United States Department of Agriculture

Rural Development Utilities Programs

Informational Publication 344-2

2009 Edition

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

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 of Acceptable Materials (Telecommunications) supersedes all preceding issues. It reflects all actions of the Technical Standards Committees "A" and "B" (Telecommunications) through April 30, 2009.

The small letters used to designate many construction items listed herein correspond to the letters used on construction drawings to indicate individual items of material; however, many equipment items have been assigned letter combinations only as a means of identification within the List of Acceptable Materials (Telecommunications).

The acceptance of an additional item or the deletion of an existing item is a function of the RUS Administrator and Technical Standards Committees "A" and "B" (Telecommunications). Anyone desiring to have a new item placed on the List of Materials (Telecommunications), or believing an existing item should be removed from the List of Materials (Telecommunications), is invited to submit the matter to Technical Standards Committee "A" (Telecommunications). Any communication calling attention to an error, an obsolete item, etc., will also be appreciated. All communications should be addressed to the Chair, Technical Standards Committee "A" (Telecommunications), Stop 1550, U.S. Department of Agriculture, Rural Utilities Service, 1400 Independence Avenue, SW., Washington, D.C. 20250-1550.

The inclusion of an item in the List of Materials (Telecommunications) does not indicate that 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 of Materials (Telecommunications.)

RUS Buy American Requirement - All materials and equipment financed with loan funds under the RE Act of 1938, as amended, are subject to the "Buy American" provisions (7 U.S.C. 901 *et seq*. as amended in 1938), as amended. The "Buy American" provision is found at http://www.usda.gov/rus/regs/info/100-1/buy_american.htm. For products of non-domestic origin manufacture manufacturers should request Technical Acceptance. Refer to the section below on Agency policy for financing of non-domestic products.

For Agency acceptance of a product as domestic, the manufacturer must include a certification stating that the product, as it is sold to RUS borrowers, complies with the following two domestic origin manufacture provisions:

a) Final assembly or manufacture of the product, as the product would be used by an RUS borrower, is completed in the United States or eligible countries (currently, Mexico, Canada and Israel); and

b) The cost of United States and eligible countries' components (in any combination) within the product is more than 50 percent of the total cost of all components utilized in the product. The cost of non-domestic components (components not manufactured within the United States or eligible countries) which are included in the finished product must include all duties, taxes, and delivery charges to the point of assembly or manufacture.

The Buy American is applied to the product, as sold to RUS borrowers, and to the components directly incorporated in the product, but not to the supplies that are used in the manufacture of such components. The place of manufacturing determines whether a component is domestic. Components manufactured in the USA or in an eligible country are considered domestic.

The cost of a component includes the acquisition cost, including transportation costs to the place of incorporation into the product (whether or not such costs are paid to a domestic firm), and any applicable duty (whether or not a duty-free entry certificate is issued). If the manufacturer of the product manufactures a component, then the cost of the component includes all costs associated with the manufacture of the component, including transportation costs (whether or not such costs are paid to a domestic firm), plus allocable overhead costs, but excluding profit. Cost of components does not include any costs associated with the manufacturing of the product such as cost of assembly, alignment, testing, etc.

For a system that the manufacturer has certified to RUS that meets the RUS Buy American requirement as a domestic product, please be aware that a subsystem (hereafter in the paragraph called the "product") may stand alone as a "product" and that when sold by itself it may be a non-domestic "product." When this is the case and this subsystem is not Agency-listed as stand alone “product”, the manufacturer must inform the borrower that the "product" is non-domestic. The "product" may be financed by RUS upon the product meeting the RUS Buy American Requirement as a non-domestic product.

For a product listed as a domestic product, there may be particular cases where the product becomes non-domestic due to its configuration (its provisioning or other unique factors). When this is the case, the manufacturer shall inform the borrower that for this particular sale that the product is a non-domestic product. Manufacturers are responsible to inform product distributors or re-sellers of the particular circumstances that would make their product non-domestic or to have an internal procedure in place as to ensure that the borrower is informed when the product has become non-domestic.

The following documents have more information on RUS "Buy American" requirements:

a) IP 100-1 , Rural Electrification Act of 1936, as amended, 7 U.S.C. 901-950b (as of 1/23/2004), available at http://www.usda.gov/rus/index2/rusregs.htm ;

b) RUS Bulletin 344-3, "Buy American Requirement, available at http://www.usda.gov/rus/telecom/publications/bulletins.htm ; and

c) Buy American Federal Register Notices available at http://www.usda.gov/rus/telecom/publications/publications.htm#buy

Applicability of the RUS Buy American (BA) Requirement to Software - The BA applies to standard commercially available software, i.e. computer programs, in cases when manufacturing is involved. The BA does not apply to services such as programming services required to meet the specific need of a specific customer. Although the creation of a software program involves intellectual processes as would the creation of a manuscript of a book, once created the process of duplicating the result for sale or lease is a manufacturing process. (For purely electronic reproductions that do not involve manufacturing the BA would not apply.) The software product’s components would consist of the CD and the user’s manual. While most of the cost may be attributable to development efforts, the developing of software is not subject to the BA.

RUS Policy on the Financing Non-Domestic Products

Products that do not meet the "Buy American" provision of 1938, as amended, are included in the RUS List of Materials as non-domestic. The "Buy American" provision is found at http://www.usda.gov/rus/regs/info/100-1/buy_american.htm. For RUS financing of a product RUS requires that the product complies with the "Buy American" provision and that the product either has been determined acceptable by RUS or has received an RUS letter of technical acceptance. (For more information on RUS requirements for product acceptance or technical acceptance see RUS listing procedures at http://www.usda.gov/rus/telecom/materials/listing/listing.htm .)

A product that does not meet either of the two conditions below is classified as non-domestic for purposes of RUS financing:

(1) Final assembly or manufacture of the product, as the product would be used by an RUS borrower, is completed in the United States or eligible countries (currently, Mexico, Canada and Israel); and

(2) The cost of United States and eligible countries' components (in any combination) within the product is more than 50 percent of the total cost of all components utilized in the product. The cost of non-domestic components (components not manufactured within the United States or eligible countries) which are included in the finished product must include all duties, taxes, and delivery charges to the point of assembly/manufacture.

Per RUS Bulletin 344-3, a bid for a non-domestic product is considered to be in compliance with the "Buy American" when the domestic bid exceeds the non-domestic bid by a sum determined by computing six percent of the material content in the non-domestic bid. For a bid or proposal that contains multiple products, the RUS Buy American requirement applies to each individual product per paragraph IV.E of RUS Bulletin 344-3 which states: "*Where a supplier or contractor offers or furnishes several items under a purchase order or contract, the provisions of this Bulletin are applicable to each of such items.*"

For products classified as non-domestic, there may be particular cases where a product configuration due to its provision (or for other unique factors) that may cause the product to become domestic. When this is the case, the manufacturer shall inform the borrower that for this particular sale the product is a domestic product. Manufacturers are responsible to inform product distributors or re-sellers of the particular circumstances that would make their product domestic or to have an internal procedure in place as to ensure that the borrower is informed when the product has become domestic to avoid having the product treated as non-domestic for such particular sale.

RUS Policy on Listing Original Equipment Manufacturer (OEM)

The Agency will not separately list OEM'ed equipment, unless the product is being OEM'ed to a listed manufacturer. Generally, OEM'ed products (products exactly the same as listed products with different manufacturers' names and model designations) may be shown on the List of Acceptable Materials as part of a product listing when a certification is provided by the listed manufacturer. This certification needs to state that the manufacturer has an agreement with one or more other companies to resell the listed equipment. This certification must also include these companies' names, product names, and an explanation of the agreements. Certifications must also be provided by the listed manufacturer and each of the resellers stating that the product sold is unchanged from the product sold by the listed manufacturer with the exception of cosmetic changes required to change the suppliers' names and model designations. These certifications must include company contact information for each company involved including contact name, mailing address, email address and telephone number.

RUS Listing Procedures

RUS product acceptance requirements are found at
http://www.usda.gov/rus/telecom/listing_procedures/index_listing_procedures.htm .

An application would consist of the information required in two documents:

- General Listing Procedures included below; and
- The document associated with the product specific requirements.

General Application Procedures for Rural Development
Telecommunications Product Acceptance

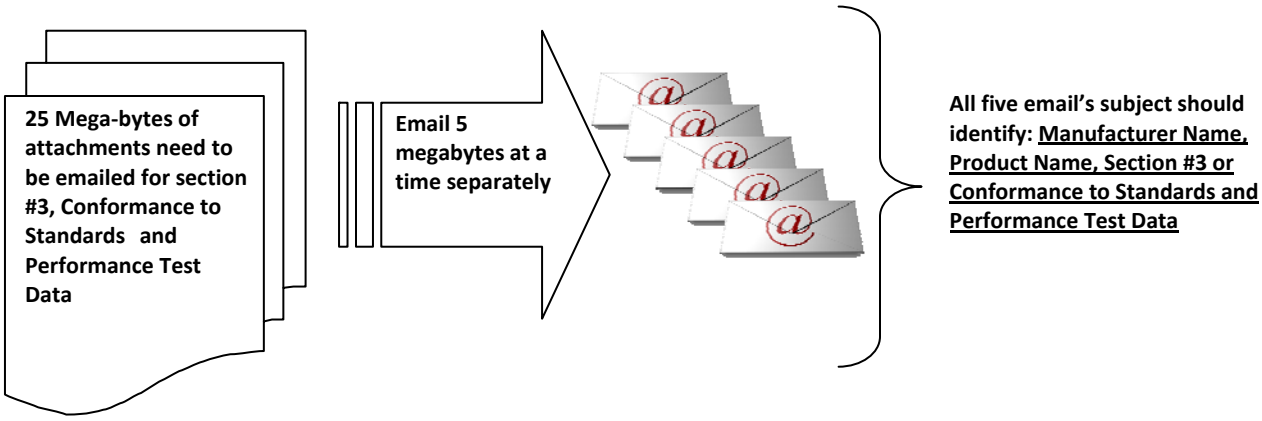
This section describes the general requirements for requesting product acceptance from the Telecommunications Program, a program administered by the Rural Utilities Service (RUS), an agency under USDA Rural Development (RD.) Additional requirements for acceptance of a specific product are included in the document for the product specific category found at http://www.usda.gov/rus/telecom/listing_procedures/index_listing_procedures.htm . If no specific category exists, the general procedures in this document should be followed. Questions regarding appropriate product categories and general acceptance procedures should be directed to Norberto Esteves at norberto.esteves@wdc.usda.gov . For questions regarding specific products, see the product specific acceptance procedures for contact persons.

An application for product acceptance is comprised of the information requested in this document and the document for the product specific category. Only complete applications must be submitted, unless the application is submitted in support of a field trial. (Field trials are normally required when a product does not have sufficient field deployment experience.) Requests for product acceptance must be made by the actual product manufacturer, or its authorized representative, and must be made for production items only.

All applications or requests should be electronically submitted with all signatory pages copied in read only format. All electronic submittals may be emailed with a 5-8 Megabytes limit per email attachment, copied onto a CD/DVD, or downloadable through the internet via file transfer protocol (FTP). The electronic submittal must be complied into folders corresponding to the numbered sections shown below. More than one email per section may be used. Information or data sent must be clearly labeled with the subject identifying the section that the information attached belongs to. Email the information to: norberto.esteves@wdc.usda.gov .

Example:

(Use option View/Print Layout to see image below.)



1. **Application Requests** – Application letter requesting acceptance of a product should be addressed to:

Chairman, Technical Standards
Committee "A" (Telecommunications)
1400 Independence Ave. SW
Room 2849-S, STOP 1550
Washington, DC 20250-1550

The request needs to be made and signed by an authorized employee of the actual manufacturer of the product. The request needs to include the following information:

a. Identify the product by specific model or catalog number;

b. State that the product is in full production; and

c. The plant address where the product is produced, contact information, and contact person.

2. Product Description and Support - Include sales brochures, general descriptions of the product, warranty, return and repair policies, price lists, operator and installation manuals, etc. See product specific acceptance procedures for detailed description requirements.

3. Conformance to Standards and Performance Test Data:

a. For a product covered by a RD Telecommunications Program specification the manufacturer needs to certify that the product complies with all applicable paragraphs of such specification. See the product specific acceptance procedures for specifications for which the RD Telecommunications Program expects compliance for specific products.

b. When a RD Telecommunications Program specification does not cover the product, the manufacturer should list all appropriate nationally recognized standards and the issue dates of such documents that the product complies with.

c. All products must be performance tested for its advertised capabilities and for compliance with applicable RD Telecommunications Program or industry specifications prior to submittal for RD Telecommunications Program acceptance. The test results must be submitted, specifically those that warrants your product performance claims.

4. RD Buy American - For each product application submitted for RD Telecommunications Program product acceptance as a domestic product, the manufacturer must include a signed certification by an authorized company representative stating that the product, as sold to RD Telecommunications borrowers, complies with the following two domestic origin manufacture provisions:

a. Final assembly or manufacture of the product, as the product would be used by an Telecommunications Program borrower, is completed in the United States or eligible countries (currently, Mexico, Canada and Israel); and

b. The cost of United States and eligible countries' components (in any combination) within the product is more than 50 percent of the total cost of all components (articles, materials or supplies directed incorporated in the product) utilized in the product. The cost of non-domestic components (components not manufactured within the United States or eligible countries) which are included in the finished product must include all duties, taxes, and delivery charges to the point of assembly or manufacture.

For products no meeting the two domestic origin manufacture provisions shown above the applicant should request “Technical Acceptance” of products of non-domestic origin manufacture.

For products no meeting the two domestic origin manufacture provisions shown above the applicant should request “Technical Acceptance” of products of non-domestic origin manufacture.

5. Written Field Performance Testimony - The application should include a minimum of three (3) letters of testimony for each product for which acceptance is requested. The product must be used in a revenue-generating service environment. The user of the product does not necessarily have to be an RD Telecommunications Program borrower, but should have at least six (6) months of operating experience with the product in an environment germane to the product's intended use. A letter of testimony needs to include name of the person giving testimony, title, mailing and e-mail address, and a telephone number. These letters need to be written and signed by someone who is familiar with the performance of the product(s).

The letters need to address, when applicable, the following items in detailed summary versus one line statements. Details about the product’s performance in the user’s network should be included:

a. The number of systems deployed and date when each system was installed and cut over into service.

b. It should address the reasons for deploying the equipment, the current system capacity being used in terms of subscribers, circuits, data through-put, services, and the ultimate capacity of the system, as deployed. For central office equipment include the numbers of A links in service.

c. The problems found during acceptance testing, a description of the nature of the problems, the status of such problems, and the responsiveness of the manufacture in correcting the problems.

d. The problems experienced since installation, such as failed cards or any operational failures, causing service interruptions, or any other type. If there were problems, please describe them and how these were or are being corrected.

e. The strengths and weaknesses of the equipment deployed.

f. State whether you plan to purchase more of this equipment and/or recommend this system.

g. Include any other comments regarding this product that you would like to offer.

h. If the product has undergone performance testing or field trials, please provide, if available in electronic format, one copy of the evaluation report, analysis, summary, etc.

6. Miscellaneous - Any extensive material not specifically requested in these Listing Procedures, but felt by the applicant to be germane, may also be included in the application.

To facilitate our processing the application should follow the following outline:

I. Application
    - Cover Letter – company letterhead formally requesting to be accepted addressed to: Norberto Esteves, Chairman, Technical Standards, Committee "A" (Telecommunications)
    - Product List
    - Company Overview
    - Company Contact

II. Description and Support
    - General Product Description
    - Sales Brochure
    - Warranty
    - Return & Repair Policy
    - Price List

III. Manuals
    - User Manual

IV. Standards & Testing
    - Standards
    - Technical Specifications
    - Testing Data
        - Test Report 1
        - Test Report 2
        - Test Report 3

V. Buy American
    - Buy American Letter (attached)

VI. Testimony Letters
    - Letter 1
    - Letter 2
    - Letter 3

VII. Miscellaneous
    - Miscellaneous

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*Item no longer listed.

*Item no longer listed.

*Item no longer listed.

*Item no longer listed.

ORDERING INFORMATION

When ordering wire and cable having a standard RUS Unit Designation, this designation must be specified with the appropriate suffix or combinations of suffixes to indicate the type to be supplied. For example, filled cable with gopher-resistant shield containing copper and having compartmental cores (Screened) would be designated "BFCYH.

sc - Buried Cable

Cables listed below comply with 7 CFR 1755.390 or 1755.890.

Manufacturer Name	*PE-39*	*PE-89*	*Accepted Cables*	*Suffixes*
General Cable	X	X(6)	PE-__39-AL	A(1)
	X	X(6)	PE-__39-CU5	C(1
	X	X(6)	PE-__39-CBS	Y(1)
	X	X(6)	PE-__39-CAC	X(1)
	X	X(6)	__(3)T1	H(1
	X	X(6)	__(3)T1C	H1C(2)
Nacional De Conductores Eléctricos (Condumex)(5)	X	X(6)	AM__(12)C	A(1)
	X	X(6)	AM__(12)Q	Y(1)
	X	X(6)	AM__(12)D	X(1)
Superior/Essex	X		SEALPIC^{R}-F	A(1)
		X(7)	SEALPIC^{R}-F__(11)	A(1)
	X		CUPIC^{R}-F	C(1)
		X(7)	CUPIC^{R}-F__(11)	C(1)
	X		GOPIC^{R}-F	Y(1)
			CUPIC^{R}-F10	
		X(7)	GOPIC^{R}-F__(11)	Y(1)
			CUPIC^{R}-F__(11)10	
	X		CASPIC^{R}-F	X(1)
		X(7)	CASPIC^{R}-F__(11)	X(1)
	X	X(7)	__(3)T1	H(1)
			__(3)T1	
	X	X(7)	__(3)T1C	H1C(2)
			__(3)T1C	
	X	X(7)	__(4)P	P(1)
			__(4)P	
Teldor Cables & Systems	X		F4110_ _ _-D(13)	A(2)
	X		F4163_ _ _-D(13)	A(2)
		X	F41100_ _ _-D(14)	A(2)
		X	F4237_ _ -D(14)	A(2)

See notes and suffices on page 1.1.2.

1.1.2
04-30-2009
sc

Suffixes

Coated Aluminum Shield	A
5 Mil Copper Shield	C
Gopher-Resistant Shield Containing Copper	Y
Gopher-Resistant Shield/Armor Design	X
Screened Cable for T1 Carrier	H
Screened Cable for T1C Carrier	H1C
Pre-connectorized Cable 100 pairs and greater	P

Notes:

(1) Available in 19 through 26 AWG conductor sizes.
(2) Available in 19 through 24 AWG conductor sizes.
(3) Replace blank with manufacturer's catalog designation shown in the listing for suffixes A through X.
(4) Replace blank with manufacturer's catalog designation shown in the listing for suffixes A through H1C.
(5) Not accepted for 19 AWG conductor sizes.
(6) Accepted for only foam/skin.
(7) Accepted for foam and foam/skin.
(10) Replace the blank with the letters AR, CR, JR, or WR to specify shield type.
(11) Replace blank with either the letter F or the letters SF to specify conductor insulation type.
(12) Replace blank with either the letter A, M, or T to specify conductor AWG size.
(13) Gel Filled, 8mil thick Al shielded, LLDPE jacket, 6 pr. – 1500pr.
(14) Gel Filled, 8mil thick Al shielded, LLDPE jacket, 6 pr. – 1800pr.

1.2
01-05
ct

ct - Terminating Cable[1]

These manufacturers' cables shown by X's comply with 7 CFR 1755.870.

Manufacturer	RUS Standard Designation Suffixes	
	A	P
General Cable	X	-

Suffixes:

Coated Aluminum ---------- A
Preconnectorized Cable 100 pairs and greater ---------- P

Notes: [1]To be supplied in only 22 and 24 AWG sizes.

sa - Filled Buried Wires

These manufacturers' filled buried wires shown by catalog designations comply with 7 CFR 1755.860.

Manufacturer	**Catalog Designation**			
RUS Standard Designations:	**Distribution**[1]		**SEB (service)**[2]	
RUS Standard Suffixes:	N	Y	N	Y
General Cable	BFWN	BFWY	BFWN	BFWY
Superior/Essex	BDW-B -	BDW-G-CSC -	BDW-B BDWB-DF[3]	BDW-G-CSC BDWG-DF[3]

Suffixes:

Copper Alloy 220 (Bronze) Shield ----------N
Gopher-Resistant Shield ----------Y

Notes:
(1) Available in 22 and 24 AWG conductor sizes.
(2) Available only in 22 AWG conductor size.
(3) Wire uses a “Water Blocking Powder” in place of a “Gel Compound” as the filling compound surrounding the twisted pairs in the wire core.

1.4
01-05
nt

nt - Aerial Service Wires

RUS Standard Designation "SEA"

These manufacturers' wires shown by catalog designations comply with 7 CFR 1755.700 through 7 CFR 1755.704

nt-a Copper Covered Steel Reinforced (CCSR) Aerial Service Wires

Manufacturer	Catalog Designations					
	Standard		Reduced		Super-Reduced	
	oval	dumbbell	oval	dumbbell	oval	dumbbell
General Cable	-	ADR-182-PVC	-	-	-	-
Superior/Essex	ADP	ADP-D	-	-	ADP/SR	ADP/SR-D

nt-b Nonmetallic Reinforced (NMR) Aerial Service Wires

Manufacturer	Catalog Designations			
	2-Pair	3-Pair	5-Pair	6-Pair
General Cable	2 TPR 22 AWG GSDW	-	-	6 TPR 22 AWG GSDW
Superior/Essex	2X22_ (1)	3X22_ (1)	5X22_ (1)	6X22_ (1)

(1) Replace blank with either “ADP NMS” or “USW-DF.”

oc – Fiber Optic Cable

Cables comply with 7 CFR 1755.900. Cables must be used for intended application. For cable installation, users must follow the manufacturer's practices. Borrowers are expected to obtain the manufacturer's documentation for proper use and known industry issues i.e. PON midspan and uni-tube dry ribbon cable coupling issues. Notes are found on page 1.5.4.

Manufacturer name and accepted fibers	*Accepted Cables*
AFL Accepted for dispersion-unshifted and dispersion-shifted single mode optical fibers. Also accepted for 50/125 and 62.5/125 micrometer multimode optical fibers.	Dielectric__(Pure) Uni-Tube MicroCore(2)(7)
	AFL ADSS Mini-Span Series
	AFL Loose Tube Cable
	AFL Armored Loose Tube Cable
CommScope/Systimax Solutions Accepted only for dispersion-unshifted single mode optical fibers.	O-XXX-LN-XY-F12NS XXX=002-288 (Arid Core) 5024 XXXA WXBK XXX=002-288 (Arid Core)
	O-XXX-LA-XY-F12NS XXX=002-288 (Arid Core) 5023 XXXA WXBK XXX=002-288 (Arid Core)
	O-XXX-L2-XY-F12NS(4) XXX=002-288 (Arid Core) 5043 XXXA WXBK(4) XXX=002-288 (Arid Core)
	D-XXX-LN-XY-F12NS XXX=002-288 (Gel-Free, Arid Core)(13) 5028 XXXA WXBK XXX=002-288(Gel-Free, Arid Core)(13)
	D-XXX-LA-XY-F12NS XXX=002-288 (Gel-Free, Arid Core)(13) 5027 XXXA WXBK XXX=002-288(Gel-Free, Arid Core)(13)
	D-XXX-L2-XY-F12NS(4) XXX=002-288 (Gel-Free, Arid Core)(13)
	M-XXX-DN-XY-F12NS/GSM/40T XXX=001-012 (Arid Core)(14)
	M-XXX-MN-XY-F06NS/CCS XXX=001-006 (Arid Core)(14)
	O-XXX-DA-XY-F12NS XXX=001-012 (Arid Core)(14)
Corning Cable Systems SMF-28e (standard single-mode) LEAF (non-zero dispersion shifted single-mode) NexCor (premium single-mode) InfiniCor (50/125 Multi-mode and 62.5/125 Multi-mode)	ALTOS™ Figure-8 Gel-Free and Filled (Lite version included)
	ALTOS™ Filled and Gel Free(13)(LST, LST Lite, and Lite versions included)
	SOLO All-Dielectric Self Supporting (ADSS Short Span & ADSS Medium-Span)
	SST-Drop (Dielectric & Armored - Toneable versions included)(14)
	SST-Ribbon, SST-Ribbon Gel-Free(13), SST-UltraRibbon (Dielectric, Armored, Gel-Free(13) versions accepted)

1.5.1
03-31-2009
oc

oc – Fiber Optic Cable

Cables comply with 7 CFR 1755.900. Cables must be used for intended application. For cable installation, users must follow the manufacturer's practices. Borrowers are expected to obtain the manufacturer's documentation for proper use and known industry issues i.e. PON midspan and uni-tube dry ribbon cable coupling issues. Notes are found on page 1.5.4.

