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Wedge Connectors and Accessories		
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Related/Referenced Documents

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Version History

Date	Revision Comments
Feb. 17, 2023	Initial release
May 17, 2024	General format modifications including changes to Table 1 and new Items created (002-86052, 002-86053, and 002-86054).

Item Version History

Warehouse Catalog #	Asset Suite #	Version	Date
002-84238	84238	2	5/17/2024
002-84239	84239	2	5/17/2024
002-84240	84240	2	5/17/2024
002-84283	84283	2	5/17/2024
002-84284	84284	2	5/17/2024
002-84242	84242	2	5/17/2024
002-84285	84285	2	5/17/2024
002-84286	84286	2	5/17/2024
002-86052	86052	1	5/17/2024
002-84241	84241	2	5/17/2024
002-86053	86053	1	5/17/2024
002-84287	84287	2	5/17/2024
002-84288	84288	2	5/17/2024
002-84289	84289	2	5/17/2024
002-84292	84292	2	5/17/2024
002-84243	84243	2	5/17/2024
002-84294	84294	2	5/17/2024
002-84244	84244	2	5/17/2024
002-86054	86054	1	5/17/2024
002-84295	84295	2	5/17/2024
002-84272	84272	2	5/17/2024
002-82156	82156	2	5/17/2024
002-82157	82157	2	5/17/2024
002-82155	82155	2	5/17/2024
002-82158	82158	2	5/17/2024
086-82159	82159	2	5/17/2024
086-82160	82160	2	5/17/2024
086-84245	84245	2	5/17/2024
086-84246	84246	2	5/17/2024
086-84247	84247	2	5/17/2024
086-84248	84248	2	5/17/2024

1. Introduction

This is a general specification that covers the minimum requirements for wedge connectors and accessories used in the distribution system in Puerto Rico. Further information will be provided by LUMA Energy at the time of order placement and will provide information on site specific conditions, quantity, and other requirements. This document includes the general electrical and mechanical characteristics of the equipment/material.

2. Special Requirements

Samples shall be furnished as requested by LUMA Energy. Vendors that have supplied this equipment/material to LUMA on previous orders, will not have to furnish samples at bid opening. The equipment/material will be received at the LUMA's general warehouse (011) at Palo Seco, Puerto Rico. Shipping will include transportation and unloading at the indicated warehouse.

3. Literature

Descriptive and technical literature must be supplied by the vendor at time of bidding. This literature may include, but is not limited to details of material, drawings, documented testing, and instructions for use and installation. Failure to submit documents on time will cause bidder disqualification. If required by LUMA, final drawings shall be submitted by the vendor before the manufacturing and shipping process for approval.

4. Markings

4.1. Containers shall be marked outside with LUMA Energy's purchase order and item number.

4.2. Packaging labels and tags shall be waterproof.

5. Compatible with

For compatible manufacturer and model see Tables 1, 2, and 3. These models are examples of the equipment/material described in this document and do not represent a preference. LUMA will evaluate equally any model not listed here during any acquisition event.

6. Packaging

All equipment/material shall be packaged and marked in such a way as to facilitate handling and protection from damage and that the receiving warehouse can readily identify it and send it, in one complete unit, to a field location without opening crates or boxes to sort items and/or parts.

7. Number Per Package (Logistics)

Standard package: As per Tables 1, 2, and 3 or as requested by LUMA Energy.

8. Acceptance Criteria

8.1. Test required: certified by external laboratories.

8.2. Latest applicable codes, standards, and other regulations:

a. ANSI C119.4-Class 3: The standard covers electrical and mechanical requirements for connectors used in tests to establish performance characteristics of connectors used to join aluminum-to-aluminum, aluminum-to-copper, or copper-to-copper bare and insulated conductors.

b. RUS accepted

9. Description

9.1. Wedge connectors are designed to provide a reliable system connection between aluminum conductors. It uses an aluminum alloy wedge that is power-driven between the run and the tap cables locking them into a “C” shaped tempered aluminum alloy spring-body.

9.2. Shall be suitable for aluminum and copper conductors.

9.3. The spring “C” member and wedge must be made of aluminum alloy with high ductility and electric conductivity.

9.4. Wedge connector must come from factory with oxide inhibitor applied to the spring “C” member groove and to the wedge groove.

9.5. Connector shall be color-coded for easy selection by installer and must have a permanent mark indicating the wire size range.

9.6. Wedge connector must be capable to be uninstalled without damaging the conductor using the right tool.

9.7. Specific installing tool with propellant cartridge or power booster is required for proper connector installation and uninstallation (Complete Tool Kit: 086-81964).

