ø Bank	1Ø Trans.	1Ø Sect.	3Ø Bank
		<u>7.8 kV</u>			<u>15 kV</u>	<u>15 kV</u>	<u>18 kV</u>	<u>27 kV</u>
	Application			3Ø Bank		3Ø Bank		3Ø Bank
	Cutout Current Rating	<u>50*</u>	<u>100</u>	<u>100</u>	<u>50*</u>	<u>100</u>	<u>50*</u>	<u>100</u>
	Manufacturer	Catalog Numbers						
	Type Mounting							

4/2012 – 4/2013	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.

Technical List
ba-1
January 8, 2021

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>
1/2021 – 1/2022	Grid Power Products
4/2020 – 4/2021	Romagnole

Technical List
bb-1
April 2020

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>
4/2020 – 4/2021	Romagnole	-	R-1508

Technical List
be-1
August 2019

be - Recloser, vacuum interruption with solid dielectric

<u>Technical Acceptance Period</u>	<u>Manufacturer</u>
8/2019 – 8/2020	<u>Tavrida</u> Three phase, OSM15 Series*, vacuum interruption, solid dielectric, 800 amps maximum continuous, 16000 amps RMS symmetrical interruption, 15.5 kV maximum for 12.5/7.2 kV.
8/2019 – 8/2020	Three phase, OSM25 Series*, vacuum interruption, solid dielectric, 800 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
January 8, 2021

bh - Clevis, Service Deadend

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

<u>Technical Acceptance Period</u>	<u>Manufacturer</u>	<u>Clevis Only*</u>	<u>Clevis with dry process spool</u>	<u>Clevis with wet process spool</u>
1/2021 – 1/2022	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
January 8, 2021

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>
1/2021 – 1/2022	Grid Power Products	DGH6X

Technical List
bo-1
January 8, 2021

bo - Shackle, anchor

Distribution

<u>Technical Acceptance Period</u>	<u>Manufacturer</u>	<u>20,000 lbs.</u> <u>5/8" Pin</u>
1/2021 – 1/2022	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>
1/2021 – 1/2022	Grid Power Products	UAS35-BNC	UAS50-BNC

Technical List
br-1
January 8, 2021

br – Chain Link (End Link)

<u>Technical Acceptance Period</u>	<u>Manufacturer</u>	<u>Catalog Number</u>
1/2021 – 1/2022	Grid Power Products	CLK-40

Technical List
bs-1
January 8, 2021

bs – Bolt, single upset

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

Technical Acceptance

<u>Period</u>		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
1/2021 – 1/2022	Grid Power Products	-	-	-	-	U2344-1/2
4/2020 – 4/2021	Romagnole	-	-	R-2342	R-2343	R-2344

Technical List
bv-1
June 17, 2020

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
6/2020 – 6/2021	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

Technical Acceptance Period	Manufacturer	Catalog #	AAC	AAAC	ACSR
3/2018 – 3/2019	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)

Technical List
by-1
June 17, 2020

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
6/2020 – 6/2021	MacLean Power Systems	DG-AC4541, DG-AC4542, DG-AC4544, DG-AC4545, DG-AC4546, DG-AC4547, DG-AC4548, DG-AC4549, DG-AC4550, DG-AC4551, DG-AC4552, DG-AC4553

Technical List
ci-1
January 8, 2021

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>
1/2021 – 1/2022	Grid Power Products	CT88	TC40	-