Manufacturer name and accepted fibers	*Accepted Cables*
Draka Comteq Standard singlemode, Enhanced Singlemode, BendBright (XS), TeraLight Metro NZDSF, TeraLight Ultra NZDSF, includes 2.65 mm loose tubes.	ezUNITUBE™(14)
	ezPREP™ Loose Tube Central(14)
	ezRIBBON™ Central Tube (8)(9) (includes Gel Free version(13))
	ezRIBBON™ Loose Tube Cable(11) (13)
	ezPREP™ Loose Tube Traditional Filled/Dry (includes Heavy Duty versions)(14)
	ezPREP™ Loose Tube(14) includes versions: 1. Heavy Duty 2. Gel Free(13) 3. Figure 8
	ezSPAN™ADSS Short Span(14)
	ezMICRODUCT™ (7) (14)
	ezSPAN™ADSS Long Span
	ezDROP™ Dielectric (14) ezDROP™ Toneable(14)
	ezDROP™ Figure 8(14)
Emtelle ITU-T G.652d ITU-T G.655.A(B)(C) ITU-T G.651 (multimode)	fibre**flow**™ Optical Fiber Unit System (10)
Hitachi Cable Accepted only for dispersion-unshifted and dispersion-shifted single mode optical fibers.	60090
	60102(5)
	60298(4)

oc – Fiber Optic Cable

Cables comply with 7 CFR 1755.900. Cables must be used for intended application. For cable installation, users must follow the manufacturer's practices. Borrowers are expected to obtain the manufacturer's documentation for proper use and known industry issues i.e. PON midspan and uni-tube dry ribbon cable coupling issues. Notes are found on page 1.5.4.

Manufacturer name and accepted fibers	*Accepted Cables*
NextGen Fiber Optics/ General Cable Accepted only for dispersion-unshifted single mode optical fibers.	4M__[3]Y-DWB
	4H__[3]N-DWB
	4__[6]2A-DWB
	4__[6]1A-DWB
	4__[6]2F-DWB
	4__[6]1F-DWB
OFS OFS Single Mode Fibers: AllWave®, AllWave® FLEX ZWP, TrueWave® RS, Singlemode Low Water Peak (Contact OFS for Literature) OFS Multi Mode Fibers: LaserWave™ (50 um), Laser Optimized Fiber 62.5/62.5XL, Standard 62.5um & 50um Multimode Fiber (Contact OFS for Literature)	LightPack® LXE
	Mini C2™
	AccuRibbon® DC
	Single Jacket, Armored (contact OFS for literature), Light-Armored
	Figure8 (includes Armored version, contact OFS for literature)
	PowerGuide® ADSS (includes TTH version)
	Fortex™ DT (includes High Density version and both may be Single Jacket, Armored, or Light-Armored as needed)
	AccuRibbon® LXE
	Mini LXE[14]
	Dielectric Drop[14]
	Mini LT (toneable version included) [14]
	Midia FX PLUS[7] [14]

1.5.3
03-31-2009
oc

oc – Fiber Optic Cable

Cables comply with 7 CFR 1755.900. Cables must be used for intended application. For cable installation, users must follow the manufacturer's practices. Borrowers are expected to obtain the manufacturer's documentation for proper use and known industry issues i.e. PON midspan and uni-tube dry ribbon cable coupling issues. Notes are found on page 1.5.4.

Manufacturer name and accepted fibers	*Accepted Cables*
Prysmian Accepted only for dispersion-unshifted and dispersion-shifted single mode optical fibers.	CentraLink™ (2) (14) (includes CD version)
	AeroLink™ ADSS (includes Short, Medium, and Long versions)
	FlexLink™ (includes Armored version) (13)
	FusionLink™ XXXXYYSTRADESJB (Non-Armored) Dry/Dry (13)
	FusionLink™ XXXXYYSTRADSAJB (Armored) Dry/Dry (13)
	FusionLink™ XXXXYYSTRABESJB (Non-Armored) Gel filled
	FusionLink™ XXXXYYSTRABSAJB (Armored) Gel filled
	XXXXYYHNLADJNVK – ResiLink ADF™ (14)
	XXXXYYHNLTDJNVK – ResiLink TF™ (14)
	XXXXYYHNLEDJNVK – ResiLink™(14)
Remee Products Accepted for dispersion-unshifted and dispersion-shifted single mode optical fibers. Also accepted for 50/125 um and 62.5/125 um multimode optical fibers.	22 Series(5) (14) (Contact Remee for literature on dry block designs, flooded designs on web)
	23 Series(4) (14) (Contact Remee for literature on dry block designs, flooded designs on web)
	25 Series(4) (14) (Contact Remee for literature on dry block designs, flooded designs on web)
	28 Series (4)(5) (14) (Contact Remee for literature on dry block designs, flooded designs on web)
	83 Series(4)(5) (Contact Remee for literature on dry block designs, flooded designs on web)
	88 Series (4)(5) (Contact Remee for literature on dry block designs, flooded designs on web)
Sterlite (Non-Domestic Technical Acceptance expires on **Febraury 20, 2010**.) Accepted for ITU-T G.652 & ITU-T G.652D fibers	Multitube Fig-8 Aerial
	Aerial-Lite Dry Core ADSS
	96 Fibre All Dielectric Self Supporting
	2 Fibre Unitube Unarmoured (14)
	Unitube Single Sheath Drop Lite (14)
	Multitube Single Sheath Duct Lite
	Single Sheath Steel Tape Armored Direct Buried
	144 Fibre Single Sheath Unarmoured Duct Lite
	Single Sheath MICRO LITE

oc – Fiber Optic Cable

Cables comply with 7 CFR 1755.900. For cable installation, users must follow the manufacturer's intended design use and proper practices. Borrowers are expected to obtain the manufacturer's documentation for proper use and known industry issues i.e. PON midspan and uni-tube dry ribbon cable coupling issues. Notes are found on page 1.5.4.

Manufacturer name and accepted fibers	*Accepted Cables*
Sumitomo Electric Accepted for dispersion-unshifted fiber (PureBand and PureAccess) and dispersion-shifted single mode optical fibers (PureGuide and PureMetro). Also accepted for 50/125 and 62.5/125 micrometer multimode optical fibers.	Litepipe™ ADS™ (Ribbon & Fiber Bundle)
	Litepipe™ Armorlux® (Ribbon& Fiber Bundle)
	Litepipe™ Armorlux® - LE[(2)]
	DriCore®
	DriTube (ribbon cable)[(13)]
	SE-*LW*, *LV*, *LG*,*LH*[(13) (14)]
	SE-*LQ*[(2) (13) (14)]
	SE-*DN*[(13) (15)]
Superior Essex Accepted for Matched Clad (MC), FullBand® Low Water Peak, Allwave®, Flex Zero Water Peak, AllWave® Zero Water Peak, Low Water Peak, ASMF 200 AFC, TeraLight, SMF-28 and 28e+, SMF-LS, Leaf NZ-DSF SMF, Dispersion-unshifted SMF, PureBand, 62.5/125 µm, 50/125 µm	SLT[(2)]
	SLT-D-R[(2)] (Ribbon), SLT-D-R [(13)] (Dri-Lite™)
	S2
	Series S1 (Ribbon up to 1008)
	MLT [(12)]
	MLT-8
	MLT-D-8
	MLT-D
	Universal FTTP OFNR[(14)]
	Toneable FTTP OFCR[(14)]
	ADP FTTP Series 57[(14)]
	Buried FTTP Composite Series 72[(14)]
	Universal Drop FTTP Series 570Q[(14)]
	UG FTTP Series 513[(14)]
	Buried FTTP Series 523[(14)]
	Toneable Drop FTTP Series 571Q[(14)]
	Figure 8 FTTP Series 573Q[(14)]
Teldor Cables & Systems Accepted for ITU-T Single Mode & Multi Mode fibers and for 62.5u Multi Mode fibers	FTX series - Microduct FO cables for FTTX applications
	LD series - MultiLoose Tube fiber Optic Cables
	ADS series - All Dielectric Self-Supporting fiber Optic Cables
	SL series - Central Loose Tube fiber Optic Cables

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Notes

(1) May contain multiple fibers per tube.
(2) CSM not embedded in jacket; surrounds central core tube.
(3) Replace blank with the number 1 or 2.
(4) Double jacketed design.
(5) Single jacketed design.
(6) Replace blank with either the letter M or H.
(7) For air blown microduct (a duct having a diameter of 10 to 13 millimeters) installations only.
(8) Toneable ribbon cable accepted
(9) High count (288-432) 24 fiber splittable ribbon accepted
(10) Users must follow manufacturer's installation requirements and method. Blown fiber system is accepted through 7 CFR 1755.900, section 1.4: "*Optical cable designs not specifically addressed by this specification may be allowed if accepted by REA. Justification for acceptance of a modified design must be provided to substantiate product utility and long term stability and endurance*." System includes all accessories and components and is not accepted for individual use without the system.
(11) It's specified for >216 to 864 fibers; however, lower fiber counts can be provided on special request.
(12) May contain a 12 AWG, stranded copper conductor to replace a filler rod. User must comply with all local and National Electrical Codes (NEC) when opening, connecting, and/or terminating this conductor; conductor shall not be left floating.
(13) Includes Cable Designs that are fully dry using water blocking elements throughout.
(14) Fiber Optic Service Entrance Cables included
(15) Fiber Optic Service Entrance Cables

pl - Splice Closure

Cable closure designs, RUS suffixes and notes are outlined on page 2.1.6.

Manufacturer	Accepted Closures	Max. Cable Dia.(6)	Max. Splice Capacity(8)	Encapsu-lant.(2)	Closure Design	Suffixes
3M Company	SLiC 2x19 FB	1.6”			a1	A,C
	SLiC 2x29 FB	1.6”			a1	A,C
	SLiC 3x33 FB	2.6”			a1	A,C
	SLiC 5x33 FB	3.0”			a1	A,C
	SLiC 7x33 FB	3.8”			a1	A,C
	SLiC 9x36 FB	3.8”			a1	A,C
	GATM92000	1.5”			a1	A,C
	GATM95000	2.5”			a1	A,C
	GATM97000	4.0”			a1	A,C
3M Company (510 Version)	2X2AA	1.0”			a2, b2	A,C
	2Y2AA	1.0”			a2, b2	A,C
	2A2	1.6”			a2, b2	A,C
	2B2	2.9”			a2, b2	A,C
	2C2	3.5”			a2, b2	A,C
	2D2	3.5”			a2, b2	A,C
	2E2	4.5”			a2, b2	A,C
3M Company	8981-4462/GEL	0.58”		8882GEL	b1	A,C
	8982-4462/GEL	1.0”		8882GEL	b1	A,C
	8983-4462/GEL	1.5”		8882GEL	b1	A,C
	8984-4462/GEL	2.0”		8882GEL	b1	A,C
	8985-4462/GEL	2.4”		8882GEL	b1	A,C
	8986-4462/GEL	3.33”		8882GEL	b1	A,C
	BB2 x 24 4462/GELLA SC, DC-LHS	1.2”		8882GEL	b1	A,C
	BB3 x 24 4462/GELLA SC, DC-LHS	1.7”		8882GEL	b1	A,C
	BB4 x 24 4462/GELLA SC, DC-LHS	2.0”		8882GEL	b1	A,C
	BB5 x 26 4462/GELLA SC, DC-LHS	2.4”		8882GEL	b1	A,C
	BB6 x 26 4462/GELLA 2DC-LHS	3.3”		8882GEL	b1	A,C
	BB7 x 26 4462/GELLA 2DC-LHS	3.6”		8882GEL	b1	A,C
	BB9 x 26 4462/GELLA 2DC-LHS	3.8”		8882GEL	b1	A,C
	FSC 2x12	0.58”		8882GEL	b1	A,C
	FSC 3x12S	1.0”		8882GEL	b1	A,C
	FSC 3x12L	1.5”		8882GEL	b1	A,C
	FSC 3x19	1.5”		8882GEL	b1	A,C
	FSC 3x21	1.5”		8882GEL	b1	A,C
	FSC 4x19	2.4”		8882GEL	b1	A,C
	FSC 4x21	2.4”		8882GEL	b1	A,C
	FSC 6x19	3.3”		8882GEL	b1	A,C
	FSC 8x19	3.8”		8882GEL	b1	A,C
	FSC 8x19L	3.8”		8882GEL	b1	A,C
3M Company (Kohler & Besser) * Insert inner diameter and cover length according to manufacturer instructions.	K & B Series Non-Flame Retardant.(9) 2 * 2 (*)				c	
	K & B Series Flame Retardant.(5) 2 * 2 (*)				c	

pl - Splice Closure

Cable closure designs, RUS suffixes and notes are outlined on page 2.1.6.

Manufacturer	Accepted Closures	Max. Cable Dia.(6)	Max. Splice Capacity(8)	Encapsu-lant.(2)	Closure Design	Suffixes
(cont.)3M Company	FD06		48		d	B, C
	FD08		96		d	B, C
	2178S (non-flame retardant)(9)		96		d, f	A, B, C
	2178LS		480		d, e	A, B, C
	2177-R		64	8882	e	A, B, C
	2178FR (flame retardant)				f	
	2178XSB		48		d, e	B
	SLiC Fiber Aerial Closure 530(15)		12		d	A, B, C
	SLiC Fiber Aerial Closure 533		144		d	C
	SLiC Fiber Aerial Closure 733		288		d	C
	Fiber Dome Closure FDC 08		96		d, e	B, C
	Fiber Dome Terminal Closure FDT 08 External Drop (w/ HFOC)		72 with 4, 6, or 8 drop ports (14)		d, e	B, C
	Fiber Dome Terminal Closure FDT 08 Direct Splice Drop		96 or 72 with up to 8 drop ports		d, e	B, C
	Fiber Dome Terminal Closure FDT 08 Internal Drop		24 with 4, 6, or 8 drop ports		d, e	B, C
ADC	MST (w/HFOC)		2/4/6/8/12 ports(14)		d, e	B
AFL	LG-50		18		d	A, B
	LG-100		36		d	B, C
	LG-200		96		d	B, C
	LG-300		384		d	B, C
	LG-300XL		864		d	B, C
	LG-410		72		d	A, B, C
	LG-420		12		d	A, B, C
	LG-500		72		d	A, B, C
	LG-600		288		d	A, B, C
Corning Cable Systems(10)	LCA9T34		72		d	A, B, C
	SCA-9T34		240		d	A, B, C
	SCA-KT9		48		d	A, B, C
	SCA-9T24(12)		216		d	A, B, C
	SCA-6T24(12)		72		d	A, B, C
	OptiSheath (w/Optifit)		2/4/6/8/12 ports(14)		d, e	A, B, C
	SCF-6C22		72		e	A, B, C
	SFC-6C28		288		e	A, B, C
	SCF-8C28(11)		576		e	A, B, C
	SCC-6C22		10		e	A, B, C
	SCC-6C28		20		e	A, B, C
	SCC-8C28		30		e	A, B, C
	SCP-6C22		96		e	A, B, C
	UCA4-XX		72		e	A, B, C
	UCA5-XX		72		e	A, B, C
Lucent Technologies	UCB1 (flame retardant)				f	

pl - Splice Closure

Cable closure designs, RUS suffixes and notes are outlined on page 2.1.6.

Manufacturer	Accepted Closures	Max. Cable Dia.(6)	Max. Splice Capacity(8)	Encapsu-lant.(2)	Closure Design	Suffixes
Multilink Broadband (Starfighter)	1120F-GK01		24		d	A, B, C
	2000F-GK01		72		d	A, B, C
	4048-D		96		d, e	B
	4000-D		192		d, e	B
	3000F		144		d, e	A, B, C
Preformed Line Products	8006021	2.2”			a2, b1	A,C
	8006022	4.1”			a2, b1	A,C
	8006023	6.85”			a2, b1	A,C
	8006024	4.1”			a2, b1	A,C
	8006025	6.85”			a2, b1	A,C
	8006177	10.1”			a2	A,C
	8006219	10.1”			a2, b1	A,C
	8006220	10.1”			a2, b1	A,C
	8006221	10.1”			a2, b1	A,C
	8006287	2.2”		RD	b1	A,C
	8006288	4.1”		RD	b1	A,C
	8006289	4.1”		RD	b1	A,C
	8006290	7.1”		RD	b1	A,C
	8006291	7.1”		RD	b1	A,C
	8006292	7.1”		RD	b1	A,C
	8006293	10.1”		RD	b1	A,C
	8006294	10.1”		RD	b1	A,C
	8006295	10.1”		RD	b1	A,C
	8006 Series (non-flame retardant)				c	
	8006 FR Series (flame retardant)				c	
	8001005			RD	d, e	B
	8001006			RD	d, e	A,C
	8006692				d, e	A, B
	8006661 (non-flame retardant)				d, e, f	A, B, C
	8006659 (non-flame retardant)				d, e, f	A, B, C
	8006660 (non-flame retardant)				d, e, f	A, B, C
	8006887				d, e	B, C
	8006946				d, e	B, C
	8006878				d, e	B, C
	8006944				d, e	B, C
	8006945				d, e	B, C
	8006941				d, e	B, C
	8006879				d, e	A, B, C
	8006880				d, e	A, B, C
	8006951				d, e	A, B, C
	8006953				d, e	A, B, C
	8006954				d, e	A, B, C
	8006955				d, e	A, B, C
	8006956				d, e	A, B, C
	80011839				d, e	A, B, C
	8001010 (flame retardant)				f	
	8001011 (flame retardant)				f	
Telepak	TPIKRU-A	25 - 200pr.		8882GEL	a2, b1, b2	A, C
	TPIKRU-B	300-400pr.		8882GEL	a2, b1, b2	A, C
	TPIKRU-C	600pr.		8882GEL	a2, b1, b2	A, C

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pl - Splice Closure

Cable closure designs, RUS suffixes and notes are outlined on page 2.1.6.

Manufacturer	Accepted Closures	Max. Cable Dia.(6)	Max. Splice Capacity(8)	Encapsu-lant.(2)	Closure Design	Suffixes
Thomas&Betts	C-3500	1.00”		8882GEL	a1	A, C
	C-3501	1.50”		8882GEL	a1	A, C
	C-3502	1.75”		8882GEL	a1	A, C
	C-3503	2.125”		8882GEL	a1	A, C
	C-3504	2.75”		8882GEL	a1	A, C
	C-3505	3.125”		8882GEL	a1	A, C
	C-3506	4.50”		8882GEL	a1	A, C
	C-3507	6.00”		8882GEL	a1	A, C
	C-3509	7.50”		8882GEL	a1	A, C
	C-3508	9.00”		8882GEL	a1	A, C
	TBTKNKS	6-25 pr.		8882GEL	b1	A, C
	TBTBA-1	25-100 pr.		8882GEL	b1	A, C
	TBTKNKAA			8882GEL	b1	A, C
	TBTKNKA			8882GEL	b1	A, C
	TBTKNKA2	25-200 pr.		8882GEL	b1	A, C
	TBTKNKA4	25-400 pr.		8882GEL	b1	A, C
	TBTA2	100-200 pr.		8882GEL	b1	A, C
	TBTKNKB	100-300 pr.		8882GEL	b1	A, C
	TBTKNKB2	200-400 pr.		8882GEL	b1	A, C
	TBTKNKB4	200-600 pr.		8882GEL	b1	A, C
	TBTBA3	300-900 pr.		8882GEL	b1	A, C
	TBTKNKC2	600-900 pr		8882GEL	b1	A, C
	TBTKNKC4	600-1300pr		8882GEL	b1	A, C
	TBTKNKD2	900-2400pr		8882GEL	b1	A, C
	C-5100	1.0”			b2	A
	C-5101	1.6”			b2	A
	C-5102	2.2”			b2	A
	C-5103	3.0”			b2	A
	C-5104	3.0”			b2	A
	C-5105	1.0”			b2	C
	C-5106	1.6”			b2	C
	C-5107	2.2”			b2	C
	C-5108	3.0”			b2	C
	C-5109	3.0”			b2	C

pl - Splice Closure

Cable closure designs, RUS suffixes and notes are outlined on page 2.1.6.

Manufacturer	Accepted Closures	Max. Cable Dia.(6)	Max. Splice Capacity(8)	Encapsu-lant.(2)	Closure Design	Suffixes
Tyco Electronics	CST (Cold Sealed Terminal)(16)				b1	B, C
	TRAC – A	1.26”			a1	A, C
	TRAC – B	1.89”			a1	A, C
	TRAC – B+	2.56”			a1	A, C
	TRAC – C	3.27”			a1	A, C
	XAGA 1650-S	.35”		CasChem 165	b1	A, C
	XAGA 1650-A	.48”		CasChem 165	b1	A, C
	XAGA 1650-AA	.48”		CasChem 165	b1	A, C
	XAGA 1650-A2	.48”		CasChem 165	b1	A, C
	XAGA 1650-A4	.48”		CasChem 165	b1	A, C
	XAGA 1650-B2	1.10”		CasChem 165	b1	A, C
	XAGA 1650-B4	1.10”		CasChem 165	b1	A, C
	XAGA 1650-C2	1.85”		CasChem 165	b1	A, C
	XAGA 1650-C4	1.85”		CasChem 165	b1	A, C
	XAGA 1650-D2	2.00”		CasChem 165	b1	A, C
	XAGA 1650-D4	2.00”		CasChem 165	b1	A, C
Tyco Electronics (CERTI-SEAL) Series 6, 59, 7, & 11 for Tel. & Coax	569224-1	.29 - .46”		Sealant 20	b1	A, C
	569661-1	.29 - .46”		Sealant 20	b1	A, C
	569671-1	.29 - .46”		Sealant 20	b1	A, C
	569579-1	.29 - .46”		Sealant 20	b1	A, C
	1116449-1	.29 - .46”		Sealant 20	b1	A, C
	1217195-1	.35 - .57”		Sealant 20	b1	A, C
Tyco Electronics	FOSC400-A4-X-NT-O-NGV-RUS				d	B, C
	FOSC400-B2-X-NT-O-NGV-RUS				d	B, C
	FOSC400-B4-X-NT-O-NGV-RUS				d	B, C
	FOSC400-C5-X-NT-O-NGV-RUS				d	B, C
	FOSC400-D5-X-NT-O-NGV-RUS				d	B, C
	FOSC450-A4-X-NT-O-A1V				d, e	B, C
	FOSC450-B6-X-NT-O-B3V				d, e	B, C
	FOSC450-C6-X-NT-O-D6V				d, e	B, C
	FOSC450-D6-X-NT-O-D6V				d, e	B, C
	FTerm UMT		4/6/8/12 ports(14)		d, e	B, C

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pl - Splice Closure

Cable closure designs, RUS suffixes and notes are outlined on page 2.1.6.

Manufacturer	Accepted Closures	Max. Cable Dia.(6)	Max. Splice Capacity(8)	Encapsu-lant.(2)	Closure Design	Suffixes
URASEAL *The branch type max. cable dia. 2.2" and 3.0", respectively.	CA1900WE-A1S	1.2"			a1	A, C
	CA1900WE-B1S*	1.87"			a1	A, C
	CA1900WE-C1S*	2.5"			a1	A, C
	CFO40413NG-RUS-01		24		d, e, f	B, C
	CFO40413NG-RUS-02		36		d, e, f	B, C
	CFO40413NG-RUS-03		48		d, e, f	B, C
	CFO40413NG-RUS-04		72		d, e, f	B, C
	CFO40413NG-RUS-05		96		d, e, f	B, C
	CFO40413ND-RUS-01		24		d, e, f	B, C
	CFO40413ND-RUS-02		36		d, e, f	B, C
	CFO40413ND-RUS-03		48		d, e, f	B, C
	CFO40413ND-RUS-04		72		d, e, f	B, C
	CFO40413ND-RUS-05		96		d, e, f	B, C

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Closure Designs:

a1 – Aerial Splice Closure for Copper Cables Free-Breathing
a2 – Aerial Splice Closure for Copper Cables Pressurized
b1– Buried/Underground Splice Closure for Copper Cables
b2– Buried/Underground Splice Closure for Copper Cables Pressurized
c – Buildings and Central Office Vault Splice Closure for Copper Cables
d – Aerial Splice Closure for Fiber Cables
e– Buried/Underground Splice Closure for Fiber Cables
f – Buildings and Central Office Vault Splice Closure for Fiber Cables

Suffixes:

A – In-line
B – Butt
C – Branch

Notes:

1. Fiber organizer trays shall be ordered in accordance with manufacturer's instructions.
2. The encapsulant is a component part of the splice closure system and shall be provided by the closure manufacturer. The encapsulant is not accepted on an individual basis.
3. The main cable diameter, cable configuration (number of cables, pair count and gauge), and splice bundle diameter should be specified by the engineer.
4. 3M Better Buried closures are accepted for Branch splicing only.
5. For vertical installations order standard closure with "5925 FireBarrier Shield."
6. Metric sizes available for the following manufacturers: 3M.
7. These closures may also be installed in pedestals.
8. Maximum capacity for fusion splices
9. Non-flame retardant cases shall not be placed in a building or central office, they may be placed in a cable vault.
10. Accepted entire closure series with accessories, couplers, splitters, organizers, etc.
11. Accepted entire closure series except one, SCF-8C28-9F which has been technically accepted as a non-domestic product.
12. Acceptance includes SPAP and Optisheath Advantage terminals.
13. NG designates non-ADSS cables and ND designates ADSS cables.
14. This is a pre-connectorized outside plant hardened PON terminal that may be deployed as a stand alone aerial end user service pole/messenger terminal or in an enclosure for buried or underground end user service distribution. Acceptance includes hardened fiber optic connectors (HFOC) and RDUP/RUS Listed service entrance (drop) cables specifically mated for this terminal's use or for individual purchase as a stand alone pre-connectorized fiber drop for other like terminals using the patented licensed Corning technology.
15. Acceptance includes 4, 6, 8, and 12 external drop cable terminations.
16. Equipped with either 25 pair or 50 pair Dat@Term terminal blocks.

Underground Conduit

Note: For fiber and plastic conduit, Type I, Type B or Type EB is for concrete encasement and Type II, Type C or Type DB may be directly buried. Schedule 40 is a high strength conduit that may be used for concrete encasement or direct burial. Type D is for exposed installation, as on bridges.