9.8. Connectors must include the correct propellant cartridge or power booster for installation.

9.9. For Warehouse #, Asset Suite #, Run, Tap, Color Code, and Conductor Range see Table 1.

9.10. Propellant Cartridges or Power Boosters:

a. Is a device used to provide the necessary force to drive the connector wedge into direct contact with the conductor.

b. Shall be composed of a primer and powder charge housed in a polyethylene waterproof cartridge.

c. Shall be color-coded to identify the correct application.

d. For models compatible with AMPACT Tools see Table 2.

e. For models compatible with Burndy Tools see Table 3.

9.11. Power Unit with Head Tool:

a. Is a precision designed tool for the installation of wedge connectors to the conductors in a safe manner.

b. Shall be easily opened and closed to replace the cartridges.

c. Shall be powder-actuated using the correct propellant cartridge or power booster.

d. Shall be of robust and light weight construction.

e. The head shall come in two sizes (small and large) and shall fit the same power unit.

1. Small for white, red, and blue color-coded connectors.

2. Large for yellow color-coded connectors.

f. For AMPACT model see Table 2.

g. For Burndy model see Table 3.

10. Inspection

The acceptance of any equipment/material shall in no way relieve the vendor from his responsibility to meet all the requirements of this specification, and it would not prevent subsequent rejection if such equipment/materials were found later to be defective.

11. Proposal Information

11.1. Submitted proposals must include:

a. Technical information

b. Table of Compliance completed by the bidder with reference (see Appendix section).

12. Table 1: Warehouse and Asset Suite Identification Number for connectors

Warehouse Catalog #	Asset Suite #	Package (Qty/ Box)	ACSR, AAAC & CU Conductors Range Size (Strands)		Color Code	Compatible Manufacturer & Model	
			Run Large Groove [Max D, Min D] in.	Tap Small Groove [Max D, Min D] in.		Burndy (Wejtap)	TE Connectivity (AMPACT)
002-84238	84238	25	2 (7) CU	2 (7) CU	White* Red^	WCR29PB^	602283-1*
			1/0 (6/1) ACSR, 123.3 (7) AAAC, 1/0 (7) CU	2 (7) CU			
			[0.398 - 0.257]	**[0.330 - 0.204]**			
			Sum of D: [0.656 - 0.515]				
002-84239	84239	25	1/0 (6/1) ACSR, 123.3 (7) AAAC, 1/0 (7) CU	1/0 (6/1) ACSR, 123.3 (7) AAAC, 1/0 (7) CU	Blue	WCB11PB	600411
			2/0 (6/1) ACSR	2/0 (6/1) ACSR			
			(2/0, 3/0, 4/0) (6/1) ACSR, 195.7 (7) AAAC, 4/0 (19) CU	2 (7) CU			
			[0.572 - 0.364]	**[0.464 - 0.257]**			
			Sum of D: [0.901 - 0.736]				
002-84240	84240	25	3/0 (6/1) ACSR, 195.7 (7) AAAC, 4/0 (19) CU	3/0 (6/1) ACSR, 195.7 (7) AAAC, 4/0 (19) CU	Blue	WCB20PB	600466
			4/0 (6/1) ACSR	(2/0, 3/0, 4/0) (6/1) ACSR, 195.7 (7) AAAC, 4/0 (19) CU			
			[0.572 - 0.364]	**[0.572 - 0.364]**			
			Sum of D: [1.130 - 0.956]				
002-84283	84283	25	(2/0, 3/0) (6/1) ACSR, 195.7 (7) AAAC, 4/0 (19) CU	1/0 (6/1) ACSR, 123.3 (7) AAAC, 1/0 (7) CU	Blue	WCB17PB	600458
			[0.572 - 0.364]	**[0.464 - 0.257]**			
			Sum of D: [0.963 - 0.804]				
002-84284	84284	25	3/0 (6/1) ACSR, 195.7 (7) AAAC, 4/0 (19) CU	2/0 (6/1), ACSR	Blue	WCB18PB	600459
			4/0 (6/1) ACSR	1/0 (6/1) ACSR, 123.3 (7) AAAC, 1/0 (7) CU			
			[0.572 - 0.364]	**[0.572 - 0.364]**			
			Sum of D: [1.013 - 0.858]				
002-84242	84242	10	(266.8 (26/7), 336.4 (18/1)) ACSR, 394.5 (19) AAAC, 300 (37) CU	2 (7) CU	Yellow	WCY50PB	602000
			[0.750 - 0.524]	**[0.355 - 0.257]**			
			Sum of D: [1.069 - 0.860]				
002-84285	84285	10	(266.8 (26/7), 336.4 (18/1)) ACSR, 394.5 (19) AAAC, 300 (37) CU	1/0 (6/1) ACSR, 123.3 (7) AAAC, 1/0 (7) CU	Yellow	WCY51PB	602002
			[0.750 - 0.524]	**[0.619 - 0.364]**			
			Sum of D: [1.190 - 0.967]				
002-84286	84286	10	266.8 (26/7) ACSR, 300 (37) CU	(2/0, 3/0, 4/0) (6/1) ACSR, 195.7 (7) AAAC, 4/0 (19) CU	Yellow	WCY53PB	602003
			336.4 (18/1) ACSR, 394.5 (19) AAAC	2/0 (6/1), ACSR			
			[0.750 - 0.524]	**[0.619 - 0.409]**			
			Sum of D: [1.245 – 1.012]				
002-86052	86052	10	336.4 (18/1) ACSR, 394.5 (19) AAAC	3/0 (6/1) ACSR, 195.7 (7) AAAC, 4/0 (19) CU	Yellow	WCY54PB	602004
			[0.750 - 0.524]	**[0.630 - 0.460]**			
			Sum of D: [1.306 - 1.063]				