Technical List
cm-1
April 26, 2021

cm – Insulator, Spool

	Type:	<u>Secondary</u> <u>(Wet Process)</u>		<u>Wet</u> <u>Process</u>	<u>Service</u> <u>Dry Process</u>
		Groove Diameter: ANSI Class:	<u>1-3/4"</u> 53-2	<u>3"</u> 53-4	<u>1-3/8"</u> 53-1
<u>Technical Acceptance</u> <u>Period</u>					
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	-
April 2021 – April 2022	Newell-PSN, LLC	2335320	-	2335310	-
April 2021 – April 2022	Newell-PSN, LLC (Mustang Electric Power Products, Inc.)	SIP532	-	SIP531	-
Mar 2020 – Mar 2021	Fujian Hoshing Prosper Electrical Porcelain, Co., Ltd.	FHP3532G	-	FHP3531G	-
Jun 2020 – Jun 2021	Powerline Hardware	P53-2G	P53-4G	P53-1G	-
Mar 2021 – Mar 2022	PPC Insulators	5101	5119	5112	-

Technical List
cs-1
January 8, 2021

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>
4/2020 – 4/2021	Romagnole	R-2157
1/2021 – 1/2022	Grid Power Products	U2157

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
12/2020 – 12/2021	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
12/2020 – 12/2021	Hubbell Power Systems		CRA6018	CRA6030
3/2016 – 3/2017	MacLean Power Systems		CRBR-35*	-

*Denotes Fiber Reinforced Plastic, all others are wood.

Technical List
 cz-1
 January 8, 2021

cz - Splice for Steel Strand (Overhead Ground Wire)

Compression

Single Sleeve Only

<u>Technical Acceptance Period</u>	<u>Manufacturer</u>	<u>High Strength Steel</u>		<u>Extra High Strength</u>			<u>Aluminum Clad Steel</u>		
		<u>3/8"</u>	<u>7/16"</u>	<u>5/16"</u>	<u>3/8"</u>	<u>7/16"</u>	<u>7 No. 9 AWG</u>	<u>7 No. 8 AWG</u>	<u>7 No. 7 AWG</u>
1/2021 – 1/2022	Grid Power Products	AGS38	AGS716	AGS516U	AGS38U	AGS716U	-	-	-

Technical List
da-1
January 8, 2021

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>
1/2021 – 1/2022	Grid Power Products	U1300	-	-

Technical List
dt-1
June 2019

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	-
6/2020 – 6/2021	MacLean Power Systems	#6	-	HSG-4500
		#4	-	HSG-4501
		#4	-	HSG-4502
		#3	-	HSG-4503
		#2	-	HSG-4504
		#1	-	HSG-4505
		1/0	-	HSG-4506
		2/0	-	HSG-4507
		3/0	-	HSG-4508
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 2020

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>
4/2020 – 4/2021	Romagnole
4/2020 – 4/2021	Aluma-Form

Technical List
ea-1
April 26, 2021

ea - Insulator and stud, post type, vertical

		<u>DISTRIBUTION (RUS Minimum Requirements)</u>			
		12.5/7.2	12.5/7.2	24.9/14.4	
		7-1/2	10	15	
		1875	1875	1875	
		65	70	95	
<u>Technical Acceptance Period</u>		40	50	65	
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	
Mar 2020 – Mar 2021	<u>Fujian Hoshing Prosper Electrical Porcelain, Co., Ltd.</u>	FHP7571MG FHP7571NG	FHP7571G FHP7571QG	FHP7571GG FHP7571PG	
April 2021 – April 2022	<u>Newell-PSN, LLC (Mustang Electric Products, Inc.)</u>	-	-	LPP071C LPP071F	
Jun 2020 – Jun 2021	<u>Powerline Hardware</u>	P57-1G	P57-1G	-	
Mar 2021 – Mar 2022	<u>PPC Insulators</u>	5115	5120	5127	
		<u>DISTRIBUTION or TRANSMISSION</u>			
		57-1	57-2	57-3	57-4
		15	22	34.5	46
<u>Technical Acceptance Period</u>					
Sept 2018 – Sept 2019	<u>Action Manufacturing</u>	-	AMI-572G	AMI-573G	-
	<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		CST-10602-S	-	-
Oct 2013 – Oct 2014	without stud		-	CST-10603	-
Jul 2017 – Jul 2018	<u>MacLean Power Systems (without stud)</u>		DP57-2	-	-
Mar 2020 – Mar 2021	<u>Fujian Hoshing Prosper Electrical Porcelain, Co., Ltd.</u> without stud	FHP7571G	FHP7572G	FHP7573G	-
Mar 2021 – Mar 2022	<u>PPC Insulators</u>	5125	5135	5145	-
Jun 2020 – Jun 2021	<u>Powerline Hardware</u>		P57-2G	P57-3G	P57-4G
Mar 2020 – Mar 2021	<u>Suzhou Porcelain Insulator Works</u>		28712N	28779N	28784N