Manufacturer	Type Conduit	Catalog Number
Allwire, Inc.	Flexible plastic	ALLDUCT
American Pipe & Plastics	Plastic	Type B, C, and D
		Type EB and DB
		PVC Multi-Duct (2,3,4 and 6-way)
Apache Plastics, Inc.	Plastic	Type EB and Type DB
Arnco	Flexible plastic	HDPE Conduit
Bore Flex	Flexible plastic	HDPE Conduit
Bristolpipe	Plastic	Type B, C, and D
		Type EB and Type DB
Cantex	Plastic	Type EB and Type DB
		Type B, C, and D
		Schedule 40
		Schedule 80
		Cellular Core PVC Sch.40
		Cellular Core PVC DB120
Certain-Teed Products Corp.	Plastic	Type EB and Type DB
Comfit USA	HDPE	100, 125, 150, & 200
CommScope	Flexible plastic	SDR 13.5, SCH 40 (1/2" – 4")
		SDR 11, 13.5, SCH 40 (3/4" – 4")
		SDR 9, 11, 13.5, SCH 40, 80 (13mm- 4")
CSR Polypipe	Flexible plastic	HDPE Duct
Dura-line	Flexible plastic	HDPE Duct
Endot Industries	Flexible plastic	HDPE Duct
Flying "W" Plastics	Flexible plastic	HDPE Duct
Freedom Plastics, Inc.	Plastic	Type C
Heritage Plastics	Plastic	PVC Types EB, DB,
		Sch. 40 and Sch. 80
Hurlbut Plastic Pipe	Plastic	Type C

See page 2.2.1 for notes.

2.2.1
04-30-2009
hc

Underground Conduit

Note: For fiber and plastic conduit, Type I, Type B or Type EB is for concrete encasement and Type II, Type C or Type DB may be directly buried. Schedule 40 is a high strength conduit that may be used for concrete encasement or direct burial. Type D is for exposed installation, as on bridges.

Manufacturer	Type Conduit	Catalog Number
Imperial Pipe Corp.	Flexible plastic	HDPE Duct
IPEX, Inc.	Flexible plastic (Fibertel)	EPEC-(B, 40, SDR11, 80)-HDPE 1" – 4"
Ironhed	Stainless Steel FMP	3, 7, 10, 12, & 14 Gauge
J-M Manufacturing Company	Plastic	Types C, EB, and DB
MaxCell	Polymer Fabric	MaxCell Innerduct (2
National Pipe & Plastics, Inc	Plastic	Type EB and Type DB
		Type B and Type C
Northern Pipe Products	Plastic	Type B, C, and D
OMNI	Flexible plastic	HDPE Duct
	Plastic	Multiple plastic conduit (3 & 4 Way)
OSI Plastics	Flexible plastic	EPEC-A-HDPE 1" – 4"
Performance Pipe	Flexible plastic	DRISCOPLEX Duct
Petroflex	Flexible plastic	HDPE Duct
		Corrugated HDPE Duct
Plastic Industries, Inc	Plastic	HDPE SDR 9
		HDPE SDR 11
		HDPE SDR 13.5
		HDPE SDR 17
Prime Conduit	Plastic (Telephone Duct)	Type B, Type C, and Type D
	Plastic	Type EB, Type DB
		Multi-Gard
		BORE-GUARD (Sch. 40 & 80)
		PVC Schedule 40
		PVC Schedule 80
PWPipe	Plastic	PVC Types EB, DB, and Sch. 40
	Flexible plastic	HDPE Coiled Duct
Queen City Plastics	Plastic	Type EB and Type DB
		PVC Schedule 40
Sedco	Plastic	Type EB and Type DB
Southern Pipe, Inc.	Plastic	PVC Types EB, DB, and Sch. 40
Summit Sales, Inc.	Plastic	Type B and Type C
Tamaqua Cable Products	Flexible plastic	HDPE Duct
TeraSpan	Rigid PVC	VIF System(1)
Wesflex	Flexible plastic	Flex-Con

Notes:

(1) Vertical Inlaid Fiber (VIF) System includes VDC1, VDC3, VDC4, VDC6, VIF Cables (04, 12, & 24 strands), Cylindrical Access Node, splice enclosure, and miscellaneous components that complete the system. These items may not be purchased separately.

(2) Includes standard, plenum, micro, detachable, installation and termination accessories.

er - Cable Enclosures

er-a Ready Access Enclosures (Enclosures Only)

Lashed Cables

Manufacturer	Main Cable Dia. Range	Straight	Branch
3M	0.40-4.00”	SLIC[5]	SLIC[5]
Emerson Network Power, Energy Systems	0.4-1.2" 1.2-2.0" 2.0-3.0"	100 MB[7] 200MB[7] 430	100 MBY[7] 200MBY[7] 430Y
Thomas&Betts	0.50-2.20"	Termax C-2280	-

See page 2.3.2 for notes.

er - Cable Enclosures

er-b Ready-Access Enclosures (Enclosures Only)

Strand-mounted, with two branch entrances (for lashed cables)

Manufacturer	Type E		Type F	
Diameter of main:	**1.2" Maximum**		**2.2" Maximum**	
Diameter of branch:	**0.75" Maximum**		**1.6" Maximum**	
Type of strand:	**Galvanized Steel**	**Alum.-Clad Steel**	**Galvanized Steel**	**Alum.-Clad Steel**
Emerson Network Power, Energy Systems	200MBY	200MBY	200MBY	200MBY

er-c Ready-Access Enclosures e/w with IDC Terminal Blocks (Fixed Count Enclosures)

Strand-mounted, with two branch entrances (for lashed cables)

Filled Unprotected

	Main Cable Dia. Range	Branch Cable Dia. Range	Series
3M Company	0.40-4.00”	-	SLIC[(2)(6)]
	0.30-4.00”[(1)]	0.30-4.00”	GATM
Thomas&Betts	0.50-2.20”	-	Termax
Tyco Electronics	0.55-1.90”	0.00-1.50”	DTerminator 2 ICT-B
	0.50-1.50”	0.00-1.00”	DTerminator 2 ICT-A

Filled Protected

	Main Cable Dia. Range	Branch Cable Dia. Range	Series
Tyco Electronics	0.55-1.90”	0.00-1.50”	DTerminator 2 ICT-B[(3]
	0.50-1.50”	0.00-1.00”	DTerminator 2 ICT-A[(3)]

See page 2.3.2 for notes.

er - Cable Enclosures

er-d Ready-Access Enclosures e/w Binding Post Terminal Blocks (Fixed Count Enclosures)

Strand-mounted, with two branch entrances (for lashed cables)

Manufacturer

Filled Unprotected

	Main Cable Dia. Range	Branch Cable Dia. Range	Variable
Emerson Network Power, Energy Systems	0.40-1.20”	0.40-0.80”	100MBY(3)
	1.20-2.20”	0.40-1.60”	200MBY(3)
	2.00-3.00”	1.10-2.20”	430MBY(3)

Filled Protected

	Main Cable Dia. Range	Branch Cable Dia. Range	Variable
Emerson Network Power, Energy Systems	0.40-1.20”	0.40-0.80”	100MBY(4)
	1.20-2.20”	0.40-1.60”	200MBY(4)
	2.00-3.00”	1.10-2.20”	430MBY(4)

Notes:

1. The diameter range shown only includes the unprotected versions of the RGTA-type Emerson Network Power, Energy Systems terminal blocks.
2. Specify 3M PSI or Raychem (Tyco) terminal blocks when ordering.
3. May be ordered with up to 24 pairs using the 145BG Emerson Network Power, Energy Systems terminal block only.
4. May be ordered with up to 12 pairs using the 381G and 383G Emerson Network Power, Energy Systems terminal blocks only.
5. Includes the following catalog numbers only: 328 & 530 MT, 328 & 530-MT/SES, 328 & 530-MTA/SES, 328 & 530-MTC/RES, 328 & 530-MTC/SES, and 328 & 530-MTPI/SES.
6. Includes the following catalog numbers only: 328-G, 328-PI/SES, and 530-PI/SES.
7. Messenger insulator ordered separately. For 100MB or 100MBY order P10318. For 200MB or 200MBY order P10709.

hh - Handholes(1)(2)

Handholes for Fiber & Copper Systems

Manufacturer	Catalog Number
Armorcast	A6001974 (24”x36”) A6001946” (13x24”) A6001742 (30”x60”) A6001691 (39”x30”DI) A6001640 (17”x30”) A6001436 (36”x60”) A6001430 (30”x48”) A6001423 Series (12” X12”)
Blue Diamond Industries, LLC	MOV-2S/D(3)
Carson Industries	1730-13B H910 HLW1212-12 HLW1118-12 H1118-12, 15, 18 H1324-12, 15, 18 H1730-12, 18, 24 H2436-18, 24, 30, 36 H3048-18, 24, 30, 36 H3060-24, 30, 36
CDR Systems (Homac)	TA-1324 TA-1730 TA 2000 TA-2436 TA-2700 TA-3048W TA-3048 TA-3060 TA-3200 TA-3660 TA-3900 TA-4848 TA-4872 TA-4878 TA-4896
Champion Precast. Inc.	020-020-030K (2’x2’x3’) 040-040-040K (4’x4’x4’) 050-030-035K (5’x3’x3.5’)
Charles Industries, Ltd.	FMH 361 FMH 362 FMH 363

See page 2.4.5 for notes.

hh - Handholes(1)(2)

Handholes for Fiber & Copper Systems

Manufacturer	Catalog Number
Christy Concrete Products	SYN118TBOX__ (12, 18, 24, or 36) SYN1118TLID SYN1212TBOX__ (12, 18, 24, or 36) SYN1212TLID SYN1324TBOX__ (12, 18, 24. or 36) SYN1324TLID SYN1730TBOX__ (12, 18, 24 or 36) SYN1730TLID SYN2436TBOX__ (18, 24, or 36) SYN2436TLID SYN3048TBOX__ (18, 24, or 36) SYN3048TLID SYN3660TBOX__ (18, 24, or 36) SYN3660TLID
Highline	CHA Series 10x15x__ (12 or 18) 11x18x__ (12 or 18) 12x12x__ (12, 18 or 24) 13x24x__ (12, 15, 18 or 24) 17x30x__ (12, 18, 24 or 30) 24x36x__ (18, 24, 30 or 36) 30x48x__ (18, 24, 30 or 36) CRA Series (Round Boxes with 22 in. cover) Depth of 20” or 30” CVA Series 30x48x__ (various depths from 18” to 48”) 30x60x__ (various depths from 18” to 48”) 36x36x__ (various depths from 18” to 48”) 36x60x__ (various depths from 18” to 48”) 36x72x__ (various depths from 18” to 48”) 36x96x__ (various depths from 18” to 48”) 48x48x__ (various depths from 18” to 48”) 48x72x__ (various depths from 18” to 48”) 48x78x__ (various depths from 18” to 48”) 48x96x__ (various depths from 18” to 48”)

See page 2.4.5 for notes.

hh - Handholes(1)(2)

Handholes for Fiber & Copper Systems

Manufacturer	Catalog Number
Highline (Continuation)	
	Series PHA 10x15x12 11x18x12 12x12x12 13x24x15 13x24x18 17x30x__ (18 or 24) 24x36x__ (18 or 24) 30x48x36
	PTA Series 10x15x__ (12 or18) 12x12x12 13x24x18 17x30x__ (12 or 18) 24x36x18
Martin Enterprises	9x10 (diameter) 14x19x12 13x24x__ (12, 18, or 26) 17x30x__ (12, 18+8"ext., 22, 26, or 30) 24x36x__ (18, 24, or 42) 34x48x__ (36 or18) 30x60x36 36x60x36 5400x36 (diameter) 2436 Ring & Cover Assembly 1730 Ring & Cover Assembly
NewBasis	S1324 S1730 FCA/PCA 2436xxxx -20K FCA/PCA 3048xxxx -20K FCA/PCA 3048xxxx -20K FCA/PCA 1324xxxx -20K FCA/PCA 1730xxxx -20K FCA/PCA 2436xxxx -20K FCA/PCA 3048xxxx -20K FCA/PCA 3048xxxx -20K SG5400-SW FCA/PCA 3660xxxx -20K

See page 2.4.5 for notes.

hh - Handholes[1][2]

Handholes for Fiber & Copper Systems

Manufacturer	Catalog Number
Oldcastle Precast, Inc.	SYN118TBOX- (12, 18, 24, or 36) SYN1118TLID SYN1212TBOX- (12, 18, 24, or 36) SYN1212TLID SYN1324TBOX- (12, 18, 24, or 36) SYN1324TLID SYN1730TBOX- (12, 18, 24, or 36) SYN1730TLID SYN2436TBOX- (18, 24, or 36) SYN2436TLID SYN3048TBOX- (18, 24, or 36) SYN3048TLID SYN3660TBOX- (18, 24, or 36) SYN3660TLID
Northwest Pipe & Tank, Inc.	#8-C124 (4'x10"x3'4"x2'6")[4]
Pen-Cell Plastics	PE-10 PE-20 (Restricted to cable sizes up to 100 pairs) PE-36 PE-6HD PE-9HD PE-14HD PE-30HD PE-20HD PE-20F PE-20U PE-30HD PE-30F PE-30U PE-36A PE-36HD PEM Series
Quazite	PC1324 PC1730 PX1324 PX1730 PG2436 PG3048 LG3060 LG3660 LR2732

See page 2.4.5 for notes.

hh - Handholes[1][2]

Handholes for Fiber & Copper Systems

Manufacturer	Catalog Number
Razorback Boxes, Inc.	RB-24'x36"x18 RB-24"x36"x24" RB-30"x48"x36"
Synertech	S1118B12FA – 11"x18"x12" S1118B18FA – 11"x18"x18" S1212B12FA – 12"x12"x12" S1212B18FA – 12"x12"x18" S1324B12FA – 13'x24"x12" S1324B18FA – 13"x24"x18" S1324B24FA – 13"x24"x24" S1730B12FA – 17"x30"x12" S1730B18FA – 17"x30"x18" S1730B24FA – 17"x30"x24" S2436B18FA – 24"x36"x18" S2436B24FA – 24"x36"x24" S2436B36FA – 24"x36"x36" S3048B18FA – 30"x48"x18" S3048B24FA – 30"x48"x24" S3048B36FA – 30"x48"x36" S3660B24FA - 36" x 60" x 24" S3660B36FA – 36" x 60" x 36"
TDB Communications (Common Ground Enclosure)	TDB-GB-T[5]
Tunnel Mill Polymer, Inc.	R264836
Utility Vault	3642-BL[4][6](2'8"x3'6"x4') 25-TA (5'2½"x2'3"x2'6")

See page 2.4.5 for notes.

Notes: **(1)** Not for use in areas subject to vehicular traffic, unless otherwise noted.

(2) Consult the manufacturer for ordering procedures for handhole depth and lid/cover locking devices and load bearing capacity.

(3) Rated for use in areas subject to vehicular traffic

(4) Light vehicular traffic only (H10)

(5) Lugs kits available from TDB

(6) Only the 3642-2436P cover is RUS accepted for use with this handhole.

se - Buried Plant Housings
(Complies with 7 CFR 1755.910)

Note: (1) PON users must follow the cable manufacturer's recommended use and practices when installing fiber optic cables in optic enclosures.
(2) For vegetation and brush fire control RUS accepts the use of U-TECK's WeedEnder® products

Type BD Pedestals
(Listed manufacturers are accepted to supply housing types as indicated by X's.)

			Type H Pedestals								
			Pedestal Mounted					**Pole Mounted**			
Manufacture	**Series**	**Notes**	**BD3**	**BD4**	**BD5**	**BD6[18]**	**BD7**	**BD3A**	**BD4A**	**BD5A**	**BD6A[18]**
Channell	MAH	15	X	X	X		X				
Charles Industries, Ltd	(Pedlock BD)	2, 3, 15	X	X	X	X	X	X	X	X	X
	(CP2 Series)	2, 3, 15	X	X	X	X	X	X	X	X	X
	CFDP	15, 19	X	X	X	X	X	X	X	X	X
	BDO	15, 19, 20	X	X	X	X	X	X	X	X	X
Emerson Network Power, Energy Systems	UPC, FLOODPLUG	1, 2, 3, 7, 10	X	X	X		X	X	X	X	
	ProFORM	1, 2, 3, 7, 10, 19, 27	X	X	X		X	X	X	X	

See page 2.5.1.3 for notes.

se - Buried Plant Housings

(Complies with 7 CFR 1755.910)

Note: PON users must follow the cable manufacturer's recommended use and practices when installing fiber optic cables in fiber optic enclosures.

Type BD Pedestals

(Listed manufacturers are accepted to supply housing types as indicated by X's.)

			Pedestal Mounted			Pole Mounted				Type M Pedestals Pole Mounted (Increased Height. Above Ground)				
Manufacturer	**Series**	**Notes**	**BD14**	**BD15**	**BD16**	**BD17[18]**	**BD14A**	**BD15A**	**BD16A**	**BD17A[18]**	**BD14AG**	**BD15AG**	**BD16AG**	**BD 17AG[18]**
ADC	OmniReach (FAT) includes 8" non-metallic	19, 20, 23			X	X			X	X			X	X
Channel	MAH		X	X	X	-	-	-	-	-	-	-	-	-
Charles Industries, Ltd.	(Pedlock BD)	2, 3, 15	X	X	X	X	X	X	X	X	X	X	X	X
	(CP2 Series)	2, 3, 15	X	X	X	X	X	X	X	X	X	X	X	X
	CFDP	15, 19	X	X	X	X	X	X	X		X	X	X	X
	BDO	15, 19, 20	X	X	X	X	X	X	X	X	X	X	X	X
Corning Cable Systems	VPED	20	X	X	X	X	X	X	X	X	X	X	X	X
	OptiDrop	19, 21	X	X	X	X	X	X	X	X	X	X	X	X
Emerson Network Power, Energy Systems	FLOODPLUG	2, 3, 10	X	X	X	.-	X	X	X	-	X	X	X	-
	ProFORM	2, 3, 10, 19 27												

Large Count Splice Cabinets

Note: PON users must follow the cable manufacturer's recommended use and practices when installing fiber optic cables in fiber optic enclosures.

			BD6000	BD8000	BD10000
Emerson Network Power, Energy Systems	(UPCBD)	(2)(3)(10)(14)	-	X	-
Charles Industries	(CMHP)	(28)	X	-	-

See page 2.5.1.3 for notes.

se - Buried Plant Housings
(Complies with 7 CFR 1755.910)

Note: PON users must follow the cable manufacturer's recommended use and practices when installing fiber optic cables in fiber optic enclosures.

Type BDS Serving Area Interface Cabinet(4)

se - Buried Plant Housings
(Complies with 7 CFR 1755.910)

Note: PON users must follow the cable manufacturer's recommended use and practices when installing fiber optic cables in fiber optic enclosures.

Manufacturer	Designation	
	Terminal Type (5)	Cabinet Series
ADC	SC UPC, LC APC	OmniReach(19)
	LC UPC	FDH 3000 Series(19) (25)
ADC/FONS	SC/UPC	FDH I & II Series(19) (22)
Clearfield, Inc.	SC, SC APC, LC, LC APC	FSC(19) (24)
Corning Cable Systems	SC APC, SC UPC(29)	OptiTect(19) (Advantage & Premier)
ofs	SCA, LCA, MPO. SC, LC	Orbital 160(19) (26)
	SCA, LCA, MPO. SC, LC	Orbital 288(19) (26)
	SCA, LCA, MPO. SC, LC	Orbital 576(19) (26)
3M	3M SS Block	4000(6)
		4300(6)
		4220(6) (17)
		4230
		4900
Emerson Network Power Energy Systems	RLS Module	UPC/BDS
		RSK/RSL
		Starburst Aerial
		UltraCab
Tyco Electronics	HubSnap	NGXC(12) (16)
	Dat@Term	BK/BL(11) (16)
Tyco Electronics **(Technical Acceptance expires on May 15, 2010.)**	SC, APC	CSX-2(19)

See page 2.5.1.3 for notes.

Fiber Optic Splice Case Housings

Note: PON users must follow the cable manufacturer's recommended use and practices when installing fiber optic cables in fiber optic enclosures.

	Stake Mounted	Pad Mounted	Pole Mounted
Emerson Network Power, Energy Systems	OPFO-BD7PD **(8)(9)**	OPFO-BD7PD **(8)(9)**	OPFO-BD7PL **(8)**
Charles Industries (28)	CMHP	CMHP	

See page 2.5.1.3 for notes.

Notes:

(1) Internal offset brackets for the BD3, BD4, and BD5 sizes are available upon request.
(2) Grounding connectors for field mounting within the housings for terminating #6 AWG solid copper ground wire are available upon request.
(3) Good housekeeping panels are available upon request, sizes BD3 and above. When ordering, suffix the catalog number with the letter "H".
(4) SAI housings equipped with two doors, front and back are also available upon request.
(5) Use the block or module recommended by the SAI manufacturer.
(6) Only the 4065, 4295, and 4365 may be pole mounted.
(7) BD7 may be pad mounted.
(8) Order mounting hardware for the intended splice case in accordance with the manufacturer's Instructions.
(9) Order pad or stake mounting hardware in accordance with the manufacturer's instructions.
(**10)** For additional bonding and grounding requirements, extension brackets GBREXT, GBREXTKIT, and GBRALT are available upon request.
(**11)** Pole Mounted Only.
(**12)** Beige color may be used.
(14) UPCBD8000 may be stake mounted.
(15) These pedestals are type "M" pedestals (dome) that meet the functional criteria of type "H" pedestals.
(16) If ordered stubbed, cables must be RUS accepted.
(17) Includes 4220P Add-On-Cabinet.
(18) Maximum straight splice pair capacity using single pair connectors or multiple pair modules is 900 pairs. Maximum load splice pair capacity using single pair connectors or multiple pair splice modules is 450 pairs.
(19) Fiber optic housings
(20) Copper & Fiber Optic cable In-One Housing
(21) Acceptance includes OptiSheath Advantage Terminals
(22) Acceptance includes FDH-144 I, FDH-216 I & II, FDH-288 II, FDH-432 I & II, FDH-576 I, FDH-864 I
(23) Includes handhole option as a fiber optic cable slack organizer with the FAT mounted on top.
(24) Acceptance includes flood proof design, the 96 with handhole configuration, and the 192, 288 (includes Fieldsmart version), 576 (includes Fieldsmart version), 864 Cross Connect.
(25) Acceptance includes FD3-AE sizes, FD3-AG sizes, and FD3-AJ sizes
(26) Order pad or pole mounting hardware in accordance with the manufacturer's instructions.
(27) Includes NSFDP8 series, NSFDP8 series, NSFDP10 series, NSFDC8 series, NSFDC10 series, and NSFDP10V series.
(28) Non-Fire retardant models are used at risk of the user. RUS recommends mitigating the risk with fire retardant mats or technology designed for fire retardation in an outside plant environment to comply with RUS.
(29) The Splitter used inside the cabinet may now be installed into the Eclipse adapter/shelf of the Eclipse product in an indoor application.

sj - Central Office Splice Housings[1] [2]

sj-a - Splice Housings for Copper Cables			
Manufacturer	**Catalog Number**	**Tip Cable Openings**	**Cable Capacity**
Emerson Network Power, Energy Systems	CRF54ARV	54	5400
	CRF66ARV	66	6600

Sj-b - Housings & Racks for Fiber Optic Cables			
Manufacturer	**Catalog Number**	**Mech./Fusion Splices**	**Max. Terminations**
3M	8570	144/192	
	8432		12
	8434		24
	8436		48
	8423		48
	8425		144
ADC/Fiber Optic Network Solutions (FONS)	WSU-72	72	
	VSC-288	288	
	ESC-432[4]	432	
	ESC-864A[4]	864	
	FPL-SR2000	96	
	HRC-5SU	72	
	FIP[3]		12
	FIPL[3]		24
	LX-1012		12
	TIC-12PS		12
	LX-1024		24
	WPS-24		24
	TIC-24PS		24
	STIC-24PS		24
	TIC8E[3]		24
	LX-1048		48
	TIC18E		48
	TIC24E		72
	LX-1096		96
	TIC31E		144
	FMPS		36
	FMPL		72
	NGF-MDF		up to 1728
	NGF-F3MDF		up to 1728
	NGF-SLM		up to 1728
	NGF-FTB		up to 1728
	NGF-FCB		up to 1728
	LX-LP12B		12
	LX-LP__[5]		24
	HRC-__[6]		24
	LX-LP36N		36
	LX-MP3U		48

See page 2.5.3.2 for notes.

Sj-b Housings-Racks for Fiber Optic Cables cont.			
Manufacturer	**Catalog Number**	**Mech./Fusion Splices**	**Max. Terminations**
ADC/Fiber Optic Network Solutions (FONS)	HRC-__ (7)		72
	HRC-9P		144
	HR-11__ (8)		216
	FCP-08 (3)		8
	FCP-12 (3)		12
	FDP		24
	MDC5		24
	MDC7		48
	MDC10		72
	MDC14		144
	MDC18		216
	LSX-6		72
	LSX-7		96
	LSX-T		144
	LSX-Y		216
	HRC-7PSF		48
	LX-MP72B		72
Aria Technologies	ARIA-RDP1U-XXXXX (10)		6 - 36
	ARIA-RDP2U-XXXXX (10)		48 – 72
	ARIA-COMBOLGX-XXXXXX (10)		12 - 144
	LGX-0551XXX3048150LR (11)		48
	LGX-0751XXX3144150LR (11)		144
	LGX-1051XXX4144150LR (11)		144
Clearfield, Inc.	FLP-1W		24
	FLP-1		144
Corning Cable Systems	Eclipse Hardware Product Family (9)		864
Leviton	TSCSA-012		12
	RMS1U-002		24
	RMS2U-004		48
	ODF7I-092		1152
Porta Systems	CPS-12 (3)		12
	CPS-24 (3)		24
	FOCUS		48/72

See page 2.5.3.2 for notes.