Warehouse Catalog #	Asset Suite #	Package (Qty/ Box)	ACSR, AAAC & CU Conductors Range Size (Strands)		Color Code	Compatible Manufacturer & Model	
			Run Large Groove [Max D, Min D] in.	Tap Small Groove [Max D, Min D] in.		Burndy (Wejtap)	TE Connectivity (AMPACT)
002-84241	84241	10	266.8 (26/7) ACSR, 300 (37) CU	266.8 (26/7) ACSR, 300 (37) CU	Yellow	WCY56PB	602007
			336.4 (18/1) ACSR, 394.5 (19) AAAC	(4/0 (6/1), 266.8 (26/7), 336.4 (18/1)) ACSR, 394.5 (19) AAAC, 300 (37) CU			
			[0.750 - 0.524]	**[0.750 - 0.524]**			
			Sum of D: [1.456 - 1.206]				
002-86053	86053	10	465.4 (19) AAAC	2 (7) CU	Yellow	WCY57PB	602031-8
			[0.893 - 0.666]	**[0.326 - 0.257]**			
			Sum of D: [1.185 – 0.995]				
002-81959	81959	10	556.5 (24/7) ACSR, 652.4 (19) AAAC	556.5 (24/7) ACSR, 652.4 (19) AAAC	Yellow	WCY60PB	1-602031-2
			[0.950 - 0.722]	**[0.950 - 0.722]**			
			Sum of D: [1.854 - 1.692]				
002-84287	84287	10	465.4 (19) AAAC	465.4 (19) AAAC	Yellow	WCY61PB	1-602031-3
			556.5 (24/7) ACSR, 652.4 (19) AAAC	336.4 (18/1) ACSR, 394.5 (19) AAAC			
			[0.940 - 0.666]	**[0.940 - 0.666]**			
			Sum of D: [1.741 - 1.524]				
002-84288	84288	10	465.4 (19) AAAC	((266.8 (26/7), 336.4 (18/1)) ACSR, 394.5 (19) AAAC, 300 (37) CU	Yellow	WCY62PB	1-602031-4
			556.5 (24/7) ACSR, 652.4 (19) AAAC	(266.8 (26/7) ACSR, 300 (37) CU			
			[0.940 - 0.666]	**[0.750 - 0.573]**			
			Sum of D: [1.587 - 1.366]				
002-81961	81961	10	465.4 (19) AAAC	(2/0, 3/0, 4/0) (6/1) ACSR, 195.7 (7) AAAC, 4/0 (19) CU	Yellow	WCY64PB	1-602031-6
			556.5 (24/7) ACSR, 652.4 (19) AAAC	2/0 (6/1), ACSR			
			[0.940 - 0.666]	**[0.650 - 0.436]**			
			Sum of D: [1.421 - 1.216]				
002-84289	84289	10	556.5 (24/7) ACSR, 652.4 (19) AAAC	1/0 (6/1) ACSR, 123.3 (7) AAAC	Yellow	WCY65PB	1-602031-7
			[0.940 - 0.666]	**[0.562 - 0.382]**			
			Sum of D: [1.360 - 1.147]				
002-84292	84292	10	556.5 (24/7) ACSR, 652.4 (19) AAAC	1/0 (7), CU	Yellow	WCY66PB	1-602031-8
			465.4 (19) AAAC	1/0 (6/1) ACSR, 123.3 (7) AAAC, 1/0 (7) CU			
			[0.940 - 0.666]	**[0.562 - 0.346]**			
			Sum of D: [1.305 - 1.102]				
002-84243	84243	10	556.5 (24/7) ACSR, 652.4 (19) AAAC	2 (7) CU	Yellow	WCY68PB	2-602031-0
			[0.940 - 0.666]	**[0.326 - 0.257]**			
			Sum of D: [1.247 - 1.115]				
002-84294	84294	10	556.5 (24/7) ACSR, 652.4 (19) AAAC	(3/0, 4/0) (6/1) ACSR, 195.7 (7) AAAC, 4/0 (19) CU	Yellow	WCY81PB	1-602121-0
			795 (26/7) ACSR, 927.2 (37) AAAC	1/0 (6/1) ACSR, 123.3 (7) AAAC, 1/0 (7) CU			
			[1.156 - 0.858]	**[0.608 - 0.364]**			
			Sum of D: [1.555 - 1.411]				