Technical List
ea-2

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

Manufacturer Conditions

Technical List
ea(2)

ea - Insulator, post type
(Polymer)

Manufacturer

Conditions

Technical List
ea(3)

ea - Insulators, horizontal post type (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.

ea - Insulators, horizontal post type (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
ea-4
December 8, 2020

ea - Insulator, line post, composite/polymer

<u>Technical Acceptance Period</u>	<u>Manufacturer</u>	<u>ANSI Class</u>
12/2020 – 12/2021	<u>TE Connectivity (Raychem)</u>	
	TE-LP15-FS1-01	51-1F
	TE-LP25-FS1-01	51-2F
	TE-LP35-FS1-01	51-3F
	TE-LP15-CS1-01	51-1C
	TE-LP25-CS1-01	51-2C
	TE-LP35-CS1-01	51-3C

Technical List
eb-1
January 8, 2021

eb - Bracket, Pole Top
For Post type Insulators

DISTRIBUTION

<u>Technical Acceptance Period</u>	<u>Manufacturer</u>	<u>Catalog No.</u>
1/2021 – 1/2022 12/2020 – 12/2021	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>
1/2021 – 1/2022	Grid Power Products	PB58H

Technical List
ek-1
January 8, 2021

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	-
1/2021 – 1/2022	Grid Power Products	-	-	U8583	U8584	-
4/2020 – 4/2021	Romagnole	-	-	R-8583	-	-

Technical List
el-1
August 2019

el - Sectionalizer

Technical Acceptance Period	Manufacturer
8/2019 – 8/2020	<u>Tavrida</u> Sectionalizer, three-phase, OSM15 Series* and OSM25 Series*, 15 and 27 kV, 800 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	-

24900/14400 Volts

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	-

Technical List
ft-1
January 8, 2021

ft - Y-Clevis Ball

Technical Acceptance Period	Manufacturer	Catalog Number
1/2021 – 1/2022	Grid Power Products	UYBC30

Technical List
gj-1
December 16, 2020

gj - Crossarm Assemblies

Braceless, wood

<u>Technical Acceptance Period</u>	<u>Manufacturer</u>	<u>Dimensions</u>
12/2020 – 12/2021	<u>Hubbell Power Systems</u> CHDDEA86EBREA	4-1/4" x 5-1/2" x 8'-0"

Technical List
go
August 2019

go - Fault Indicator, overhead

Technical Acceptance Period	Manufacturer	Type
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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 2019

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>
9/2019 – 9/2020	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
August 2019

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

<u>Technical Acceptance Period</u>	<u>Manufacturer</u>	<u>Type</u>
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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: 7 CFR 1728.204

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

Technical List
U hv-2
March 22, 2021

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
3/2020 – 3/2021	Shanghai Silin Special Equipment Co., LTD. (Priority Wire & Cable, INC)	Copper & Aluminum
3/2021 – 3/2022	World Lighting Cable 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>
7/2020 – 7/2021	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>
1/2021 – 1/2022	Coreal	Aluminum
3/2018 – 3/2019	Electrocables	Aluminum
7/2020 – 7/2021	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
3/2020 – 3/2021	Shanghai Silin Special Equipment Co., Ltd. (Priority Wire & Cable, INC)	Copper or Aluminum
3/2021 – 3/2022	World Lighting Cable Co, Ltd. (Priority Wire & Cable, INC)	Copper or Aluminum

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