Sj-b Housings-Racks for Fiber Optic Cables cont.			
Manufacturer	**Catalog Number**	**Mech./Fusion Splices**	**Max. Terminations**
Telect	ADF-26F-XI		up to 2304[12]
	ADF-600F-XI		
	Equipment Racks[13]		
	LCX Panels[13]		
	WaveTrax[13]		
See page 2.5.3.2 for notes.			

Notes:

[1]Recommended for use only in central offices with restricted access to unauthorized personnel

[2]Consult the manufacturer for ordering procedures concerning splice capacity, connector options, pigtails, or jumpers and stub options.

[3]UL listed and may also be used as a Fiber Optic Cable Building Entrance Terminal.

[4]It does not include “Bullet Bond” Shield Bonding Connector.

[5]Replace blank with 1UB or 24B.

[6]Replace blank with 3.5PS or 5PS.

[7]Replace blank with 7P or 7PS.

[8]Replace blank with letter(s) P or PS.

[9]WDM splitters not included.

[10]Replace Xs with appropriate number of terminations plus SCA (SCAPC) or SCU (SCUPC).

[11]Replace Xs with SCA (SCAPC) or SC (SCUPC); equipped with an OFNR stub cable, pre-terminated one end with connectors.

[12]Acceptance of Advance Distribution Frame (ADF) includes ADF-26F-IC, ADF-12-INT-XI, ADF-12-INT-IC, ADF-12-INT, Network Element Modules, Inter-facility Modules, Patch & Slice Combination Modules, High-Density Fan-Out Module, and Value-Added Modules.

[13] Acceptance Details: Equipment Racks (2008 Telect catalog pages 24-74), LCX Panels (2008 Telect catalog pages 88-89), and WaveTrax (2008 Telect catalog pages 142—148)

sk - Pedestal Inserts(1)				
sk – a – Copper Restricted Access				
Manufacturer	Catalog No.	Max. Splice Diameter	Maximum Splice Sizes	
			25 pr. Modules	Single Pair Connectors
3M	4602	64mm (2.5 in.)	100-Pair	50-Pair
	4606	99mm (3.9 in.)	300-Pair	100-Pair
	4608	135mm (5.3 in.)	600-Pair	300-Pair
	4634	57mm (2.25 in.)	100-Pair	50-Pair
	4635	102mm (4.0 in)	300-Pair	100-Pair
	4636	137mm (5.4 in.)	600-Pair	300-Pair
	4636-XL	140mm (5.5 in.)	900-Pair	400-Pair
	4637-XL	191mm (7.5 in.)	1200-Pair	400-Pair
Tyco Electronics	PedCap-RE-2G	48mm (1.98 in.)	20-50-Pair	20-50-Pair
	PedCap-RE-3G	76mm (3.0 in.)	25-200-Pair	25-200-Pair
	PedCap-RE-4G	84mm (3.3 in.)	100-400-Pair	100-400-Pair
	PedCap-RE-6G	114mm (4.5 in.)	200-900-Pair	200-900-Pair
	GT-3**(2)**	66mm (2.6 in)	25-100-Pair	25-100-Pair
	GT-4**(2)**	91mm (3.6 in.)	50-400-Pair	50-400-Pair
	GT-6**(2)**	109mm (4.3 in.)	100-900-Pair	100-900-Pair
Uraseal	SAP-IICPR3N	76mm (3.0 in.)	200-Pair	200-Pair
	SAP-IICPR4N	102mm (3.0 in.)	300-Pair	300-Pair
	SAP-IICPR5N	127mm (3.0 in.)	400-Pair	400-Pair

See note on page 2.5.5.1

2.5.5.1
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sk - Pedestal Inserts(1)		
sk – b – Fiber Access		
Manufacturer	Catalog No.	Maximum Splice
Clearfield Inc. (Conditional Acceptance(3))	Field Smart Fiber Delivery Point(FDP)	144 fusion
Tyco Electronics(4)	FIBRBox	96 fusion/288 mass

Notes:

1. Pedestal restricted inserts should not be filled. Splices that require filling should be placed in a splice case.
2. Maximum splice sizes will vary with type of connector and/or gauge of cable used.
3. For use in manufacturer specified Agency Listed pedestals, fiber optic cables, and with an appropriate central strength member clamp (3M 2172 or equivalent) as designed and warranted by Clearfield. Use requires proper manufacturer training and strict installation procedures to ensure all warranties.
4. For use in manufacturer-specified Agency-listed pedestals as designed and warranted by Tyco.

2.6
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ps;sp

ps - Buried Plant Housing Sealer

Manufacturer	Catalog Number	
3M	4411 - A Bag	45 " "
	B Bag	95 " "
	C Bag	250 " "
	750 Gram Can	450 " "
Courtaulds Aerospace	Semco PR-820-2	62 Cu. In.
	Semco PR-820-6	224 " "
	Semco PR-820-8	336 " "
	Semco PR-820-20	805 " "
	Semco PR-820	4200 " "
J.A.D.E., Ltd.	PIG 375 3 oz Volume	54 " "
	" 470 4 " "	84 " "
	" 650 6 " "	126 " "
	" 825 8 " "	171 " "
	" 1050 10 " "	324 " "
	" 1080 16 " "	540 " "
Uraseal	Drain-N-Seal Pedestal Sealing Foam	
W. R. Grace	Polycel 100	

sp - Duct Sealer

Manufacturer	Catalog Number	
3M	4416	
Courtaulds Aerospace	Semco PR-821-2	27 Cu. In.
	Semco PR-821-6	75 " "
	Semco PR-821-8	110 " "
	Semco PR-821-20	317 " "
	Semco PR-821-1	3337 " "
Thomas & Betts	TBTDSK	
Tyco Electronics	TDUX[(1)]	

Notes:

[(1)]Follow manufacturer's recommendation when ordering for appropriate duct sizes and/or maximum cable(s) outside diameters.

hm - Precast Concrete Manholes[1]		
Manufacturer	**Base Size**	**Catalog Number**
Advance Concrete Products	12'x5'x6'6"	A Manhole
	12'x6'x7'	A-1 Manhole
	8'x4'x6'	SA Manhole
	8'x4'x6'	SJ Manhole
	12'x6'x7'	J3-1 Manhole
	12'x6'x7'	High-Mount T Carrier
	12'x6'x9'6"	Manhole
	4'x4'x6'9"	Telephone Vault
Amcor, Inc.	3.5'x5'x3'	UV 3.553-REA-H
	3.5'x5'x3'	UV 3.553-REA-L
	4'x6'x7'	UVMB467
	6'x8'x7'	UVMB687-PM
	6'x12'x7'	UVMB6127
Armorcast	48"x48"x48"	A6000514HTAPC[4]
	36”x60”	A6001833HTA Series
Oldcastle Precast, Inc.	4'x4'	REA 300FPB42T
	4'x8'	REA 4080FM72
	4'-6"x8'6"	REA 510FM78
	5'x10'6"	REA 650FM78
	5'x12'	REA 6000FM78
	6'x12'	REA 6000FM84
	6'x12'	REA 6000DM84
Capitol Concrete Products, Inc.	4'x8'x3'	CCPMH 483
	4'x8'x6'	CCPMH 486
	4'x8'x7'	CCPMH 487
	4'x8'x8'	CCPMH 488
Champion Precast, Inc.	8’x4’x6’	080-040-060K
	8’x8’x8’	080-080-080KJ
	10’x6’x7’	100-060-070TJ
	12’x6’x7’	120-060-070T
Elk River Concrete Products Company of Montana	5'x5'2"	EV 505.2-S
	5'x5'2"	EV 505.2-D
	5'x9'3"	EV 509.3-S
	5'x9'3"	EV 509.3-D
	5'x13'4"	EV 513.4-S
	5'x13'4"	EV 513.4-D
	4'x6'	EV 406
	48" ROUND	EV 48-D
Foley-Brogdon	2'x2'	Model 222
	3'x3'	Model 333
	4'-2"x4'2"	Model 444
	6'x6'	Model 6060
	4'-6"x8'-6"	Model 8545
	5'x10'6"	Model 1050
	5'x10'6"	Model 1050S
	6'x8'	Model 8060
	6'x12'	Model 1260
	8'x8'	Model 8080
	9'x12'	Model 1290
	6'x10'	Model 1060

See page 2.7.3 for notes.

hm - Precast Concrete Manholes[1]

Manufacturer	Base Size	Catalog Number
Hartford Concrete Products[2]	5'x10'	REA 10-5 Series[2]
	4'x8'	REA 8-4 Series
	4'x4'	REA 4-4-4
Hawaii Precast, Inc.	3'x5'	3x5[3]
	4'x6'6"	4x6
	5'x10'6"	5x10
	6'x12'	6x12
Jensen Pre-Cast Concrete Products Co.	3'x5'x3'	REA 3660-TA
	3'x6'x3'	REA 3672-TA
	4'x4'x4'	REA 4848
	4'x6'-6"x3'	REA 466-TA
	4'6"x8'6"x6'6"	REA PTS-65
	5'x10'-6"x7'	REA 38-5706-U-7
	6'x12'x7'	REA 384-4046-1
	6'xvariablex9'	REA PTS-69
	6'xvariablex9'	REA PTS-69-I
LAR-KEN	4'8"x4'8"x4'8"	Series 350, Model LK
A.C. Miller Concrete Products Inc	3'x3'	REA-3x3
	4'x4'	REA-4x4
	4'x6'	REA-4x6
	4'x7'-9"	REA-18
	4'6"x10'6"	REA-20
	5'x12'	REA-38Y
	6'x12'	REA-38Y
	6'x6'	REA-6x6
	6'x8'	REA-6x8
	5'x10'6"	REA-5x10.6
	8'x8'	REA-8x8
	10'x10'	REA-10x10

See page 2.7.3 for notes.

hm - Precast Concrete Manholes[1]

Manufacturer	Base Size	Catalog Number
Northwest Pipe & Tank, Inc.	4'10"x4'10"x4' 7'x5'x7'	#8-C244 #8-C257[5]
Ornamental Poles, Inc.	6'x12'	REA-Y
Pre Cast Concrete Company, Inc.	5'10"x10'4"x7'2"	Type AA
Pre-Cast Manufacturing Company	3'-6"x6' 6'x12' 5'x10'	T-36656 T-6127 T-5107
R.C.P. Vaults (Division of Pacific International Pipe& Engineering, Inc.)	2'-6"x2'6"x2' 2'-3"x5'2-1/2"x2'6" 4'x6'x6' 5'x9'x7'2" 5'x9'x7'2" 5'8"x11'2"x7'5" 5'8"x11'2"x7'5" 6'0"x12'x7' 6'x12'x7' 7'x12'x7'6" 8'x14'	76649 Handhole 25-TA Splicing Vault 466-TA 4484-TA 4484-TCA 5106-TA 5106-TCA 612-TA 612-TCA 712-CLS 814 (3)
Rotondo Precast	2'x2' 3'x3' 4'x4' 4'x6' 6'x6' 6'x8' 6'x10' 6'x12' 6'x12' 6'x12' 8'x8'	RUS-22- RUS-33- RUS-44- RUS-46- RUS-66- RUS-68- RUS-610- RUS-612- -38Y RUS-6127- -OB RUS-6127- -SB RUS-88-
Southeast Precast Concrete Products Inc.	6'x12' 4'x8' 5'x10' 4'x4'	REA 127 REA 86 REA 510 REA 504

See page 2.7.3 for notes.

hm - Precast Concrete Manholes(1)

Manufacturer	Base Size	Catalog Number
Utility Concrete	3'x4'x4'	34 1/4
	8'x4'x6'	84 1/4
	22"x22"x36"	23 6/8
	2'x2'x2'-10"	22 2/10
	4'x4'x4'	44 1/4
	4'x4'x6'	44 3/4
	10'x5'x7'	105 1/4
	12'x6'x7'	126 1/16
	12'x6'x10'	126 3/16
	12'x6'x12'	126 5/16
	15'x6'x9'	156 1/4
	15'x6'x12'6"	156 2/4
Utility Precast, Inc.	6'x12'	A Series
	5'x10'	B Series
	4-1/2'x8-1/2'	C Series
Utility Vault	4'x6'	466TA
	4'x4'x4'	444-LA
	4'-2"x4'-2"	504-LA
	4'-2"x6'-6"	577-LA
	5'10"x10'-10"	510Y
	6'10"x12'-10"	38-612-Y
	2'-3"x5'2-1/2"x2'4"	25 TA
	2'-3"x5'2-1/2"x3'4"	253 TA
	3'-1"x6'7"x4'1-1/2"	264 TA
	5'x9'x7'2"	4484-type
	5'4"x9'4"x7'6"	4686-type
	5'8"x11'2"x7'2"	5106-type
	6'1"x11'7"x7'5"	38Y-type
	8'8"x10'8"x8'6"	810 TA
	7'10"x12'11"x8'7"	712 LA
	8'x14'x6'6" through 12'	814-66 TA through 814-12 TA
	8'x18'x6'6" through 12'	818-66 TA through 818-12 TA
	3'8"x5'8"x4'9-1/2"	GTE35 Pullbox
	3'8"x5'8"x4'9-1/2"	GTE Intercept Pullbox
	4'10"x6'10"x7'6	467-TA

Notes:

(1) Consult manufacturer for ordering procedure concerning depth of the hole (Headroom), type of manhole (A, J, L, T), and extension sections.

(2) Equipped with 27-inch frame and cover made by Dewery Brothers Foundry.

(3) This manhole comes with an option for a D and L Foundry A1381 cast iron cover with security bolts.

(4) This manhole comes with Alhambra Foundry Cover, drawing No. A-1133.

(5) This manhole can be 6 feet in height.

sd - Mobile Home Posts

Manufacturer	Catalog Number	
Charles Industries, Ltd.	3518 (Internally mounted protector)	3519 (Trailer mounted protector)
Corning Cable Systems	AMHP-1**(2)**	-
Indiana Pressed Steel	THP-1E**(1)**	-
Emerson Network Power, Energy Systems	MHP**(2)**	-

Notes: **(1)** Limited to use in noncorrosive areas only.

(2) Adjustable to 3 feet, 3-1/2 feet, and 4 feet.

2.9
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wt

wt - Pole Mounted Wire Terminals

wt-a Unprotected Filled Blocks

Manufacturer	1-Pair	10-Pair	12-Pair	20-Pair	25-Pair	30-Pair	50-Pair
	Catalog Number						
Channell	--	--	--	--	BMT60925B7 Series	--	BMT650B7 Series
Emerson Network Power, Energy Systems	5533G	--	--	--	--	--	--
Thomas&Betts[1]	--	--	--	--	C-2516	--	C-2518
Tyco Electronics[1] (DTerminator 2)	--	DT2-PMT	DT2-PMT	DT2-PMT	DT2-PMT	DT2-PMT	DT2-PMT

wt-b Protected Filled Blocks

	1-Pair	10-Pair	12-Pair	20-Pair	25-Pair	30-Pair	50-Pair
Thomas&Betts[1][2]	--	--	--	--	C-2517	--	--
Tyco Electronics[1] (DTerminator 2)	--	DT2-PMP	DT2-PMP	DT2-PMP	DT2-PMP	DT2-PMP	DT2-PMP

Note:

1. Order stub cable length in accordance with manufacturer's instructions.
2. These protected blocks use the Energy Network Power, Energy Systems Communications 1557 (R-800) cable-class "medium duty" arrester.
3. These protected blocks use the DTerminator 2 cable-class "heavy duty" arrester. Add details on Tyco types of protection i.e. – (1) Fail-Safe 265-600V 24 AWG protection for OSP applications and (2) Fail-Safe/Vent Safe 265-600V 24 AWG protection, which can be used for primary protection.

drk - Damage Repair Kits [1]		
Manufacturer		**Type Designation**
3M		4561 Armorcast Sheath Repair Kit [2]
Preformed Line Products		SERVISEAL Closure Series BLACK-JACK Closure Series
Telepak [3]		Splice & Seal System
Thomas&Betts		Kold-N-Klose System
Tyco Electronics		GS3-1650 Series Splice Closure
Uraseal		Shake N' Seal FOD-40

Notes:

[1]Damage repair kits are for RUS new construction purposes only.

[2]The Structure Armorcast Material included in this kit can be purchased by itself as "4560 Armorcast Structure Material."

[3]Applicable for both pressurized and non-pressurized cable repairs. Must specify repair application.

2.11
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oco - Fiber Cable Slack Organizer		
Manufacturer		**Product Series**
Armorcast		A600XXXX[3]
Multilink Broadband		21__[1][2] (Sno-Shoe)
TDI		6500-XX-X FTTP Piggyback®
Tunnel Mill		BPS182720 Cone
		U304824[4]
Tyco Electronics		Lightrax System

Notes:

[1]Fill in blanks with available sizes - 10", 16", 21", or 24".

[2]Available with ADSS Versions, staking kits, and extensions.

[3] Acceptance includes one piece without access panel, one piece with access panel or spit covers for mounting outside plant housing enclosures.

[4]Accepted with the B365406-12 adapter/cover for mounting outside plant housing enclosure.

gh - Shield Bonding Connectors

(Complies with PE-33)

gh-a Copper Cable and Wire Connectors

Manufacturer	Cable Connectors — Outside Cable Diameters: Less than 1.0 inch	Cable Connectors — Outside Cable Diameters: 1.0 to 1.5 inch	Cable Connectors — Outside Cable Diameters: Greater than 1.5 inch	Service Wire Connectors
A.K. Stamping	400-366-332**(2)** (8544 B Bond #1)	400-366-340 (8544 B Bond #2)	400-366-357 (8544 B Bond #3)	-
Electric Motion	EM2__**(6)**BM**(7)** EM2__**(6)**B1**(8)**	-	-	-
		EM2__**(6)**B2**(9)**	EM2__**(6)**B3**(10)**	EM-3956__**(1)(3)**
3M	4462SN	4462SN	4462SN	-
Preformed Line Products	-	-	-	8000733**(1)** (Servi-Bond)

gh-b Armored Fiber Optic Cable Connectors

Manufacturer	Outside Cable Diameters: Less than 0.75 inch	Outside Cable Diameters: Greater than 0.75 inch
A.K. Stamping	400366332-MB (Mini B Bond)	-
Electric Motion	EM2__**(6)**BM**(7)** EM2__**(6)**B1**(8)**	EM2__**(6)**B2**(9)** EM2__**(6)**B3**(10)**
3M	4460D**(4)** 4460DFO**(5)**	4460D**(4)** 4460DFO**(5)**

See page 3.1.1 for notes.

3.1.1
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gh

Notes:

(1) For use only at station protector.

(2) Not to be used on cables less than 0.50 inches in diameter.

(3) Replace blank with either the letters H, R, RO, RR, RW, or RLB to indicate the type of mounting bracket to be used with the protector of the Network Interface Device (NID)

(4) To be used with armored fiber optic cables using the central strength member design.

(5) To be used with armored fiber optic cables using the strength member embedded in the outer jacket design.

(6) Replace blank with the number 0 to indicate one (1) stud or the letter B to indicate two (2) studs.

(7) For use with cables having outdoor diameters less than 0.5 inch.

(8) For use with cables having outdoor diameters equal to and greater than 0.5 inch but less than 0.8 inch.

(9) For use with cables having outside diameters equal to and greater than 0.8 inch but less than 1.6 inches.

(10) For use with cables having outside diameters equal to and greater than 1.6 inches.

cm - Connectors

Splicing Connectors for Copper Conductors[2]

Splicing Connectors (1 Conductor)

Manufacturer	Moisture Resistant	Nonmoisture Resistant[1]
3M Company	Scotchlok™ UR2	-
	" UCC[4]	
	" UY2	
	" UB2A	
	" 211	
Channell	Discrete IDC Connectors[8]	Discrete IDC Connectors[8]
Tyco Electronics	552678-2(3 wts)	552795-4
	1-552678-2	1-552795-4
	552795-2	552966-4
	552966-2	555790-2
	553017-2 (Half-Tap ts)	60945-4
	1-553017-2	60947-3
	555790-1	
	555791-1	
	552965-2	

Splicing Connectors (1-Pair)

Manufacturer	Moisture Resistant	Nonmoisture Resistant[1]
Thomas&Betts	709SC	709SD

Connector Modules (5-Pair)

Manufacturer	Straight Splice	Bridge Splice	Half-Tap Splice
3M Company[5] (22-26 AWG)	710-SC1-5	710-BC1-5	710-TC1-5

Connector Modules (10-Pair)

Manufacturer	Straight Splice	Bridge Splice	Half-Tap Splice
Tyco Electronics[11]	737865-2		737865-2
	1-737865-2		1-737865-2
	737867-2		737867-2
	1-737867-2		1-737867-2

(Technical Acceptance expires in **May 31, 2010**.)

See page 3.1.4 for notes.

	Connector Modules (20-Pair)		
	Straight Splice	**Bridge Splice**	**Half-Tap Splice**
Tyco Electronics[11]	737861-2		737861-2
	1-737861-2		1-737861-2
	737863-2		737863-2
	1-737863-2		1-737863-2

(Technical Acceptance expires in **May 31, 2010**.)

	Connector Modules (25-Pair)		
	Straight Splice	**Bridge Splice**	**Half-Tap Splice**
3M Company (22-26 AWG)	710-SC1-25	710-BC1-25	710-TC1-25
(19-24 AWG)	710-SCL-25	710-BC1-25	710-TCL-25
	4000-D/TR[3]	4005-DPM/TR[6]	4008-D/TR[3]
	4000-DT/TR[3]	-	-
(22-26 AWG)	4000-G/TR[7]	4005-GMB/TR[7]	4000-G/TR[7]
Tyco Electronics[11]	737830-2		737830-2
	1-737830-2		1-737830-2
	737832-2		737832-2
	1-737832-2		1-737832-2
	737834-2		737834-2
	1-737834-2		1-737834-2

(Technical Acceptance expires in **May 31, 2010.)**

See page 3.1.4 for notes.

cm – Connectors			
Manufacturer	**Splicing Connectors for Optical Fibers**		
	Passive	**Tunable**	**Mass**
ADC	MST [9] (2/4 & 6/8 ports)		
3M Company	2529 Fibrlok II		
Tyco	RECORDsplice [10] (Non-Domestic Technical Acceptance expires on **December 18, 2009**)		

Notes:

1. Non-moisture resistant connectors are to be used only on plastic-insulated non-filled cables utilizing airtight splice enclosures and when moisture protection is provided by pressurization.
2. Connectors in strip form may be used. Always use tool recommended by the manufacturer.
3. Use 4075-S grease box in all applications except pressurized cables.
4. For clearing and capping only.
5. Not to be used on 19-gauge waterproof cable with solid polypropylene or high density polyethylene insulated conductors.
6. Use either 4077-A, 4077-B, 4077-C, or 4077-D grease box in all applications except pressurized cables.
7. Does not require the use of a grease box.
8. Includes 8A, 8A/1, 8B, 8C/1, 11A.
9. The OmniReach FTTX Solution Multiport Service Terminal (MST) is a pre-connectorized outside plant hardened PON terminal that may be deployed as a stand alone aerial end user service pole/messenger terminal or in an enclosure for buried or underground end user service distribution.
10. Fiber Optic Mechanical Splice System includes RCAT equipment.
11. All listed Tyco Electronics modules may use the appropriate grease boxes (737823-1 and 737823-2).

tm - Cable Markers

Manufacturer	Catalog Number
Cable Route	
Lite Industries, Inc.(5)	UIT-11414 UIT-11415 UIT-11416 UIT-11417 UIT-11418
Cott Manufacturing Co.	Fat Fink®
Color-Coded Tags	
Brady	B-871(2)
Hickory Printing Group, Inc.	PC-2(3)
Tech Products	EL2(series)
U.G. Products	100(1)
Wrap Around	
ACP International	DN-32 DN-33 DN-34 DN-35 DN-36
Multilink	MFM-12 MFM-15 MFM-20
Sleeves	
ACP International	DH-1(4) DH-6 DH-M(4)
Write-On	
Brady	PWC-PK
LEM	PPCL-BW
Panduit Corp.	PSCB
Thomas & Betts Corp.	WM-BW3 WM-BW5

See page 3.2.1 for notes.

3.2.1
07-05
tm

Notes: 1. The catalog number is suffixed with the letter R, B, or W to indicate Red, Blue or White bands.

2. The catalog number is suffixed with the letter B, G or Y to indicate Blue, Green or Yellow color coded tags.

3. The catalog number is suffixed with the letter B, G, W or Y to indicate Blue, Green, White or Yellow color coded tags.

4. Indicate Heat Shrink Sleeve length.

5. An added “D” to the part number would indicate that (1) a Quick Disconnect comes with the Isolation Terminal in place of the barrel compression splice; and that (2) it includes rubber cold shrink to go over the Quick Disconnect

6. When ordering specify by color and wording.

gs - Bonding Connector Harnesses

gs-a - #6 AWG Stranded Harness Wires

Bonding in Aerial, Buried or Underground Splice Cases, and Ready-Access Enclosures

Manufacturer	Catalog Number					
	Noninsulated			Insulated		
	10" Length	20" Length	22" Length	10" Length	20" Length	22" Length
Electric Motion Company	EM8100-10B.10	EM8100-20B.10	EM8100-22B.10	EM8100-10.10	EM8100-20.10	EM8100-22.10
LSW	LSW 6-10	LSW 6-20	LSW 6-22	LSW 6-10C	LSW 6-20C	LSW 6-22C

Bonding in Buried Plant Housings

	Noninsulated			Insulated		
	6" Length	11" Length	18" Length	6" Length	11" Length	18" Length
Electric Motion Company	EM8100-6B.10	EM8100.11B.10	EM8100-18B.10	EM8100-6.10	EM8100.11.10	EM8100-18.10
LSW	LSW 6-06	LSW 6-11	LSW 6-18	LSW 6-06C	LSW 6-11C	LSW 6-18C

gs-b - #6 AWG Braid

Bonding in Aerial, Buried, or Underground Splice Cases, Ready-Access Enclosures, and Buried Plant Housings

	Noninsulated	Insulated
A.K. Stamping	A1163	-
Electric Motion Company	EM-2050	EM-2051
Excelco	579203-25	-
3M	25T(4)	25/4467(4)

See page 3.3.1 for notes.

gs - Bonding Connector Harnesses
(Stranded Type Wire)

Buried Service Wire (Bare Metal Shields Only)

gs-a - #14 AWG Insulated Harness Wires

Bonding at Station Protector (Network Interface Device)

Manufacturer	Catalog Number 7" Length
Corning Cable Systems	GH-13**(1)**
Electric Motion Company	EM1407TFFR**(1)**
Engineered Products Co.	EH-13**(1)**
LSW	LSW-5**(1)**
Preformed Line Products	8000739**(2)**

gs-b - #6 AWG Insulated Harness Wires

Bonding in Buried Plant Housings

Manufacturer	15" Length	36" Length
Electric Motion Company	EM3955-6L/8100-15**(3)**	EM3955-6L/8100-36**(3)**

Notes:

(1) Harnesses equipped with AMP's #329860 Termi-Foil^{R} connector at one end for attachment to the bare metal shield of the service wire.

(2) Harnesses equipped with Preformed Line Products' 8000733 connector at one end for attachment to the bare metal shield of the service wire.

(3) Harnesses equipped with Electric Motion's EM3955 connector at one end for attachment to the bare metal shield of the service wire.

(4) When ordering, state 3-inch eyelets.

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gt

gt - #6 AWG Shield Connector Isolation Harnesses[1][2]

(Strand Type Wire)

Buried Service Wire (Bare Metal Shields Only)

Manufacturer	Catalog Number	
	Buried Plant Housings Only	
	15" Length	36" Length
Electric Motion Co.	EM 3955-6S/8100-15 BARP[3]	EM 3955-6S/8100-36 BARP[3]

Notes:

[1]Restricted for use only where location of buried service wire shields is required at dairy or hog farm facilities to help alleviate stray voltage effects.

[2]When these harness wires are used, a warning tag shall be placed on the buried service wire to alert the technician that a voltage difference may be present and that temporary bond strap shall be applied between the service wire shield and connector plate of the buried plant housing before performing any work in the buried plant housing. The temporary bond shall be removed after work is completed in the buried plant housing.

[3]Harnesses are equipped with Electric Motion's EM 3955-BARP shield isolation connector at one end for attachment to the bare metal shield of the service wire.

sv - Filled Plastic Sleeves

sv – b Plastic Sleeves for Copper

Manufacturer	Catalog Number
Jameson (W. G. Pearson)	Order by size and description

Note: Splicing connectors and plastic sleeves are to be used only on conductor sizes and types and splicing arrangements as recommended by the connector and sleeve manufacturers.

sv - Plastic Sleeves

sv – b Plastic Sleeves for fiber

Manufacturer	Catalog Number
Tyco Electronics (Technical Acceptance expires **04/30/2011** .)	SMOUV

Note: Splicing connectors and plastic sleeves are to be used only on conductor/fiber sizes and types and splicing arrangements as recommended by the connector and sleeve manufacturers.

sm - Buried Plant Warning Signs, Stakes and Decal Markings

sm-a Decal Type Warning Signs and Markings[1][2]

Manufacturer	Catalog Number		
		Non-Reflective	
	Warning Signs	Numerals & Letters	Symbols
3M Company	X	X	-
ACP International	X	X	-
Michael J. Arnold & Co.[11]	X	X	X
W. H. Brady	X	X	-
Color Arts, Inc.	X	X	-
Emerson Network Power, Energy Systems	X	X	-
May Advertising Corp.	X	X	-
Tech Products	X	X	X
Vernon Company	X	-	-
Vulcan Signs	X	X	-

sm-b Decal Type Warning Signs and Markings[1][2]

		Reflective	
	Warning Signs	Numerals & Letters	Symbols
3M Company	-	No. 5000[5] No. 5005[6] No. 5025[6]	No. 5002
ACP International	CBC36RY CBC36RO	CBC36RY CBC36RO	-
Michael J. Arnold & Co.[11]	MJADWR	MJAD__[12]R	MJADSR
W. H. Brady	-	5905 Series	-
William Frick & Co.	CAUT-BC/IND	REF1.5[5][16] OREF1.5[6][16] REF3T[5] OREF3T[6]	
Vulcan Signs	UCM Series	UEC Series	-

See page 3.5.3 for notes.

sm - Buried Plant Warning Signs, Stakes and Decal Markings

sm-c Signs and Stakes

Manufacturer	Catalog Number		
	Cable Splice	**Cable Route**	**Warning**
ACP International[3]	PD[2], PDOC[2] ACP[18]-66, 72, 78 PV-4, 6, 12	PD[2], PDOC[2] ACP[18]-66, 72, 78 PV-4, 6, 12	PD[2], PDOC[2] ACP[18]-66, 72, 78 PV-4, 6, 12 ACP-BM-53[2]
Carsonite	-	-	Impactor
Decal Industries[4]	-	-	FP__[7]-__[8]D__[9]
Emerson Network Power, Energy Systems[3]	1SP41233	1SP41232	1SP4121
GreenLine[4]	-	-	FLU1RD96016
J. Miller Industries, Inc.[6]	-	-	JMI-375-096-OR-100
Lyle Signs Inc.[3][4]	UT-55	UT-54	UT-53
Maloney Technical Products[6]	-	-	MRKR™
May Advertising Corp.[3][4]	BM55-MABCS 412	BM54-MACR 412	BM53-MABC 412
Michael J. Arnold & Co.[3][4]	MJABCSA -	MJA930615[13] -	MJACBC MJA__[14]
Pro-Mark	PM-303	PM-303	PM-303
Quantum	-	-	QM-375
Repnet	REA/PSA-1	REA/PSA-2	REA/PSA-3
Rustproof Signs, Inc.[3]	R-709 -	R-710 -	R-708 R-666
SArgent-SOwell[3]	49PHV067	49PHV069	49PHV068
Vulcan Signs[3][4]	UCM-102	UCM-101	UCM-505
W. H. Brady	B-11[3] - -	B-13[3] - -	B-12[3] BL1 BL2
William Frick & Co.[4]	BC-SPLICE[3] DM3, DMTS3	CABLE-RT[3] DM3, DMTS3	BC-CAUTION[3] DM3, DMTS3

See page 3.5.3 for notes.

sm - Buried Plant Warning Signs, Stakes and Decal Markings

sm-c Signs and Stakes

Manufacturer	Catalog Number Mounting Stakes
ACP International	UC-8/GR(20) UC-8/GLV(20)
Cott Manufacturing Co	CottMark®
Michael J. Arnold & Co.	UPC-8__(15)
W. H. Brady	96920
Carsonite	CUM-375
Decal Industries	FP__(7)-__(9)
William Frick & Co.	POST-8FT(17)
FlexStake	302 303 304 305
GreenLine	FLU1-96
Emerson Network Power, Energy Systems	UP4120__(10)
J. Miller Industries, Inc.	JMI-375-096-OR
Rustproof Signs, Inc.	RP-208N
Vulcan Signs	82GR

See page 3.5.3 for notes.

Notes:

(1) All decals should be applied using manufacturers recommended materials and practices.

(2) Order by size and description.

(3) Stake not included.

(4) Signs may be ordered with black lettering on orange background.

(5) Available only in black lettering on yellow background.

(6) Available only in black lettering on orange background.

(7) Blank denotes color of marker. Replace blank with W for White, O for Orange, or G for Green.

(8) Blank denotes number and color of decals. Replace blank with 1Y for 1 yellow decal, 2Y for 2 yellow decals, 1O for 1 orange decal, or 2O for 2 orange decals.

(9) Blank denotes length of marker in inches. Replace blank with 60, 66, 72, or 78.

(10) Blank denotes length of stake in inches. Replace blank with either 72 or 96.

(11) Decals may be ordered with black lettering on orange background.

(12) Replace blank with "N" for numerals and "L" for letters.

(13) Add letter "A" to catalog number to obtain sign with arrows. The six-digit number is the manufactured date and identifies the purchaser.

(14) Replace blank with "TF" for tri-fold and "QF" for quad-fold.

(15) Replace blank with "G" for green painted and "GAL" for galvanized.

(16) When ordering specify either 1 decal or 4 decals per sheet.

(17) When ordering specify either 2 pound or 1.12 pound post.

(18) When ordering specify 1 or 2 decals and wording.

(19) When ordering specify by color and wording.

(20) Replace “UC” with “DL” for 1.12 pound and replace “8” with desired length in ft. (6.5, 10,etc.)

ni – Building Entrance Terminal (BET) - Protected[1][2]

ni-a Fuseless, Well Mount, Carbon

Manufacturer	Pair Count	
	25-Pair	**50-Pair**
Emerson Network Power, Energy systems	2BT25PMH/1304S 25P4X4MH/1304S[2]	2BT50PMH/1304S 50P4X4MH/1304S[2]

ni-b Fuseless, Module, Carbon

Manufacturer	Pair Count		
	25-Pair	**50-Pair**	**100-Pair**
3M[3]	4188-25[4]/3AB 4__[5]88__[6]-25/3AB 4990__[7]-25/3AB	4188-50[4]/3AB 4__[5]88__[6]-50/3AB 4990__[7]-50/3AB	4188-100[4]/3AB 4__[5]88__[6]-100/3AB 4990__[7]-100/3AB
Emerson Network Power, Energy Systems	--	--	R134C/3AB

Notes:

1. Designations after the slash "/" mark indicate the arrester unit which RUS has accepted for use in the listed protected building entrance terminal (BET). Unless otherwise noted, no other arrester unit is RUS accepted for use in protected building entrance terminals listed here.
2. Restricted to inside mounting.
3. The arrester module accepted for these protected building entrance terminals is the 3AB carbon arrester module manufactured by Emerson Network Power, Energy Systems.
4. Must be supplied with 4188C-25, 50, or 100 protector covers, as appropriate to protected building entrance terminal size provided.
5. Blank space replaced with 2, 4, 5, 6, or 7.
6. Blank space replaced with F or R.
7. Blank space or blank space replaced with 2, 3, 4, 5, or 6.

ni – Building Entrance Terminal (BET) - Protected[1] [7]

ni-c Fuseless, Well Mount, Gas Tube

Manufacturer	Pair Count	
	25-Pair	50-Pair
Emerson Network Power, Energy Systems	2BT25VSRMH/1304VSR2[2][5] 25VSR4X4MH/1304VSR2[2][5][7]	2BT50VSRMH/1304VSR2[2][5] 50VSR4X4MH/1304VSR2[2][5][7]

ni-d Fuseless, Module, Gas Tube

Manufacturer	Pair Count					
	6 Pair	12 Pair	25 Pair	50 Pair	100 Pair	300 Pair
AT&T Network Systems			189-25/3B1ER[2][5]	189-50/3B1ER[2][5]	189-100/3B1ER[2][5]	
Corning Cable Systems			C-552/7X[2][5]	C-550/7X[2][5]	C-551/7X[2][5]	
3M[10]			4188-25[11]/6U2VS[2][5] 4188-25[11]/3GUVS[3][4] 4__[8]88__[9]-25/6U2VS[2][5] 4__[8]88__[9]-25/3GUVS[3][4] 4__[12]88__[13]-25/6U2VS[2][5] 4__[12]88__[13]-25/3GUVS[3][4]	4188-50[11]/6U2VS[2][5] 4188-50[11]/3GUVS[3][4] 4__[8]88__[9]-50/6U2VS[2][5] 4__[8]88__[9]-50/3GUVS[3][4] 4__[12]88__[13] -50/6U2VS[2][5] 4__[12]88__[13]-50/3GUVS[3][4]	4188-100[11]/6U2VS[2][5] 4188-100[11]/3GUVS[3][4] 4__[8]88__[9]-100/6U2VS[2][5] 4__[8]88__[9]-100/3GUVS[3][4] 4__[12]88__[13]-100/6U2VS[2][5] 4__[12]88__[13]-100/3GUVS[3][4]	
Emerson Network Power Energy Systems			BEP__[14]25__[15]/__[19] BEPB25__[17]/__[19] BEP__[18]25SC__[16]/__[19]	BEP__[14]50__[15]/__[19] BEPB50__[17]/__[19] BEP__[18]50SC__[16]/__[19]	R134C/6U2VS[2][5] R134C/3GUVS[3][4] BEP__[14]100__[15]/__[19] BEPB100__[17]/__[19] BEP__[18]100SC__[16]/__[19]	

See page 4.1.3 for notes.

ni – Building Entrance Terminal (BET) - Protected[1] [7]

ni-d Fuseless, Module, Gas Tube (Cont'd)

Manufacturer	Pair Count					
	6 Pair	12 Pair	25 Pair	50 Pair	100 Pair	300 Pair
CIRCA Enterprises[20]	1880110US 2606QC/QC	2612QC/QC	1880ECA1 1890ECS1 1890ECT1 1890ECT1/NSC 2625QC/QC	1880ECA1 1890ECS1 1890ECT1 1890ECT1/NSC	1880ECA1 1890ECS1 1890ECT1 4486	RMPXL300BE
Surge Technologies[3][5]		ST260 66-12/ST3B1	ST260 66-25/ST3B1E ST260 110-25/ST3B1E	ST188 ENA1-50/ST3B1E ST188 110-50/ST3B1E ST189 B1-50/ST3B1E ST190 A1-50/ST3B1E ST250 66-50/ST3B1E	ST188 B1-100/ST3B1E ST188 ENA1-100/ST3B1E ST188 110-100/ST3B1E ST189 B1-100/ST3B1E ST190 A1-100/ST3B1E ST250 66-100/ST3B1E	
TII[3] **(Non-Domestic Technical Acceptance expires on 10/26/08.)**			515 25/355M[6] 516 25/356M1[5]			

See page 4.1.3 for notes.

Notes:

1. Designations after the slash "/" mark indicate the arrester unit which RUS has accepted for use in the listed protected building entrance terminal (BET). Unless otherwise noted, no other arrester unit is RUS accepted for use in protected building entrance terminals listed here.
2. 2-electrode.
3. 3-electrode.
4. Medium duty.
5. Heavy duty.
6. Maximum duty.
7. Restricted to inside mounting.
8. Blank space replaced with 2, 4, 5, or 6.
9. Blank space replaced with F or R.
10. The arrester modules accepted for these 3M protected building entrance terminals are manufactured by Emerson Network Power, Energy Systems.
11. Must be supplied with 4188C-25, 50, or 100 protector covers, as appropriate to protected building entrance terminal size provided.
12. Blank space replaced with 8 or 9. Also accepted for outdoor mounting.
13. Blank space or blank space replaced with B.
14. Replace the blank space with C, G, or CG.
15. Replace the blank space with C, MM, CF, or FS.
16. Replace the blank space with 6, 12, or 25 feet.
17. Replace the blank space with MM, CF, or FS.
18. Replace the blank space with C or CG.
19. Replace the blank space with 3GUVS**(3)(4)** or 6U2VS**(2)(5)**.
20. CIRCA arrester units were technically accepted: C3B1E, C4B1E, C3B1S-BAL, C4B1S-BAL, and C4B3S-75

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nm

nm - Mainframe Protectors[1][7]

Carbon

Manufacturer	10 Pair	50 Pair	100 Pair	300 Pair
Emerson Network Power Energy Systems	713/3AB		R399/3AB	
Porta Systems			508PF/35BCN	

Gas Tube

Manufacturer	10 Pair	50 Pair	100 Pair	300 Pair
AT&T Network Systems			310/3B1ER[2][5]	
CIRCA Enterprises[10]			4486	RMPXL300BET
Corning Cable Systems			C-388/7A[2][5]	
Emerson Network Power Energy Systems	R713/6A20[2][5] R713/3G[3][4]		R399/6A20[2][5] R399/3G[3][4]	
Porta Systems			508PF/65BCN[2][5]	

Solid-State[8]

Manufacturer	10 Pair	50 Pair	100 Pair	300 Pair
Corning Cable Systems			[9]/11A	
CIRCA Enterprises			2500QC2-100/ CT3B1FS 2500QC2-100/ CT3B1S 4486[10]	RMPXL300BET[10]
Emerson Network Power Energy Systems			R399/S3AB	

Notes:

1. Not to be used at subscribers' premises.
2. 2-electrode.
3. 3-electrode.
4. Medium duty.
5. Heavy duty.
6. Maximum duty.

7. Designations after the slash "/" mark indicates the arrester unit which RUS has accepted for use in the listed protector. Unless otherwise noted, no other arrester unit is RUS accepted for use in protectors listed here.
8. PEG-7, Class I Category.
9. For use with Corning's C-388 mainframe protector.
10. CIRCA arrester units for were technically accepted. These arrester units include: C3B1E, C4B1E, C3B1S-BAL, C4B1S-BAL, and C4B3S-75.

gg - Power Service Protectors

Manufacturer		Catalog Number
	Maximum Service Voltage:	125/250
Alset Corporation	Lightning Shield and Power Guard (1)	LS-200, LS-50, PG-200, PG-50
Atlantic Scientific	ZoneGuardian Plus	#42003
	" "	#43005
	" "	#43006
	ZoneGuardian Series	#35029
	" "	#35030
	" "	#35031
Corning Cable Systems		CP 211
EFI Corporation		DPI 153 DPI 453 Turbo ST EFI 153 EFI 453 Turbo ST
Northern Technologies		PLS-II 2000344 2000345 2000347
TII		410BM 411BM 412BM 422BM

(Non-Domestic Technical Acceptance expires on 10/26/08.)

See notes on page 4.3.1

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gg - Power Service Protectors

Manufacturer	Catalog Number
Maximum Service Voltage:	125/250
Transtector	ACP100BL CPS 150
Tripp Lite	ISOBLOK 2-0 ISOBAR 2-6 " 4-6 " 8-15

Notes:

1. Acceptance includes Remote Manger, RM-HTTP

nh – Arrester Units[1]

nh-a Gas Tubes			
Manufacturer	**MDF Module**	**Station Module**	**Well Mount**
Bourns		125-EW-R[2][5]	
		2374-01[2][5]	
		2375-01[2][5]	
		2377-01[3][5]	
		2377-45-HS/-BC[3][6]	
		2378-35-HS/-BC[3][5]	
Corning Cable Systems	7A[2][5]	7X[2][5]	
		PTD[3][5]	
		PTD[3][6]	
Emerson Network Power Energy Systems	6A20[2][5]	6U2VS[2][5]	1304VSR[2][5]
	3G[3][4]	3GUVS[3][4]	
		G1200-0-350[2][5]	
Porta Systems		65BCN[2][5]	
Surge Technologies	ST3B1E[3][5]	ST356-350V[3][5]	
TII **(Non-Domestic Technical Acceptance expires on 12/31/2010.)**		126M[2][5]	
		355M[3][6]	
		356M1[3][5]	
		AD-02W-FS[3][5]	
Tyco		GSSP[3][5]	

See page 4.4.1 for notes

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nh

nh – Arrester Units[1]

nh-b Solid-State		
Manufacturer	**MDF Module**	**Station Module**
Bourns		2380-27-01[7]
Circa Telecom	CT3B1FS[7][11]	
	CT3B1S[7][11]	
Corning Cable Systems	11A[7][9]	PTD[7][10]
Surge Technologies	ST3B1E-BAL[8]	

Notes:

[1]Arresters listed under this category are not complete protected building entrance terminals (BET) mainframe protectors, or network interface devices (NID). They are intended for use as components, as accepted and listed, in the protected BETs, mainframe protectors, and network interface device "ni", "nm", and "nid" sections of the List of Materials. Arrester units here shall not be used in a BET, mainframe protector or network interface device listed in the "ni", "nm", or "nid" sections unless the same arrester unit is listed for use in the particular BET, mainframe protector, or network interface device on the "ni", "nm", or "nid" pages.

[2]2-electrode.

[3]3-electrode.

[4]Medium duty.

[5]Heavy duty.

[6]Maximum duty.

[7]PEG-7, Class I Category.

[8]PEG-7, Class II Category.

[9]For use with Corning's C-388.

[10]For use with Corning's NI-2000 Series NID unit.

[11]For use with Circa Telecom's 2500QC2-100.

gi - Secondary Power Arresters

Manufacturer	Catalog Number	
	Main Service Voltage:	125/250
	Signal and Power	**Power Only**
ACT Communications[5]	-	452-120-XOX 452-240-XOX 453-120-XOX 453-240-XOX 453-277-XOX 453-480-XOX 454-120-XOX 454-240-XOX 455-120-XOX 455-240-XOX 455-277-XOX 455-480-XOX 472-120-X0X 472-240-X0X 473-120-X0X 473-277-X0X
Advanced Protection Technologies	-	TE/100 TE/1000 TE/200 TE/2000 TE/300 TE/3000 TE/600 TE/6000
Approved Lightning Protection Co.	-	SA-20
Atlantic Scientific	ZoneSentinel Series	#12100
	" "	#12101
	" "	#12102
	" "	#12103
	ZoneMaster 75 Series	#11200
	" "	#11201
	" "	#11202
	" "	#11203
	ZoneMaster 140 Series	#17100
	" "	#17101
	" "	#17102
	" "	#17103
EFI Corporation	-	MBP120EFI-Y__[4]
General Electric	-	9L15DCB002

See page 5.5.2 for notes

gi - Secondary Power Arresters

Manufacturer	Catalog Number	
	Main Service Voltage: 125/250 (Cont'd)	
	Signal and Power	**Power Only**
Joslyn	-	1250-__[7] 1260-__[8] 1261-__[8] 1265-__[9] 1266-__[10] 1450-85 1452-__[11] 1455-__[12]
Northern Technologies, Inc.	-	MMK-BX[6]-OA__[1]A DMK-BX[6]-__[2]__[1]A
	Other Service Voltages	
	Signal and Power	**Power Only**
AC Data Systems	-	Surge Blox
Advanced Protection Technologies	-	TE/400 TE/4000 TE/500 TE/5000
Atlantic Scientific	ZoneSentinel Series	#12104
	" "	#12105
	" "	#12106
	ZoneMaster 75 Series	#11204
	" "	#11205
	" "	#11206
	ZoneMaster 140 Series	#17104
	" "	#17105
	" "	#17106
Joslyn	-	1250-32-E 1263-21 1451-85 1456-__[13]
Northern Technologies, Inc.	-	MMK-__[3]X[6]-OA__[1]A DMK-__[3]X[6]-__[2]__[1]A
Tesco	-	TES 1120Y
Transtector	-	ACP3000 CPS Series APEX Series MCP Series SLIM LINE 120V SLIM LINE 240V

See page 5.5.2 for notes.

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01-05
gi

Notes:

[1]Blank space replaced with S, A, B, or C.
[2]Blank space replaced with 10 or 20.
[3]Blank space replaced with C,D, E, G, H, or J.
[4]Blank space replaced with 1, 2, or 3.
[5]**(**X) denotes manufacturer's catalog number for optional lamps, alarming, and enclosures.
[6]X may be replaced by an E for external enclosure or an I for internal enclosure type.
[7]Blank space replaced with 32, 33, or 33-E.
[8]Blank space replaced with 21, 41, 45, or 85.
[9]Blank space replaced with 21, 41, 45, 85, 85-PM, or 85-PMT.
[10]Blank space replaced with 45 or 85.
[11]Blank space replaced with 21, 41, 80, 85, or 85-PM.
[12]Blank space replaced with 21, 41, 45, 80, 85, or 85-PM.
[13]Blank space replaced with 41, 45, 80, 85, or 85-PM.

sh - Terminal Blocks for Use in Pedestals

Catalog Number

sh-a Unprotected Filled IDC Terminal Blocks

Manufacturer	1-Pair (w/leads)	2-Pair (w/leads)	5-Pair (w/leads)	6-Pair (w/leads)	10-Pair (w/leads)	12-Pair (w/leads)	15-Pair (w/leads)	25-Pair (w/leads)	50-Pair (w/leads)
3M Company(10)	--	--	1D5XXXXXXXXX	--	ID10XXXXXXXXX	--	ID15XXXXXXXXX	ID25XXXXXXXXX	--
Channell	--	--	--	MRB/CMR06 Series	MRT/CMR10 Series	--	--	MRT2/CMR25 Series	--
Emerson Network Power, Energy Systems	--	--	RPIS5A(5)	RPIS6A(5)(8)	RPIS10A(5)(8)	RPIS12A(5)(8)	--	RPIS25A(5)(8)	--
		RGIS2SLS(4)	RGIS5A(6)	RGIS6A(6)	RGIS10A(6)(8)	RGIS12A(6)(8)	--	RGIS25A(6)(8)	--
		--	--	--	--	--	--	RTIS25A(7)(8)	--
Thomas&Betts	--	--	54866(1,5,8,9)	54867(1,5,8,9)	54868(1,5,8,9)	54869(1,5,8,9)	54070(1,5,8,9)	54071(1,5,8,9)	--
		--	2520(1,5,8)	2521(1,5,8)	2522(1,5,8)	2523(1,5,8)	2524(1,5,8)	2525(1,5,8)	2526(1,5,8)
		--	5460002(2)	5460102(2)	5460202(2)	5460302(2)	5460502(2)	--	--
Tyco Electronics (DTerminator 2)	--	--	PTB-5-AU-4	PTB-6-FS-4	PTB-10-AU-4	PTB-12-AU-4	PTB-15- FS(3)	PTB-25-AU-4	PTB-50-AS-6
		--	PTB-5-FS(3)	PTB-6-FS(3)	PTB-10-FS(3)	PTB-12-FS(3)	PTB-15-FS-50	PTB-25-FS(3)	PTB-50-AS(3)
				PTB-6-FU-4	PTB-10-VT-4	PTB-12-FU-4	PTB-15-VT-4	PTB-25-FU-6	PTB-5--FS(3)
						PTB-12-FU-6		PTB-25-VT-4	
						PTB-12-VT-6			

sh - Terminal Blocks for Use in Pedestals

sh-b Unprotected Filled Binding Post Terminal Blocks

Manufacturer	1-Pair (w/leads)	2-Pair (w/leads)	5-Pair (w/leads)	6-Pair (w/leads)	10-Pair (w/leads)	12-Pair (w/leads)	15-Pair (w/leads)	25-Pair (w/leads)	50-Pair (w/leads)
Emerson Network Power,	--	--	RPT5A4G[1]	--	RPT10A4G[1]	--	--	RPT25A4G[1]	--
Energy Systems	--	--	RGT5A4G[2]	--	RGT10A4G[2]	--	--	RGT25A4G[2]	--

Notes:

1. E/W bottom exit pigtail stub.
2. E/W rear exit pigtail stub.
3. Stub cables accepted in 12 feet and 25 feet lengths using RUS accepted PE-39 or PE-89 cables. Order stub cable in accordance with manufacturer's instructions.
4. Can only be ordered stubless from the manufacturer.
5. E/W bottom exit pigtail stub available in 4, 12, or 25 foot lengths. Order pigtail stub in accordance with manufacturer's instructions.
6. E/W rear exit pigtail stub available in 4, 12, or 25 foot lengths. Order pigtail stub in accordance with manufacturer's instructions.
7. E/W top exit pigtail stub available in 4, 12, or 25 foot lengths. Order pigtail stub in accordance with manufacturer's instructions.
8. Can be ordered with a filled cable stub using RUS accepted PE-39 or PE-89 cables in 4, 12, or 25 foot lengths. Order stub cable in accordance with manufacturer's instructions.
9. Flat plane block for left and right side drop wire entrance.
10. Contact vendor for pedestal and aerial stub options.
11.

nid – Network Interface Devices[1]

nid-a Gas Tube Protection

Manufacturer	Catalog Designation
AFL (c/o Petro Comm)	SNI 4600/355M[3][6], 356M1[3][5], or 125-EW-R[2][5]
Bourns Inc.	7004, 7090 & 7032 Series NIDs
Corning Cable Systems	NI-2000 Series/PTD[3][5] or PTD[3][6]
TII	3600/355M[3][6], 356M1[3][5], 126M[2][5], or AD-02W-FS[3][5] 3700/355M[3][6], 356M1[3][5], 126M[2][5], or AD-02W-FS[3][5] 6300/355M[3][6], 356M1[3][5], 126M[2][5], or AD-02W-FS[3][5]

(Non–Domestic Technical Acceptance expires on 12/31/2010.)

4.7.1
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nid

nid-b Solid-State Protection[7]

Manufacturer	Catalog Designation
Corning Cable Systems	NI-2000 Series/PTD[8]

Notes:

[1]Designations after the slash "/" mark indicate the arrester unit or units, which RUS has accepted for use in the listed network interface device. Unless otherwise noted, no other arrester unit or units is RUS accepted for use in network interface devices listed here.

[2]2-electrode.

[3]3-electrode.

[4]Medium duty.

[5]Heavy duty.

[6]Maximum duty.

[7]Recommended only for customer access installations of 12 pairs and greater. In addition, all pairs shall be terminated in the network interface device whether or not the pairs are in service.

[8]PEG-7, Class I Category.

4.8
10-19-2007
pb

pb – Power Back-up

pb – Power Back-up

Manufacturer	Product
ReliOn	**Hydrogen Fuel Cell Systems**[1]

Notes:

1. Includes T1000 and T2000 (Users must receive ReliOn training on the National Fire Protection Association (NFPA) 853 (NFPA, 2003) and NFPA 55 (NFPA, 2005) codes that provide guidance for installation of stationary fuel cell power systems and safe storage, use and handling of compressed gases, respectively.)

ae - Access equipment

a – FTTH Systems[21]

Manufacturer	Product
Alcatel·Lucent	7340 FTTU System[16]
	7342 ISAM FTTU System[28]
ADTRAN	GPON System[7]
Allied Telesis	Multiservice Access Platform 7000 & 9000 Series[15]
Alloptic	GigaForce[20]
Calix Networks, Inc	FTTH Systems[12]
CommScope	BrightPath® FTTH Hybrid Fiber-Coax System (Non-Domestic Technical Acceptance expires on **August 9, 2011**.)
Enablence Systems, Inc.	Inteleflex 2.488 GPON FTTH Solution
	Trident7 OLT, Trident7 COLT, 800 ONT Series, and Trident7 Management Suite
	Trident7 200 ONT Series and Trident7 1300 ONT Series (Non-Domestic Technical Acceptance expires on **July15, 2010**.)
Foxcom	FTTx Series 8[26] (CATV and DBS RF Video Overlay)
Hitachi	AMN 1200 FTTP
	AMN 1220 FTTP
Motorola[6]	FTTH BPON System
	FTTH GPON System (Non-Domestic Technical Acceptance expires on **August 01, 2010**.)
Occam Networks, Inc	FTTP Solution[14]
PacketFront	BECS, SMT, HMT, SSP, ASR, and DRG[29] Non-Domestic Technical Acceptance expires on **April 30, 2009**.)
ReadyLinks	RHINORing™ Product Family[34]
Telco Systems	Multi-Service Platform[13]
Tellabs	1600 SFU ONT[30] (Non-Domestic Technical Acceptance expires on **September 30, 2009**.)
Zhone Technologies	MALC GPON[9]

See pages 5.1.3 and 5.1.4 for notes.

ae - Access equipment

b – Multi Service Access

Manufacturer	Product	Copper	Fiber
Actelis Networks	MetaLIGHT Platform[17]	Y	N
ADC	PG-FlexPlus[11]	Y	N
ADTRAN	Access Equipment[7]	Y	Y
	TA 1100 (Non-Domestic Technical Acceptance expires on **May 19, 2010**.)		
Alcatel·Lucent	Litespan-2000	Y	Y
	7300 ASAM	Y	N
	7330 ISAM	Y	Y
	AnyMedia	Y	N
	SLC Series 5[3]	Y	N
	SLC-2000 Access System	Y	Y
Alcatel·Lucent (AG Communications)	SuperLine Access	Y	N
Allied Telesis	Multiservice Access Platform 7000 & 9000 Series[15]	Y	Y
Calient Networks	DiamondWave® FiberConnect (FOCS)[41]	N	Y
Calix	Calix C7[12]	Y	Y
Carrier Access	Adit 600 Platform	Y	N
Charles Industries	AdrenaLine xDSL Conditioner[39]	Y	N
	Dualine Plus[1]	Y	N
	HVDL 3.1	Y	N
Ciena	CN1000	Y	Y
Ciena (Non-Domestic Technical Acceptance expires on **March 31, 2011**.)	LighteningEdge[32]	Y	Y
Communications Test Design, Inc. (CTDI)	FlexAccess 9000 SDLC[40]	Y	N
Conklin Intracom	FASTmux ADSL Mini-DSLAM	Y	N
	Model 2000	Y	N
ECI Telecom Ltd.	Hi-FOCuS™[22]	Y	N
Enablence Systems, Inc.	Service Convergence Network (SCN™)[19]	Y	Y
	Inteleflex	Y	N
FibroLAN	MetroStar Systems[36]	Y	Y
Fujitsu	FLASHWAVE 4010	N	Y
	FLASHWAVE 4100	N	Y
General DataComm	SpectraComm Integrated Access[37]	Y	N
	Xedge Multiservice Packet Exchange[38]	Y	Y
General Bandwidth	G6 Access & Media Gateway	Y	Y
GoDigital	XCel-4[a]	Y	N
	XCel-8	Y	N
	XCel-12	Y	N
Hatteras Networks	HN 4000/400 Platforms[23]	Y	N
Lucent Technologies	AnyMedia	Y	N
	SLC Series 5[3]	Y	N
	SLC-2000 Access System	Y	Y
	SuperLine Access	Y	N
Motorola	Multi-Service Unified Access Platform[18]	Y	Y

See pages 5.1.3 and 5.1.4 for notes.

ae - Access equipment

b – Multi Service Access

Manufacturer	Product	Copper	Fiber
Enablence Systems Inc.	Service Convergence Network (SCN™)[19]	Y	Y
	Inteleflex	Y	N
Occam	BLC 1100	Y	Y
	BLC 1200 System	Y	Y
	BLC 6000 Platform[14]	Y	Y
Pedestal Networks	UBS 2424	Y	N
	UBS 2450	Y	N
Pulsecom	S-24DU[4]	Y	Y
	PSC Series 5[2]	Y	Y
Siemens Information and Communication Networks	Accession Integrated Access Platform	Y	Y
Telco Systems	EdgeGate VOIP Multi-Service Gateway[13]	N	Y
	Multi-Service Platform[13]	N	Y
	Gemini Ethernet Remote ADSL2+ DSLAM[27]	Y	N
Tellabs (Non-Domestic Technical Acceptance expires on **September 30, 2009**.)	Tellabs®1000 series	Y	Y
	Tellabs®1020 multi-service Access System	Y	Y
Tellabs (Non-Domestic Technical Acceptance expires on **October 31, 2009**.)	Tellabs®1100 Multi- Service Access System[31]	Y	Y
Widearea US (Strowger) Technical Acceptance Expires on **December 31, 2009**.)	AER800 ADSL Loop Extender Series[25]	Y	N
Zhone Technologies	MALC[9]	Y	Y
ZyXEL (Non-Domestic Technical Acceptance expires on **May 30, 2009**.)	MSAP Products[33]		

See pages 5.1.3 and 5.1.4 for notes

5.1.3
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ae

ae - Access equipment

c – BPL Systems

Manufacturer	Product
CURRENT TECHNOLOGIES	BPL Product Family[35]

Notes:

1. Includes the DDL125, DDL135, DDL201, DDL205, DDL210, DDL221, and DDL237 only.
2. Includes the RT 596, RT5 192, RT 384, RT 576, and PSC Series 5 Fiber Kit.
3. Includes the SLC-2000 Multi-Services Distant Terminal and DDM-2000 FiberReach Narrowband Shelf.
4. Includes the S-24DU HUB.
5. The GranDSLam 4200 DSLAM includes the ReachDSL DSLAM and the ADSL DSLAM.
6. Includes the domestically accepted ONT1000 Optical Network Terminal, MDU, and AXS2200. Also, includes the non-domestic technically accepted AXS2200
7. Includes the Total Access (TA) 5006, TA 5000, TA 4303, TA 3050, TA 3000, TA 1500, TA 1200 DSLAM, TA 1000, TA 850, TA 750, TA 300 ONT, MX3200 Series, MX3112, MX2820, MX2810, MX2800, MX400 Series, OPTI-6100, OPTI-3, and TRACER Series.
8. Includes Multiplexer Uplink Module, ADSL Access Multiplexer Module, SDSL Inverse Multiplexer Module, and T1 Access Multiplexer 1500.
9. Includes Raptor product line, all part numbers on MALC Broadband Loop Carrier Data Sheet dated: 2008/08/22 14:13:36, and ZNID-GPON-4210/4211/4213.
10.
11. The PG-FlexPlus includes the COT, RT, Field Shelf, Edge RAM and Edge IAD.
12. This listing includes the FiberDrive OLT, Calix F5 OLT, Calix 400 Series ONTs, Calix 500 Series ONTs, Calix C7 OLT, Calix 700 Series ONTs, and IP DSLAMs: E5-110, E5-111, E5-120, E5-121, C7 MSAP cards: OC-48, OC-12, RAP2-OC-48, RAP-OC-3-12, RAP, AMP, ATP, ADSL2-24, Combo 2-24, DSO-DP6, REBS-12, RPOTS-24, RU2W-24, TO-6, DSI-A12, HDSL-2-4-6, JMA-12, T1-6, T1-6 A+T, DS3-4P, DS3-12P, DS3E-4P, DS3-12S, FE-12S, GE-2P, GE-2P FE-4P, GE-4S, OLT-G4, OLT-B2, IRC, VGP, VIPR
13. Listing includes Models T5C-24F, T5C-24GT, T5-24G, T5C-24T, TC548T, GW-282, GW--282S, GW482S, and GW232.
14. Llisting includes: ONT 2321, 2342, 2343, 2351, 2442, 2444, 2445; Blades 6150, 6151, 6152, 6214, 6244, 6246, 6252, 6312, 6314, 6322, 6640, 6440, 6450, and is supported by the Occam View Element Manager system over Occam's BLC 6000 platform.
15. Includes the 7101, 7102, 7400, 7700, 9100, 9400, 9700, and iMG 600 CPE.
16. The Alcatel Lucent 7340 FTTU System includes the 7340-H-ONT Home Optical Network Terminal, the 7340 P-OLT Packet Optical Line Terminal, the 7340 V-OLT Video Optical Line Terminal, and the 7340 AMS Access Management System.
17. This acceptance includes the 50, 100E, 150, 130, 1300 and 1500
18. Includes the following Quantum Bridge Communications' products: QB3000 OAS, QB5000 OAS (includes the Motorola ONT1000 Optical Network Terminal), QB622 IOT, and QB100 IOT; and the following Next Level Communications' products: BDT, BSAM, USAM, BNU, MDU, SSU, and N3 View-1 only; and the AXS2200.
19. Accepted the NMX-SS7, CCM, BAR-GE12, BAS-150, BAS-24**,** BAS-ADSL16R, BAS-ADSL32R, BAS-100BX24, BAS-ADSL48R, BAS-ADSL48R-SPL, BAS-POTS48R, RGN-ADSL, RGN 410 series, RGN 510 series, RGN 520 series, RGN 550 series, RGN 560 series, PBG-10/100TX, and RetroCAB (updated RSC/48 enclosure along with the BAS unit installed.)
20. Gigabit Ethernet Access Routers (GEAR) includes Edge ____ (2000, 200, or 10), Home4000, Xgen ___ (1000, 5000, 6000, 7500, 8000, or 9000), and BizXgen 200.

21. FTTH Systems using IP signaling may not be able to complete loop back tests for leased line circuits, borrowers should consult the manufacturer for further details.
22. Acceptance is for Hi-FOCuS MiniRAM, MiniRAM Extension, Hi-FOCuS Micro, MiniSplitter, Remote Line Power (RLP) Feeder and Cabinet unit, Hi-FOCuS MiniCAB System, Hi-FOCuS MicroRAM 24V, Hi-FOCuS M41 & M82, Hi-FOCuS 16 Slot xDSL Splitter Shelf, and the OPS management systems.
23. This acceptance includes the HN 4000, HN-404 CP, HN-408-CP, HN-404 CO, HN-408-CO, HN-404 U, and HN-408-U.
24. Listed 1.2 GHz PON solution is expected to be changed out by late 11/2007, call RUS for details.
25. Includes the AER800-1P, AER800-2P, AER800-6P/8P-O, and the AER800-6P/8P-I only.
26. This listing includes 810 Series Transmitter, 82 Series EDFA, 800 Series FTTH HONU, SCD-4P54W, SWDT-2, and LMX-42.
27. Gemini Ethernet Remote ADSL2+ DSLAM
28. The Alcatel Lucent 7342 FTTU System includes the 7342 P-OLT, the 7342 H-ONT, 7342 Video Coupler (also referenced as WDM), and the 5526 AMS elements.
29. Includes ASR 4000 Series, ASR 4100 Series, ASR 4200 Series, ASR 4600 Series, ASR 4700 Series, DRG 200 Series, DRG 300 Series, DRG 500 Series, FTU, and CATV.
30. The following models are included in the series: 1600-610, 1600-610X, 1600-611, 1600-612, 1600-712, 1600-621, 1600-625, 1600-631, and 1600-641. The Tellabs 1000 requires a PON plug-in card and couple a set of common control cards functions as a BPON optical line terminal (OLT.)
31. Tellabs®1100 Multi-Service Access Platform (MSAP) is an IP-based solution that combines the Tellabs 1150 and 1134 common equipment, the Tellabs®1600 family of ONTs/MDUs, and the Tellabs® 1191/1090 Network Management System along with a host of 1150 ONUS and a Tellabs® 1100Voice Gateway to simultaneously support FTTC and FTTN with ADSL2+/VDSL2, and ITU-T G.984 GPON 2.4 applications**.**
32. Acceptance includes LE-310, LE-311, LE-311v, LE-327, and LE-427.
33. Includes IES5000 Series, IES5005 Series, 1E54248 IP DSLAM Series, VES4600 Series, P600 Series, P700 Series, and P800 Series.
34. Includes the Rhino ONT models, Rhino OSG models, Rhino GTO models, Rhino IPC models.
35. Includes Overhead Systems, URD Repeated Systems, URD Amplified Systems, MDU Systems, and miscellaneous equipment
36. Includes modules, S.CON, H.CON, F.CON, CTF, LTA, DLA, GTA, FALCON, ProxiMA, U.CON, GSM, FCxx, FETX, F.CON, mS.CON, CTF, GA10, and ATARA products.
37. Includes the SC1001, SC2000, SC5000, SC202, SCVF28.8, SC DUAL V.34, SC500A, SC521A/S,SC553, SC800T3, SC-SCM, SC5001, SC5520,SC5034, SC5553, SC5506, SC5516, SC SRM-6, SCM13, SC Blade Adapter, SAC/SAM, SCIP-T1, SCIP-DSL, SCES-9, SCES-18, SC-MR1, SC ADT-16, SC ADT-32, SC-SDT
38. Includes the XEDGE 6002, XEDGE 6645, XEDGE 6640, XEDGE 6280, XEDGE 6160, XEDGE MSPx, XEDGE PCx, XEDGE PCL, XEDGE ISG2, XEDGE ISG 3, XEDGE VSM, XEDGE CE, XEDGE CHFRC, XEDGE ETH, XEDGE FRC, XEDGE ECC2, XEDGE SMC, XEDGE ACP, XEDGE ACS, XEDGE XH, XEDGE XS, XEDGE XM, XEDGE CM, XEDGE SMM, XEDGE STM, XEDGE OC-N/STM-N LIM, XEDGE DAUI LIM, XEDGE QTLIM, XEDGE DS1-4CS LIM, XEDGE DS1-2CS LIM, XEDGE DS3-2CS LIM, XEDGE DS3-2C LIM, XEDGE E3-2C LIM, XEDGE E1-2CS LIM, XEDGE E1-4CS LIM, XEDGE DLIM, XEDGE DSLIM, XEDGE SSLIM, XEDGE DMLIM, XEDGE SMLIM, XEDGE LDSLIM, XEDGE LSSLIM, XEDGE DHLIM, XEDGE LDHLIM, XEDGE HSSI-DCE LIM, XEDGE HSSI-DTE LIM, XEDGE SI-2C LIM, XEDGE SI-4C LIM, XEDGE 155M-2 LIM, XEDGE 155I-2 LIM, XEDGE 155L-2 LIM, XEDGE 155M-APS LIM, XEDGE 155I-APS LIM, XEDGE 155L-APS LIM, XEDGE 155E-2 LIM, XEDGE LCE-16 LIM, XEDGE DSX1-IMA LIM, XEDGE E1-IMA LIM, XEDGE DSX1-IMA+ LIM, XEDGE E1-IMA+ LIM, XEDGE DSX1-8 IMA+ LIM, XEDGE E1-8 IMA+ LIM, XEDGE NTM-DS1 LIM, XEDGE NTM-E1 LIM,XEDGE PROSHERE
39. Includes the Smart Coil only for circumstances to allow xDSL to pass.
40. Includes 9040-SA, 9041-SA, 9042, 9124, 9125, 9134, 9151, 9153, 9161, 9163, 9241, 9262, 9262-L3, 9281-L3, 9300, 9400-L3.
41. Includes the DiamondWave PXC switches and the OAO 8 port module.

te - Transport Equipment		
Manufacturer	**Product**	**Interface Rate**
ADC	QFLC	6.312 Mb/s
	DS3/OC1 FLC	OC-1
ADVA Optical Networking [18]	FSP 3000RE	OC-3/12/48/192
	FSP 3000RR	
	FSP 3000	
Alcatel	1603 SMX	OC-3/12/48
	1677 SL	OC-3/12/48/192
BTI Photonic Systems, Inc.	Netstender[15]	OC-3/12/48/192
	BTI 7000 Series[19]	
Carrier Access	Access Navigator®[14]	T1/DS1/DS3
Charles Industries	T1	
Ciena	MultiWave CoreStream	OC-12/48/192
	MetroDirector K2	OC-3/12/48/192
	ONLINE Metro Transport Platform**(7)**	OC-3/12/48/192
	DN Multiservice Switching Platform**(11)**	OC-3/12/48
	ONLINE Edge Multiservice CWDM Platform	OC-3/12/48
Ciena (Non-Domestic Technical Acceptance expires on **03/31/11**.)	CN 4200 FlexSelect (Includes CN 4200 RS and Release 5.0)	OC-3/12/48/192
Cisco Systems	Cisco ONS 15454	OC-3/12/48/192
Copper Mountain Networks, Inc	VantEdge 3000[10]	OC-3
ECI Telecom Ltd.	XDM Platform[16]	OC-3/12/48/192
fSONA	SONAbeam™[13] (M & S series)	OC-1/3/12
See page 5.2.3 for notes.		

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te - Transport Equipment		
Manufacturer	**Product**	**Interface Rate**
Fujitsu	FLASHWAVE® 4300	OC-3/12/48
	FLASHWAVE® 7120 Large Shelf	OC-3/12/48/192
	FLASHWAVE® 7120 Small Shelf	OC-3/12/48/192
Fujitsu (Non-Domestic Technical Acceptance expires on **04/30/10**.)	FLASHWAVE® 4500	OC-48/192
Fujitsu (Non-Domestic Technical Acceptance expires on **04/30/10**.)	FLASHWAVE® 7420	OC-3/48/192
Fujitsu (Non-Domestic Technical Acceptance expires on **04/31/11**.)	FLASHWAVE® 7500 (20)	OC-48/192
FutureWei (Non-Domestic Technical Acceptance expires on **04/27/09**.)	Optix Metro 1600	OC-48/192
Lucent Technologies	DDM-2000	OC-3/12
	Metropolis DMX	OC-3/12/48
	WaveStar TDM 2.5G/10G	OC-3/12/48/192
Haliplex (OEM – Bayly, Coastcom, Turin) (Non-Domestic Technical Acceptance expires on **06/15/10**.)	HPX-1600 products (and corresponding OEM versions) (17)	OC-3/12
Infinera (Non-Domestic Technical Acceptance expires on **01/03/11**.)	DTN (Includes BMM, DLM Line Card, and TAM Tributary adaptor)	OC-3/12/48/192
Marconi	MAS	OC-3/12
	ASX 200 BX	OC-3/12
	ASX 1000	OC-3/12
	ASX 1200	OC-3/12/48
Movaz Networks, Inc	RAYexpress	OC-3/12/48/192
	RAYextender	OC-3/12/48/192
Meriton Networks	6400 OTP	OC-3/12/48/192
MRV Communications, Inc.	Fiber Drive® Product Family(17)	OC-1, OC-3, OC-48, Gigabit Ethernet
See page 5.2.3 for notes.		

te - Transport Equipment		
Manufacturer	**Product**	**Interface Rate**
Nortel Networks, Inc.	OC-3 Express(1)	OC-3
	OPTera 3500	OC-3/12/48/192
	OPTera Metro 5000(6)	OC-3/12/48/192
	OME 6500	OC-3/12/48/192
OpVista, Inc.	OpVista2000	OC-3/12/48/192
Optelian	**LightGAIN CDMW**(5)	OC-3/12/48
Redback	SmartEdge 800 Intelligent Terminal	OC-3/12/48
Siemens Information and Communication Networks	XpressPass(2)	OC-3/12/48
Sorrento Networks	GigaMux (GM) 50	OC-3/12/48
	GigaMux (GM) 1600(8)	OC-3/12/48
	GigaMux (GM) 3200(9)	OC-3/12/48
	GM 6400	OC-3/12/48/192
Turin Networks	Traverse(4)	OC-3/12/48/192
Xtera Communications, Inc	CityStream 5000	OC-3/12/48
Zhone Technologies	VISTA	OC-3/12
See page 5.2.3 for notes.		

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te

Notes:

01. Includes the CX (Compact Express).
02. Includes the 140, 140HD, 142 and 144.
03. The VLX2020 listing includes the VLX2020 Main Shelf, and the following tributary shelves: DS3/EC1, ETS2, OTS2, and VLX1010 WDM; and the VLX2006™ Multi-Service Access Platform.
04. Includes Traverse 600, 1600, 2000 and the TraverseEdge 100.
05. The MDX-8, OADM, OMS-519, RGN-3GSF, MGT-100, and SFP.
06. This listing includes Models 5100 and 5200.
07. This listing includes Models 7000, 9000 and 11000.
08. The LuxN GigaMux (GM) 1600 series includes the GM 1602 and GM 1608 DWDM/CWDM products.
09. The LuxN GigaMux (GM) 3200 series includes the GM 3217 and GM 3234 DWDM/CWDM products.
10. The VantEdge 3000 can provide T-1 circuits and xDSL lines.
11. This listing includes Models 7000, 7050, 7100, and 7200.
12. This listing includes PacketWave M, C, and E Series (E200, E510 and E520).
13. Accepted 155-M/S, 622-M/S, and 1250-M/S.
14. Includes the Access Navigator® GR-303 + Data Host, Wide Bank® 28 DS3 Multiplexer and Wide Bank® 28 STS-1 Multiplexer. Equipment may be used with the NetworkValet® Element Management System
15. Acceptance includes the 2060 and 1030 Optical Transmission Platforms.
16. Acceptance includes XDM 100, 200, 400, 500, 1000, and 2000 models.
17. Includes the Chassis and Management Modules, Plug-In Interface Modules, Media Converters, Repeaters, Optical Ethernet Services Demarcation, Ethernet Switches, Single-Fiber Links, Fiber Multiplexers, Application Specific Modules, CWDM Modules, and Console Server Modules. Fiber Drive products also provide Access Services for Ethernet, Ethernet and T1/E1 lines and other protocol services.
18. Includes RAYcontrol.
19. Includes 7020, 7030, and 7060 configurations.
20. Includes the FLASHWAVE 7500 FOADM, FLASHWAVE 7500 2D ROADM, FLASHWAVE 7500 WSS ROADM and FLASHWAVE 7500 Extension Shelf.

pc - Stored Program Digital Switching Equipment

pc-a- CLASS 5 Switches that meet BULLETIN 1753E-001 (Form 522)

Manufacturer	Base	Accepted System Release[5]	Acceptance Classification[1]	RST(s)
AG Communications Systems	GTD-5EAX	1732	A	RSU
Lucent Technologies	5ESS-2000[6]	5E16.2	A	EAIU BZ-RS/EAIU RSM ORM TRM
Nortel Networks, Inc.	DMS-10[2]	602.20	A	RLCM (OPAC) RSC-S Star Remote Hub
Nortel Networks, Inc	DMS-100[3]	LEC00017	A	RLCM (OPAC) RSC-S RSC Star Remote Hub
Redcom Lab., Inc.[7]	MDX MDX-I HDX	17.0 6.1 1.0	A A A	MDX-R MDX-IR HDX-R
Siemens Information and Communication Networks	DCO[4]	24.0 O-N-E UP	A	RLS-450 RLS-1080 RLS-4000
Siemens Information and Communication Networks	EWSD[8]	20.0	A	RCU RCU-160C RCU-800C
Taqua	7000 Class 5 Packet Switch	6.0	A	7000 Class 5 Packet Switch
Taqua	7000 EVS, Enhanced VoIP Switch[11]	6.0	A	7000 EVS, Enhanced VoIP Switch

See notes on page 5.3.2.

pc-b- Softswitch Solutions with adjunct equipment that meet BULLETIN 1753E-001 (Form 522)

Accepted

Manufacturer	Base	System Release[5]	Acceptance Classification[1] [9]	RST(s)
MetaSwitch	VP3510	6.1	C	VP3510
	VP2510	6.1	C	VP2510
NewCross Technologies	CSS™ Service Manager (NXT4000)	R2.6.0.6	C	CSS™ Service Manager (NXT4000)
Nortel	CS1500	4.0	C	CS1500
Sonus Networks	GSX9000[12]	6.4	C	GSX9000[11]

See notes on page 5.3.2.

Notes:

(1) Acceptance Classification: C-Conditionally Accepted, A-Accepted.

(2) The DMS-10 listing includes the one and two bay version and its application as an HSO, SSO or LCC.

(3) The DMS-100 listing includes its application as a DMS-200 tandem office and the smaller version of the SuperNode configuration, the DMS-SuperNode SE.

(4) DCO listing includes the DCO-SE one and two bay configurations and DCO RNS.

(5) The listed software/firmware system release is the most recent system release that was reviewed by RUS and found to be fully compliant with all requirements of 7 CFR 1755.522, RUS General Specification for Digital, Stored Program Controlled Central Office Equipment (Form 522). Other system releases may also be acceptable. For information on specific releases, please contact the Chairman, Technical Standards Committee "A" (Telecommunications), Rural Utilities Service, Stop 1598, 1400 Independence Avenue, SW., Washington, D.C. 20250-1598.

(6) The 5ESS-2000 digital exchange listing includes the compact digital exchange 5ESS-2000 (CDX) and the very compact digital exchange 5ESS-2000 (VCDX) in host and remote switching terminal configurations (DRM). The listing also includes the EAIU/BZ-RS Unit, also called the 5E-XC Remote Line Unit. When a VCDX is upgraded to a CDX or full sized 5ESS-2000, it can host the listed RSTs. Unless it is upgraded it can only host the EAIU. Emergency call processing using the BZ-RS is only offered for EAIU Units that are hosted from a full sized 5ESS-2000 or from a DRM. The BZ-RS cannot be used to provide emergency call processing on EAIU Units hosted from a CDX or from a VCDX. System Release 5E16.2 is designated 5E-XC Service Rich Software by Lucent.

(7) The MDX-I listing is for a minimum system configuration of four shelves, each containing no more than 100 lines or 25 percent of the total equipped lines, whichever is less.

(8) The EWSD listing includes the EWSD Small Exchange (EWSD-SX) and the Line Trunk Group-O (LTGO).

(9) Systems used for line access for this switch must be included in the RUS *List of Materials Acceptable for Use on Telecommunications Systems of RUS Borrowers* in category ae – Access Equipment.

(11) Consists of the Taqua T7000 Class 5 Packet Switch and VoIP Software application

(12) This system includes PSX, SGX and EMS deployed on Sun Netra servers.

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APPROVAL-TO-BID STATUS OF DIGITAL SWITCHING SYSTEMS

Digital central office switching systems, which have Agency acceptance, are listed by software generic. To bid generics which are not listed requires an approval-to-bid. Such an approval can be obtained prior to the general availability of the generic. An unlisted generic may not be delivered to an Agency funded site until it receives full acceptance.

Manufacturer	Model	Software Generic
AG Communications Systems	GTD-5EAX	
Lucent Technologies	5ESS-2000	
MetaSwitch	VP2510	
	VP2510	
Nortel Networks, Inc.	DMS-10	
	DMS-100	
Redcom Lab., Inc.	HDX	3.0
	HDX	3.1
	MDX	18.1
	MDX-I	7.0
Siemens Information & Communications Networks	DCO	25.0
	EWSD	20E04
Taqua	7000 Class 5 Packet Switch	6.1
	7000 EVS Enhanced VoIP Switch	

Notes:

1. Indicates the expiration date of the approval-to-bid.

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wn – Wireless Networks		
Manufacturer	**Product**	**Technology**
ADC	Digivance LRCS	Licensed: 800 & 1900 MHz
ADTRAN	TRACER Series	Unlicensed: Microwave 2.4 & 5.8 GHz
Aperto Networks[34]	PacketMAX: PM5000, PM4000, PM510, PM400, PM320, PM120	Licensed: 2.3, 2.5, 3.3, 3.5, 3.65, GHz Unlicensed: 4.9, 5.1, 5.4, 5.8 GHz
	PM3000 (Non-Domestic Technical Acceptance expires on **03/25/2011**.)	
AIRAYA Corp	WirelessGRID Bridge Series (AI108-4958-XX[19])	Licensed: PTP, PTMP 4.940-4.990 GHz
	WirelessGRID Bridge Series (AI108-4958-XX[19])	Unlicensed: PTP, PTMP 5.25-5.85 GHz
Airspan Networks	ASWipLL 700 [7]	Licensed: 700 MHz
	ASWipLL 900 ASWipLL 2.4 ASWipLL 5.8 AS3030 IP + TDM AS3030 IP	Unlicensed: PTP, PTMP: 700 MHz, 900 MHz, 2.4GHz, 5.4 GHz, and 5.8 GHz [7]
	MicroMAX[23]	Unlicensed: 5.4, 5.8 GHz
		Licensed: 3.65 GHz
	HyperMAX [23] (includes VoiceMAX)	Licensed: 3.65 GHz
Alcatel·Lucent	CDMA/CDMA2000 Flexent® Network Solution [24]	Licensed CDMA: see manufacturer for frequencies
	9710 Base Station [28] **(Non-Domestic Technical Acceptance expires on 02/24/2011.)**	Licensed Mobile WiMAX: MP05 2.496–2.69GHz (5 and 10MHz TDD) plus 2.3-2.4GHz, 3.4-3.6GHz
	9715 Base Station [28] **(Non-Domestic Technical Acceptance expires on 02/24/2011.)**	Licensed:2.3-2.4 GHz, 2.4-2.6GHz, 3.4-3.6 GHz
	9500 MPR [30] **(Non-Domestic Technical Acceptance expires on 02/24/2011.)**	Licensed: 6GHz, 7/8GHz, 10/11GHz, 18GHz, 23GHz
Alvarion	BreezeMAX 2300 TDD	Licensed 2.3 GHz
	BreezeMAX 2500 TDD	Licensed Mobile WiMAX: MP05 2.496–2.69GHz (5 and 10MHz TDD) and ATC Spectrum (2.4835-2.690 GHz)
	BreezeMAX 3650 TDD	Licensed 3.65 GHz
	BreezeACCESS®[9] BreezeNET® [10]	Unlicensed Broadband: see notes 9 & 10 for frequencies
Ceragon Networks	FiberAir® 1500P (IPMAX, IPMAX2)	Licensed Backhaul: 6, 7/8, 11, 13, 15, 18, 23, 24-26, 28, 32, 38 GHz
	FiberAir® IP-10	
Cielo Networks	SkyLink[31] Point-to-Point Radio Microwave Systems	Licensed: 6, 11, 18, & 23 GHz
Cisco Systems **(Non-Domestic Technical Acceptance expires on 04/23/2011.)**	Aironet AIR-LAP1522	Unlicensed Broadband 802.11 a/b/g Outdoor Mesh
	Aironet AIR-LAP1522HZ (Hazardous locations configuration)	
	Aironet AIR-LAP1524 with additional 4.9 GHz Public safety radio	
	BWX 8305, BWX 2305, BWX 210	Licensed Mobile WiMAX: MP05 2.496–2.69GHz (5 and 10MHz TDD) plus 2.3 GHz,[6]

See pages 5.4.3, 5.4.4, and 5.4.5 for notes.

wn – Wireless Networks		
Manufacturer	**Manufacturer**	**Manufacturer**
DigitalPath™	DenseNode™ & BroadNode™	Unlicensed PTP, PTMP: 2.4, 5.3, 5.5 or 5.8GHz
DragonWave, Inc.	AirPair 50 & 100 Wireless Ethernet Bridges	Licensed: 18 & 23 GHz
	Horizon Compact	6, 11, 18, 23, 24, and 28 GHz
Exalt Communications	EX-2.4_(i, i Lite, i- F, i-16, i-DS3, i-DS3, r, r-c, r-xc, r-x, or r-x) , GigE Series	Unlicensed Backhaul PTP: 2.4 GHz
	EX-4.9_(r, r-c, r-xc, r-x, i, i-F, i-Fd, i-DS-3, or i-16) , GigE Series	Licensed Backhaul PTP: 4.9 GHz
	EX-5_ (i, i-Lite, i-16, i-DS3, r, r-c, r-xc, or r—x) , GigE Series	Unlicensed Backhaul PTP: 5.3, 5.7, 5.8 GHz
	EX-_ (6i, 7i, 8i, 11i, 13i, 15i, 18i, 23i, 38i, 6i—16, 7i-16, 8i-16, 11i-16, 13i-16, 15i-16, 18i-16, 23i-16, 38i-16, 6r, 7r, 8r, 11r, 13r, 15r, 18r, 23r, 38r, 6r-16, 7r-16, 8r-16, 11r-16, 13r-16, 15r-16, 18r-16, 23r-16, 38r-16, 6s, 7s, 8s, 11s, 13s, 15s, 18s, 23s, 38s, 6s-16, 7s-16, 8s—16, 11s-16, 13s-16, 15s-16, 18s-16, 23s-16, or 38s-16) , GigE Series	Licensed Backhaul PTP: 6, 11, 18, 23, 38 GHz
Go Networks	Broadband Wireless Cellular-Mesh Wi-Fi Base Stations (22)	Unlicensed: PTP, PTMP (2.4 & 5.8 GHz)
Harris Stratex (HSX)	Constellation™	Licensed: 6, 7/8, 10/11 GHz PTP
iDirect Technologies(14)	Hub & NetModem II Plus 3000 Series router	Licensed: VSAT
interWAVE	GSM Network(2)	Licensed: GSM
IP Wireless (Nextwave) (Non-Domestic Technical Acceptance expires on **01/17/2010**.)	V4 NodeB	Licensed: TD-CDMA
	V5 NodeB	
	Integrated Network Controller (INC)	
	P1D modem	
	PCMCIA modem	
Loea Corporation (26)	Model L2710 Model L1000	Licensed: PTP 71.0-86.0GHz
MDS	MDS LEDR700	Licensed: 746-794 MHz
	MDS LEDR900 932.5	Licensed: 960 MHz
	MDS iNET & iNEII	Unlicensed: 902-928 MHz
	MDS Series Five Transceivers	Unlicensed: 5.3 or 5.8GHz
Motorola	MotoMesh(15)	Licensed: MEA 4.9 GHz (public safety)
		Unlicensed: MEA 2.4 GHz (WiFi)
	Canopy™ Platform(4)	Unlicensed: Broadband
NERA	EVOLUTION SERIES ANSI Software Defined Radio(33)	Licensed:5 - 40 GHz
NextNet Wireless	Expedience® BWAS (5)	Licensed: Broadband
Nortel Networks	Wireless Mesh Network(17)	Unlicensed: PTP, PTMP (2.4 & 5.8 GHz)
	BTS 1060(23)	Unlicensed: 5.8 GHz, 2.4 GHz

See pages 5.4.3, 5.4.4, and 5.4.5 for notes.

wn – Wireless Networks		
Manufacturer	**Manufacturer**	**Manufacturer**
Proxim	Tsunami MP.11[18]	Unlicensed: PTP, PTMP 5 GHz
RAD Data Communications	AirMux 200 [13]	Licensed & Unlicensed: PTP 5.X, 4.9, 2.3 and 2.4 GHz
Redline Communications[27]	RedMAX AN-100U/100UX RedMAX Subs. Unit (SU-O & SU-I)	Licensed: 3.3-3.5; 3.4-3.6; and 3.6-3.8 GHz
	AN30e and AN50e (Includes RedAccess)	Unlicensed: PTP, PTMP 5.4 - 5.8 GHz
	Red CONNEX AN-80i (Includes MAX + version)	Unlicensed: 4.9GHz, 5.2GHz, 5.470-5.725 GHz, 5.725-5.850 GHz, TDD
		Licensed: 3.65GHz
Star Solutions[25]	MovingMedia®2000 Total Control® PDSN	Licensed: GSM and CDMA Core ONLY solutions (MSC, PDSN, VAS components)
		Licensed: CDMA Core plus Radio Access Network solutions (MSC plus Base Stations) (Non-Domestic Technical Acceptance expires on **05/28/2010.**)
SOMA Networks	SoftAir System [12]	Licensed: PTMP
Strix Systems	Access/One® OWS/IWS[21]	Unlicensed: Mesh, PTP, PTMP (IEEE 802.11a/b/g)
Tecore Networks	iBSS GSM BTS	Licensed: GSM 850, 900, 1800 and 1900 MHz
	iBSS GSM Mini Rackmount BTS	Licensed: GSM-850, GSM-900, GSM-1800, PCS-1900
	iBSS GSM AirSite Backhaul-Free BTS	Licensed: GSM 900, 1800 and 1900 MHz
	iOMCR	Licensed: Software Release 6.1.0
	iCore Network Center[29] (MSC/VLR)	Licensed: Switch (GSM/CDMA)
	iBSS CDMA RAN Mini BTS	Licensed: CDMA2000 (1xRTT), IS-95A/B 450 MHz, 800 MHz, 1800 MHz,1900 MHz, 2100 MHz
Trango[20]	Access5830 Atlas Series FOX5800 FOX5580 FOX5300	Unlicensed: PTP, PTMP 5.8/5.3 & 2.4 GHz, 900 MHz
WaveIP	GigAccess [16] (Includes OFDM units)	Unlicensed: PTP, PTMP
Vanu	Vanu Anywave®[32]	Licensed: 850 MHz & 1900 MHz
Vecima Networks	LMS8000[11]	Unlicensed: Broadband 900 MHz
	700MHz BWIN	Licensed: 700MHz
Vyyo	700 MHz System [8]	Licensed: Broadband 700 MHz
Xiacom	1500 XWR Series[30]	Unlicensed: 2.4 & 5.8 GHz
ZTE USA Inc. (Non-Domestic Technical Acceptance expires on **03/31/2011**.)	CDMA 2000 1x EV/DO (Rev A)	Licensed: CDMA
See pages 5.4.3, 5.4.4, and 5.4.5 for notes.		

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Notes:

1. Includes AdaptaCell BTS 3000, AirSite BS, BSC 3000, TRAU, and AirNet OMC-R.

2. Includes WAVEXchange MSC, WAVETransit, WAVEXpress BSC and BTS, and NIB.

3. Accepted the 700 Broadband Wireless Internet (BWIN™) system based on the Data Over Cable System Interface Specification (DOCSIS). This system must be a complete system end-to-end system from base station to the cable modem.

4. Accepted the 900 MHz, 2.4, 5.2 and 5.7 GHz wireless systems based on the Canopy™ Platform. Acceptance includes Canopy Advantage and Canopy Lite Subscriber Module units, bundle packs, Demo & Starter Kits. Manufacturer's recommended shielded cables are acceptable for this platform's use only.

5. Accepted the 2.5 GHz and 3.5 GHz Broadband Wireless Access System (BWAS) based on the Expedience® Platform.

6. Accepted BTS3A-R1, BTS3F-R1, BTS4A-R1, BTS4F-R1, BWX 210-239, and BWX 210-252.

7. Accepted with a network management platform (WipManage).

8. The system accepted consists of the following units: V3000, V700DT, V700BAM, V389D, V284, V280, V300, V313, V290UA, V7027PS, V700Y, and V700T.

9. Includes the BreezeACCESS II, BreezeACCESS 900, and BreezeACCESS VL. The BreezeACCESS VL is available in the 5.725-5.850, 5.47-5.725, 5.15-5.35, 5.03-5.091bands, and includes the following customer premises equipment: SU-A -ff-3-1D-VL , SU- A-ff-6-1D-VL , SU- A-ff-6-BD-VL, and SU- A-ff-54-BD-VL. The BreezeACCESS 900 operates in the 902-928 MHz ISM band and includes the following CPU equipment: the SU-I-1D900, and SU-M5-900-8D units. The BreezeACCESS II operates in the ISM 2.400-2.4835 GHz band and includes the following CPU equipment: SU-A , SU-RA, SU-E, SU-RE, SU-A-1d-2.4, SU-A-BD-2.4, SU-A-1D1V-2.4, SU-A-BD1V-2.4, SU-E-1D-2.4, SU-E-BD-2.4, SE-1D1V-2.4, SU-E-BD-1V-2.4, SU-ID-1D -2.4, SU-ID-BD-2.4, SU-R, and SU-M5-2.4.

10. Includes the BreezeNET® B, BreezeNET® CX, and BreezeNET® SU-M. The BreezeNET® B operates in the 5.72-5.850, 5.47-5.75, and 5.1-5.35 GHz bands. The BreezeNET® CX operates in the 2.4-2.4835 ISM frequency band. BreezeNET® SU-M operates in the 2,400-2.4835 and 902-928 GHz bands.

11. Accepted CCU8000/8010 base station, NCL8000 PTP Bridge, EUM8005 indoor modem, EUM8000 outdoor modem, MMT9000/9001 mobile terminal, and 902-928 MHz Bandpass Cavity Filters.

12. Includes NPM Platform, SOMAPort models, Voice Software Systems (AMOS), and frequencies: 700 MHz, PCS (1.9 GHz), WCS (2.3 GHz), MMDS (2.6 GHz), and 3.5 GHz.

13. Accepted 5.8 GHz (5.725–5.850 GHz), 5.4 GHz (5.470–5.725 GHz), 5.3 GHz (5.250–5.350GHz), 4.9 GHz (4.940–4.990 GHz), and 2.4 GHz (2.400–2.4835 GHz)

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Notes:

14. Only manufacturer recommended third party vendors are acceptable for deployment of these listed materials.

15. Includes IAP7300, EWR7300, VMM6300, VMM7300, WMC6300, WMC7300, Mobile Switching Controller, and Mesh Manager EMS.

16 Includes GA 2.4 GHz, GA 900 MHz, GA OFDM 700 MHz, GA OFDM 900 MHz, GA OFDM 5.8 GHz, and Network Management System.

17. Includes the Wireless Gateway 7250, Wireless Bridge 7230, and the Wireless Access Points 7215 and 7220.

18. Includes the 5054-BSUR-LR-US, 5054-SUR-LR-US; 5054-SUA-LR-US, and the 5054-QB-LR-US.

19. XX identifies various models / configurations accepted.

20. Accepted M5830S-AP-60, M5830S-AP-EXT, M5580-FSU, M5800S-FSU, M5300S-FSU, M5830S-SU, M5830S-SU-EXT, M2400S-AP, M2400S-SU, M900S-AP, M900S-SU, M915S-SU-EXT, ATLAS5010-INT, ATLAS5010-EXT, TLINK-10, TLINK-10-EXT.

21. The equipment consists of several modules: Base, Client Connect, Network Connect, Antenna, and Network Server. The listing includes the Outdoor Wireless System 2400 Series (2400-10, 2400-20, and 2400-30), 3600 Series(3600-20 and 3600-30), OWS Network Servers (OWS-Ns8, OWS-NS24, and OWS-NS48), and EDGE Wireless System -100 (EWS-100), OWS accessories. The EWS is for indoor use.

22. The listing includes the MBW WLS 2000 (with the WLS 2100 Micro Cellular-Mesh Wi-Fi Sector Base Station,) MBW WLP 1000 (with the WLP 1100 Pico Cellular-Mesh Wi-Fi Base Station,) MBW WNC Wireless Network Controller (Base Station Controller,) MBW Wireless Media Gateway, power supply, antennas (ANT-4047S and 5810 X2,) and miscellaneous hardware.

23. Includes subscriber terminals EasyST and ProST

24. Includes Mobile Switching Center (MSC), Modular Cell 4.0B (includes Compact version), CDMA2000® 1xEV-DO (up to Rev. A), CDMA450 Modcell 4.0 – Compact.

25. Includes: Sonata® MSC Server, Sonata® HLR, Sonata® IMG, Sonata® SSVR, Sonata® MRF, Sonata® Conference Server, Sonata® OMC, iCell® IP RAN Products (including Pico, Micro, and Macro products), All-IP Portable CDMA2000 Network, Total Control® PDSN Products (including TC200, TC3100, TC1000, TC800), and Common Element Manager

26. Intended for installation by professional Loea certified installers only.

Notes:

27. Includes Redline Management System (RMS).

28. Solution includes Alcatel-Lucent 9740 WiMAX Access Controller (WAC), Alcatel-Lucent 9753 WiMAX Operation and Maintenance Center (OMC), Alcatel-Lucent 9759 WiMAX Network Performance Optimizer (NPO), Alcatel-Lucent OS6850-24X WAC & Auxiliary Switch, Alcatel Lucent VitalAAA and 1430 HSS AAA, Alcatel-Lucent Vital QIP and Red Hat DNS/DHCP, Neotip and ACME SBC, VPN Firewall Brick®.

29. Includes MSC-VLR / CSCF, HLR / HSS, AuC/AC/AAA, IN/SIP Application Server, SMSC (GSM/CDMA) with SMPP and Interworking, GATEWAY INTERFACE, MMSC, GSN (Combined SGSN/GGSN), PDSN, IWF, USSD Server, Gateway/Tandem Trunking with STP Support, PoC Server (GSM/CDMA).

30. Includes the 1535, 1536, 1538, 1543, 1551, 1552, 1553, 1554, 1563, and miscellaneous power supply, antennas, mounts, cable, backbone, and CPE.

31. Includes associated microwave system antennas in sizes ranging from1' - 12' diameters.

32. Includes the Protium RF head, Powerwave amplifier, Brandywine GPS, and servers.

33. Includes the Access IFUs, Universal IFUs, NetMaster and for architectures: XPAND, Metro (SONET), Long Haul (PDH or SONET).

34. Includes the WaveCenter EMS Pro™

ene – Electronic Network Elements

Ene-a- Routers/Switches	
Manufacturer	**Product**
Alcatel-Lucent	Omni Switch/Router(Layer 3 Switch) 7750 SR Service Router 7450 ESS LCS 5010
Aztek Networks	5000 Emergency Stand Alone Switch
Cisco Systems (Non-Domestic Technical Acceptance expires on **August 11, 2010**.)	7600 Series Routers: 7603, 7604, 7606, 7609, 7613
ECI Telecom Ltd.	ST Series IP Service Edge Routers [5]
Extreme Networks (Non-Domestic Technical Acceptance expires on **April 27, 2011**.)	Black Diamond switches (20808, 12800R, 12804C, 10808, 8800) Summit switches (250e, 450a, 450e) ExtremeXOS® Network Operating System
Foundry Networks[7]	BigIron® RX Series, FastIron® SuperX/SX and Edge Switches, NetIron®, & ServeIron®
Juniper Networks (Non-Domestic Technical Acceptance expires on **December 9, 2010**.)	E120 BSR
MRV Communications	OptiSwitch® (OS) 9000 Platform[6]
Nortel Networks (Non-Domestic Technical Acceptance expires on **March 3, 2011**.)	ERS 5500 ESU 1800 ESU 1850 MERS 8600
Redback	SmartEdge 400 & 800 Gateway/Router (With NetOp Policy Manager)
Riverstone Networks (Alcatel-Lucent)	Metro & Ethernet Edge Router Series[1]
Tellabs (Non-Domestic Technical Acceptance expires on **February 28, 2011**.)	8800 MSR Series[8]

See notes on page 5.5.2.

Ene-b- Headends

Manufacturer	Product
Minerva Networks	Video Concentrator (VC) 8000 Platform[4]

Ene-c- Gateways/Controllers/Management Systems

Manufacturer	Product
Acme Packet	Net-Net 4250 Session Director Session Border Controller
Cedar Point Communications	SAFARI C3™ Media Switching
Ditech Networks	PeerPoint C100 SBC
Fine Point Networks	ServPoet BMS Series [3] (Broadband Management Server)
MegaSys® Computer Technologies	Telenium® Network Management System
NexTone Communications s	MSX and SBC Platforms
Redback	SMS-500 and 1800 (Subscriber Management System)
Versatel Networks	EdgeIQ Platform[2]
Xangati (Non-Domestic Technical Acceptance expires on **February 23, 2011**.)	Application Management 2.0

See notes on page 5.5.2.

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Notes:

1. Includes the RS 1000/1100, RS 3000/3100/3200, RS 8000/8600, RS 38000, and Riverstone 15008, may use Management Center & Service Activator for these routers only.

2. Includes the IQ1500 and IQ4000 media gateways.

3. Includes the ServPoet BMS 200, 500, 800, & 1000.

4. Includes iTVMANAGER 2 middleware and RMS system.

5. Acceptance includes ST200, ST50, and the ShadeTree/LPS element manager.

6. Includes the OS9012C – 10Gx, OS9012 – M, OS9024 – 4C, OS9024FX – 4GC, and OS9024 – M.

7. Includes BigIron® RX (BI-RX-4, BI-RX-8, & BI-RX-16), FastIron® SuperX/SX Family of Switches (FESX424, FESX448, FESX424HF, FI-SX1 thru 4, FI-SX800, & FI-SX1600), NetIron® Routers and Switches (NI-4802 Router, NI-M2404 Metro Access Switches, NI-MLX Metro Switching Routers, & NI-XMR Core Router), ServerIron Application Switches (SI350(-Plus), SI450(-Plus), & SI850(-Plus)), ServerIron XL Application Switches (FCSLB16 & FCSLB24), ServerIron 4G Applications Switches (SI-4G), ServerIronGT C Series Switches (SI-GT-CGx2, SI-GT-C2404CF, SI-GT-CGC16, & SI-GT-C10Gx2P), & ServerIronGT E Series Switches (SI-GT-E-Gx2, SI-GT-E-GC16, SI-GT-E-2404CF, SI-GT-E-Gx4P, SI-GT-E-GC16P, SI-GT-E-2404CFP, & SI-GT-E-10Gx2.)

8. Includes the 8830, 8840, 8860 routers.

The manufacturers listed below have shown compliance with RUS requirements for the following anchor rods. Some manufacturers cannot supply all sizes listed. Check with manufacturer or distributor for availability.

x - Anchor Rods

Types	Diameters	Lengths
Single Guy	1/2"	7 ft.
Single and Double Guys	5/8"	7 & 8 ft.
Single and Double Guys	3/4"	8, 9, & 10 ft.
Single and Double Guys	1"	8, 9, & 10 ft.

Manufacturers

Eritech, Inc.
(Carolina Galvanizing Corp.)
A. B. Chance Company
Joslyn Manufacturing and Supply Company
Kortick Manufacturing Company
McGraw-Edison
Utilities Service Company

z - Anchors, Guy[1]

Manufacturer		**Catalog Number**		
		Expanding and Plate Anchors		
Holding Power - Lbs.:		**6000**	**10,000**	**16,000**
Min. Required Area, Proj. Sq. In.:		**90**	**120**	**200**
Rod Diameter, Inches:		**5/8**	**3/4**	**1**
Rod Length, Feet:		**7**	**8**	**10**
A. B. Chance	8 Way	-	88135G	1082G
Grip-Tite	8 Way	A322086-G	A322812-G	A322102-G
Joslyn	8 Way	J8115G	J8135G	J8200-1G
	Plate	-	J7503G	-
McGraw-Edison	4 Way	DA1E5	DA1E7	-
	6 Way	-	-	DA6E3
	Plate	DA1P7	DA1P9	DA2P2
South Central	8 Way	84115AG	84135AG	-
	4 Way	-	-	1042001G
		Drive-Type		
Holding Power - Lbs.:		**6,000**	**10,000**	**l6,000**
Rod Diameter - Inches:		**5/8**	**3/4**	**1**
Foresight Products		MR-3	MR-2	MR-l MR-SR[2]

Notes: [1]Where galvanized anchors are listed, the same anchors ungalvanized (black asphalt coated) are also acceptable.

[2]Swamp anchor.

z - Anchors, Guy

Manufacturer	Catalog Number[1]			
	Swamp Anchors			
	10" dia.	**12" dia.**		**15" dia.**
A. B. Chance	10150AS	132AS		152AS
Foresight Products	-	MR-SR[2]		-
Joslyn	J2871SG	J2872SG		J2873SG
	Rock Anchors			
		Expanding Type		**Split Wedge Type**
Anchor Size - Inches:	**1-3/4**	**1-3/4**	**1-3/4**	**-**
Rod Length - Inches:	**15**	**30**	**53**	**18**
Rod Diameter - Inches:	**3/4**	**3/4**	**3/4**	**1**
A. B. Chance	R315	R330	R353	-
Joslyn	J3436	J3437	J3438	-
Kortick	K5503	K5504	K5505	K2377
Utilities Service	CR315	CR330	CR353	-

Notes: [1] Where galvanized anchors are listed, the same anchors ungalvanized (black asphalt coated) are also acceptable.

[2] Drive type swamp anchor (see drive anchor category).

mk - Drop Wire Clamps

Manufacturer	Catalog Number
Diamond Communications	23-44441 23-88881*
General Machine Products	7380-B
Reliable	2PRS*

*Suitable for use in corrosive areas.

aj - Ground Rod and Pipe Clamps

Station Installations (Indoors Only)

Manufacturer	**Catalog Number**		
This conductor:	**.162" (#6 AWG) Copper**	**.102" (#10 AWG) Copper**	**.081" (#12 AWG) Copper**
Connected to:	**Pipe Ground (Copper or Steel) 5/8"-1-1/4" O.D.**	**Pipe Ground (Copper or Steel) 5/8"-1-1/4" O.D.**	**Pipe Ground (Copper or Steel) 5/8"-1-1/4" O.D.**
Electric Motion	EM5507 EM5517**(3)**	EM5507 EM5517**(3)**	EM5507 EM5517**(3)**
Reliable	13**(1)** --	13**(1)** 1**(1)(2)**	13**(1)** 1**(1)(2)**

Notes: **(1)**Smallest size pipe this clamp can be used on is 3/4".
(2) Can only be used on copper pipe.
(3) Can accommodate one #6 to #14 AWG and one #10 to #14 AWG copper conductor.

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aj

aj - Ground Rod and Pipe Clamps

Station Installations (Outdoors)

Manufacturer — **Catalog Number**

.081" (#12 AWG), .102" (#10 AWG) and .162" (#6 AWG) Copper

	Ground Rod (Galvanized Steel)		Ground Rod (Copper-Covered Steel)	
Connected to:	**1/2"**	**5/8"**	**1/2"**	**5/8"**
H. L. Boggs	CR-1, M2009(1)	CR-1, M2012(4)	CR-1, 2009(1)	CR-1, M2012(4)
Burndy	GRC12(1)	--	GRC12(1)	--
Connector Castings(1)	--	--	G-4	G-5
Electric Motion	EM5507 EM5517(3) EM1DB EM4DB(1)(8)	EM5507 EM5517(3) EM2DB EM4DB(1)(8)	EM5507 EM5517(3) EM1DB EM4DB(1)(8)	EM5507 EM5517(3) EM2DB EM4DB(1)(8)
Erico, Inc	GR1-141G(1)(2) GR1-141A(1)(2) CP58	GR1-161G(1)(2) GR1-161A(1)(2) CP58	GR1-141G(1)(2) GR1-141A(1)(2) CP58	GR1-161G(1)(2) GR1-161A(1)(2) CP58 EHL58C1G(4)
Galvan	G4P(1)	G5P(1)	G4(1)	G5(1)
Joslyn	--	--	J8491	J8492(4)
Penn-Union	CEB-1-TN(4)	CEB-2-TN(4)	CEB-1(4)	CEB-2(4)
Thomas & Betts	--	--	--	DGC58-66(4)
Tyco Electronics	1-83017-1(5) 83017-5(4) --	1-83017-3(5) 83017-2(4) --	1-81713-1(5) 81713-5(4) -- 81405-1	1-81713-3(6) 1-81713-2(7) 81713-1(4) 81406-1

Notes:

(1)Accepted only for use with 0.102" (#10 AWG) and 0.162" (#6 AWG) wire.
(2)Includes disposable mold.
(3)Can accommodate one #6 to #14 AWG and one #10 to #14 AWG copper conductor.
(4)Accepted only for use with .162" (#6 AWG) wire.
(5)Accepted only for use with 0.102" (#10 AWG) or 0.081" (#12 AWG) wire.
(6)Accepted only for use with 0.102" (#10 AWG) wire.
(7)Accepted only for use with 0.081" (#12 AWG) wire.
(8)Can be used on a ground that is already occupied by another ground rod clamp on top.

me - Grounding Connectors			
Manufacturer	Catalog Numbers		
	Mechanical/Others	Compression	For Buried Plant Housings (PE-91)
Anderson Electric	C-6, C-10		
Burndy	KS17, KS90	YC8C8-ET, KSL-15, KSA4, KSA2, KSU25, KSU26	
Dossert	DS2F, DS09F,	DSN1F, DSNS6F, DSNS10F, DSNS13F	
Electric Motion	EM 2371T EM 2525 (screw-on) EM 2610 (screw-on)	EM GC8010P, EM GC8020P	EM 0164(3)
Erico	(PGT-1G1G, PGT-1B1A, PGT-1H1H, PGT-1A1A, PGT-1H1G)(1)		
Fargo	GC-5006, GC-5008,	GC8010P, GC8020P, GA-620C	GC-164SHP(3) GC-5006SHP
Galvan	K-6		
Joslyn	J3606, J3657F	J-3030	
Kearney	118102, 118100		
MacLean Power		438ALC	
National Tel.		T2-109D	
Penn-Union	S-6, S-10	SW-1, SW-2, SW-5, SW-6, SW-7, SW-8, PCA-010-H	
Thomas & Betts	6H, 4H	54705, 54710, 54715, 54720, 54725, 54730, 54735, 54740, 54745, 54750, 54852BR(4) , TBRS75F-75C50FHS, TBRS75F-50C35FHS, TBRS75F-25C4/0FHS, TBRS75C50F~5C50FHS, TBRS75C50F-50C35FHS, TBRS75C50F-25C4/0FHS, TBRS75C50F-4/0CHS, TBRS4/0C-2CHS, TBRS4/0C-6CHS, TBRS2/0C1/0F-2CHS, TBRS2/0C1/0F-6CHS, TBRS1/0C1 F-2CHS, TBRS1/0C1 F-6CHS, TBRS2C-6CHS	
Tyco Electronics	81663-1(2)		

NOTES:

1. Additional Erico CADWELD connectors are available for other combinations of ground wire.
2. For use with two stranded #6 conductors only.
3. Connector will accept braid.
4. One-hole connector for #6AWG bond ribbon (Brown).

6.5.1
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me

me - Grounding Connectors

(Compression Type)

Manufacturer	Catalog Number .102"(#10 AWG) Copper to .109"(#12 BWG) (MPDW)
Burndy	YC8C8-ET
National Tel.	T2-109D

	#6 Copper to #4 & #6 Alum.	#6 Copper to #2 & #4 Alum.
Burndy	KSA4	KSA2
Penn-Union	SW-5	SW-6

me - Grounding Connectors

Manufacturer	Catalog Number	
Connected to:	.102" (#10 AWG) Copper .109" (#12 BWG) Steel (MPDW)	#10 AWG Copper .134" Steel (MPDW)
Burndy	KSL-15	-
Dossert	DSN1F	-
Penn-Union	SW-1	SW-2

.102" (#10 AWG) Copper

Connected to galvanized steel strand:	6M	10M	16M
Aberdeen	AB 438	AB 438	AB 438
Burndy	-	KSU25	KSU26
Dossert	DSNS6F	DSNS10F	DSNS13F
Electric Motion	EM GC8010P EM GC8020P	EM GC8010P EM GC8020P	EM GC8010P EM GC8020P
Fargo	GC8010P	GC8020P	GC8020P
Joslyn	J-3030	J-3030	J-3030
MacLean Power	438ALC	438ALC	438ALC
Penn-Union	SW-6	SW-7	SW-8

.102" (#10 AWG) Copper

Connected to: Aluminum-Clad Steel Strand	6M	10M	16M
Electric Motion	EM GC8010P EM GC8020P	EM GC8010P EM GC8020P	EM GC8010P EM GC8020P
Fargo	GA-620C	GA-620C	GA-620C
MacLean Power	438ALC	438ALC	438ALC
Penn-Union	PCA-010-H	PCA-010-H	PCA-010-H

For Buried Plant Housings (PE-91)

	#6 AWG
Electric Motion	EM 0164(1) EM 2371T
Fargo	GC-164SHP(1) GC-5006SHP

(1)Connector will accept braid.

am - Buried Service House Riser Guards

Manufacturer	Catalog Number								
Type:	**Conduit**	**Conduit**	**Conduit**	**Conduit**	**Conduit**	**Conduit**	**Conduit**	**Conduit**	**Closed "U"**
Standard Length and Size:	**5' x 3/8"**	**5' x 1/2"**	**5' x 5/8"**	**5' x 7/8"**	**5' x .9"**	**5' x 1.13"**	**5' x 1.25"**	**20' x 1"**	**5' x 5/8"**
Charles Industries, Ltd.	--	--	12-119R	--	--	--	--	--	--
HMS Inc.	--	R-061	R-070	--	R-080	--	R-125	--	--
OSI Plastics Division of Ohio Steel Industries, Inc.	--	--	--	723181 723181 723198	--	723609 723567	--	--	--
Virginia Plastics	VP-38-5*	--	--	--	--	--	--	VP-1-EC	VP-B58*

*Staples will be required for mounting conduit. Double headed nails will be required for mounting Closed "U" type moulding. The mounting hardware shall be ordered separately from this manufacturer.

sl - Split Metal Cable Guards

Manufacturer	Catalog Number	
10-Foot Straight Section		
	1" I.D.	3" I.D.
5-Foot Straight Section		
	1" I.D.	3" I.D.
5-Foot Curved Section		
	1" I.D.	3" I.D.
2-1/2-Foot Straight Section		
	1" I.D.	3" I.D.
2-1/2-Foot Curved Section		
	1" I.D.	3" I.D.

sg - Riser Guards (Pole)[1]

Inside diameter, inches:	1	2	3
Manufacturer		**Catalog Number**	
Carlon Products	-	59011	59013
A. B. Chance	6531-1/2	6533	6535
Custom Plastics[2]	CPU1	CPU2	CPU3
Electrical Materials Co.	51-2	52-2	53-2
Fargo	UP-843G*	UP-844G*	UP-845G*
Inwesco	54B01	54B03	54B04
Joslyn	J984	J987	J989
McGraw-Edison	DU7P4	DU7P6	DU7P8
Emerson Network Power, Energy Systems	UP125-8G*	UP225-8G*	UP325-8G*
Nordic Fiberglass	U-101[2]	-	-

*Numbers shown identify painted guards. Use of riser guard straps with these guards not needed.

[1]Order by inside diameter and length.

[2]Mounting staples must be purchased separately.

wg - Plastic Cable Guards

Manufacturer	Catalog Number		
		Longitudinally Split	
Sizes, inches:	**1 x 8**	**1-1/2 x 8**	**2 x 8**
General Machine Products	7422-1	7422-1-1/2	7422-2

	Spirally Cut
General Machine Products	Type P (Specify diameter and length)
Preformed Line	Type PTG " " " "
Tyco Electronics	*Spirap " " " "

*Specify black outdoor polyethylene.

az - Numbers, Pole

Manufacturer	Catalog Number			
	Metal			
	1"	**1-1/2"**	**3"**	**6"**
Almetek**(1)**	X	-	X	X
Premax**(1)**	-	X	-	-
	Plastic			
3M Company	No. 5012 (Use 3M decals from 3M-b)			

Note: **(1)**Order by size and description.

ai - Ground Rods
(without pigtails)

Manufacturer	Catalog Number			
	1/2" x 5'	5/8" x 8'	5/8" x 10' Sectional	Sectional Coupling
Apache	G125* GR125-R**	G588* GR588-R**	GRS5810-R	GRC58
A. B. Chance	8565*	8578*	8512*	8611*
Eritech, Inc. (Carolina Galvanizing/ Knight Metalcraft)	811350* 611353**	815880* 615883(1)**	835800* 635803**	GSC-58* CR58**
Galvan	GR5005* 5005G13	GR6258* 6258G13**	- 6260G13S**	60-C** 60-TC** GRC-58G* GRC-54G*
Joslyn	J5315*	J5328*	J23282.10* J9160-13**	J23282-A* J9182**
Kortick	-	K4658-F*	-	-
McGraw-Edison	-	DN5S8*	DN13S110*	DN1K2*
Utilities Service	-	5307*	-	-
Wilcor	-	WA8580G*	-	-

*Galvanized Steel
**Copper-Covered Steel

Notes:

(1) Pigtail version part no. 6158839 is accepted.

y - Suspension and Guy Strand

These manufacturers' strands shown by X's comply with
RUS 7 CFR Part 1755.370

Manufacturer — **Catalog Number**

Utilities grade, steel, seven wire
(For use as suspension or for guys)

	5/16"(6M)	3/8"(10M)	7/16"(16M)	Class
Bekaert Corporation	X	X	X	A,B,C
Cal-Wire Stranding	X	X	X	A,B,C
CF&I Steel Corporation	X	X	X	A
Davis Walker Corporation	X	X	X	A
Florida Wire and Cable	X	X	X	A,B,C
Indiana Steel & Wire	X	X	X	A,B,C
Mitchell Industries, Inc.	X	X	X	A,B,C
National Strand Products	X	X	X	A,B,C
Seal Wire	X	X	X	A

Extra High Strength Grade, steel, seven wire
(For use as suspension or for guys)

	1/4"(6M)	5/16"(10M)	7/16"(16M)	Class
Aceros Camesa	X	X	X	A,B,C
Bekaert Corporation	X	X	X	A,B,C
Cal-Wire Stranding	X	X	X	A,B,C
CF&I Steel Corporation	X	X	X	A
Davis Walker Corporation	X	X	-	A
Florida Wire and Cable	X	X	X	A,B,C
Indiana Steel & Wire	X	X	X	A,B,C
Mitchell Industries, Inc.	X	X	X	A,B,C
National Strand Products	X	X	X	A,B,C
Paulsen Wire Rope Corp.	X	-	-	A
Seal Wire	X	-	-	A
Wire Rope Corporation of America (WRCA)	X	X	X	A

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nw

nw - Cable Lashing Wires				
Manufacturer	**Aluminum[1]**	**SS 302**	**SS 316**	**SS 430**
Century Wire (Non-domestic technical acceptance expires 09/04/2010)		Dia. 038" (1600ft) #.038SS302ACWDia. Dia. 045" (1200ft) #.045SS302ACW	Dia. 045" (1200ft) #.045SS316ACW	Dia. 045" (1200ft) #.045SS430ACW
DCD Design & Manufacturing	Dia.091" (325ft) #61010-010 #61020-010 #61000-010	Dia. 038" (1600ft) #61010-060 Dia. 045" (1200ft) #61010-080	Dia. 045" (1200ft) #61010-070 Dia. 061" (650ft) #61010-020	Dia. 045" (1200ft) #61010-050 Dia.061" (650ft) #61010-030
Industrial Alloys Division of Tree Island Wire USA, Inc.		Dia. 038" (1600 ft) #950000 (SH) #950012 (TH) Dia. 045" (1200 Ft) #950001 (SH) #950013 (TH)	Dia. 045" (1200 Ft) #950002 (SH) #950014 (TH) Dia. 061" (650 Ft) #950008 (SH) #950015 (TH)	Dia. 045" (1200 ft) #950003 (SH) #950004 (TH) Dia. 061" (650 ft) #950005 (SH) #950006 (TH) Dia. 065 (450 ft) #950011 (SH) #950016 (TH)
Loos Co.		Dia. 038" (1600ft) #0380SA302LAC Dia. 045" (1200ft) #0450SA302LAC	Dia. 045" (1200ft) #0450SA316LAC	Dia. 045" (1200ft) #045SA430LP Dia. 061" (650ft) #061SA430LP
Wire World Inc. (Non-domestic technical acceptance expires 09/04/2010)		Dia. 038" (1600ft) #IWW038302 Dia.045" (1200ft) # IWW045302 Dia. 065" (450ft) # IWW065302x450	Dia. 038" (1600ft) #IWW038316 Dia.045" (1200ft) #IWW045316	Dia. 045" (1200ft) #IWW045430(RUS) Dia.065" (450ft) #IWW065430x450 Dia. 065" (6500ft) #IWW065430x650 Dia. 065" (2200ft) #IWW065430x2200

Notes:

1. This type of wire only is to be used with aluminum-clad steel strand in seacoast areas.

Manufacturer	**Catalog Number**	
	c - Bolts, machine	
	5/8"	**3/4"**
Chance	C88XX**(1)**	C89XX**(2)**
Joslyn	J88XX**(6)**	J89XX**(7)**
	ao - Bolts, straight, thimble-eye	
	5/8"	**3/4"**
Chance	C55XX**(3)**	C56XX**(4)**
Joslyn	J80XX**(8)**	J80XX**(9)**
	ba - Bolts, angle, thimble-eye	
	5/8"	**3/4"**
Chance	C50XX**(3)**	C51XX**(5)**
Joslyn	J81XX**(8)**	J81XX**(9)**

See page 7.13.1 for notes.

6.13.1
01-05
c;ao;ba

Notes:

(1) Order bolts by changing X's in catalog number to length of bolt in inches; accepted for lengths 5", 6", 7", 8", 9", 10", 12", 14", 16", 18", 20", 22", and 24".

(2) Order bolts by changing X's in catalog number to length of bolt in inches; accepted for lengths 8", 10", 12", 14", 16", 18", 20", 22", 24", and 26".

(3) Order bolts by changing X's in catalog number to length of bolt in inches; accepted for lengths 10", 12", 14", and 16".

(4) Order bolts by changing X's in catalog number to length of bolt in inches; accepted for lengths 12" and 14".

(5) Order bolts by changing X's in catalog number to length of bolt in inches; accepted for lengths 10", 12", and 14".

(6) Order bolts by changing X's in catalog number to length of bolt in inches; accepted for lengths 5", 6", 7", 8", 9", 10", 11", 12", 13", 14", 15", 16", 18", 20", 22", and 24".

(7) Order bolts by changing X's in catalog number to length of bolt in inches; accepted for lengths 5", 6", 7", 8", 9", 10", 12", 14", 16", 18", 20", 22", 24", and 26".

(8) Order bolts by changing X's in catalog number to length of bolt in inches; accepted for lengths 6", 8", 10", and 12".

(9) Order bolts by changing X's in catalog number to length of bolt in inches; accepted for lengths 8", 10", and 12".

6.15
01-05
bk;br;ek;mz

Manufacturer	Catalog Number	
	bk - Guy Lift Plates	
	For 5/8" Bolts	**For 3/4" Bolts**
Chance	-	7897
Joslyn	J7896	J7894
	br - Guy Hooks	
Bolt size (inches):	**5/8**	**3/4**
Continental Electric Company	GA-5X	GA-64
Stanley G. Flagg	P135AX	P134AX
Joslyn	J6555	J6556
Power Play Products	B58GH	-
	ek - Locknuts	
Size:	**5/8"**	**3/4"**
Joslyn	J8583	J8584
	mz - Cable Suspension Clamps	
Type:	**Straight**	**Angle**
Chance	C7903	C7902L
Joslyn	J1096	J7902-B

Manufacturer	**Catalog Number**	

nb - Suspension Clamp Reinforcement Straps

Size:	**1-3/4"**	**2"**
Chance	C7905	-
Joslyn	J7905	J7908

px - Regular Square Nuts

Size:	**5/8"**	**3/4"**
Chance	C55084P	C55085P
Joslyn	J8563	J8564

The following items have been removed from the List of Materials because of their limited use and not because of their inability to meet applicable requirements. Their removal from the list does not relieve borrowers of their responsibility to use materials that meet RUS requirements, ASTM or other national specifications.

i	-	Bolts, carriage
aa	-	Oval eye nuts
al	-	Ground wire staples and nails
at	-	Guy guards
bl	-	Steel support brackets
bm	-	Guy thimble
cb	-	Conductor bundle bags
df	-	False deadends
dm	-	Permanent cable identification markers
dz	-	Guy wire clips
mf	-	Drive hooks
mi	-	Drop wire support
mj	-	Drop wire clip
mm	-	Drive rings
mo	-	Angle screw
mx	-	Steel pole steps
my	-	Drop wire hooks
na	-	Aerial and underground cable
nc	-	Cable extension arms
nd	-	Metal pole keys
ne	-	Bridle rings
ns	-	Span clamps
pg	-	Porcelain insulated screweyes
ph	-	Screw anchors
pk	-	Moisture blocks
pt	-	Vinyl tape
pw	-	Detachable pole steps
py	-	Lashing wire terminal clamps
st	-	Spacer tape
tc	-	Cable ties
wf	-	Self-supporting cable
za	-	Filler tape
ze	-	Sealing compound