Catalog # in red belongs to Transmission and there already is a specification document for them.

Warehouse Catalog #	Asset Suite #	Package (Qty/ Box)	ACSR, AAAC & CU Conductors Range Size (Strands)		Color Code	Compatible Manufacturer & Model	
			Run Large Groove [Max D, Min D] in.	Tap Small Groove [Max D, Min D] in.		Burndy (Wejtap)	TE Connectivity (AMPACT)
002-84244	84244	10	795 (26/7) ACSR, 927.2 (37) AAAC	2 (7) CU	Yellow	WCY83PB	1-602121-2
			[1.156 - 0.858]	**[0.398 - 0.257]**			
			Sum of D: [1.434 - 1.290]				
002-77922	77922	10	795 (26/7) ACSR, 927.2 (37) AAAC	(556.5 (24/7), 795 (26/7)) ACSR, (652.4 (19), 927.2 (37)) AAAC	Yellow	WCY71PB	602121
			[1.156 - 0.858]	**[1.158 - 0.858]**			
			Sum of D: [2.216 - 2.072]				
002-86054	86054	10	795 (26/7) ACSR, 927.2 (37) AAAC	465.4 (19) AAAC	Yellow	WYC75PB	602121-4
			[1.156 - 0.858]	**[0.900 - 0.700]**			
			Sum of D: [1.966 – 1.822]				
002-84295	84295	10	795 (26/7) ACSR, 927.2 (37) AAAC	(266.8 (26/7), 336.4 (18/1)) ACSR, 394.5 (19) AAAC, 300 (37) CU	Yellow	WCY77PB	602121-6
			[1.156 - 0.858]	**[0.750 - 0.525]**			
			Sum of D: [1.829 - 1.685]				
002-84272	84272	10	795 (26/7) ACSR, 927.2 (37) AAAC	(2/0, 3/0, 4/0) (6/1) ACSR, 195.7 (7) AAAC, 4/0 (19) CU	Yellow	WCY98PB	1-602180-2
			[1.250 - 0.856]	**[0.608 - 0.364]**			
			Sum of D: [1.693 - 1.533]				

Catalog # in red belongs to Transmission and there already is a specification document for it.

13. Table 2: Warehouse and Asset Suite Identification Number for Propellant Cartridges & Power Unit with Head (TE Connectivity)

Warehouse Catalog #	Asset Suite #	Package (Qty. / Box)	Description	Compatible Manufacturer & Model
				TE Connectivity (AMPACT)
002-82156	82156	25	White Cartridge	69338-5
002-82157	82157	25	Red Cartridge	69338-2
002-82155	82155	25	Blue Cartridge	69338-1
002-82158	82158	25	Yellow Cartridge	69338-4
086-82159	82159	1	EZ Power Unit with Small Head Tool (For White, Red, and Blue color-coded Connectors)	1443413-1
086-82160	82160	1	EZ Power Unit with Large Head Tool (For Yellow color-coded Connectors)	1443414-1

14. Table 3: Warehouse and Asset Suite Identification Number for Power Boosters & Power Unit with Head (Burndy)

Warehouse Catalog #	Asset Suite #	Package (Qty. / Box)	Description	Compatible Manufacturer & Model
				Burndy (Wejtap)
086-84245	84245	25	Red Power Booster	WPBRN Box 25
086-84246	84246	25	Blue Power Booster	WPBBN Box 25
086-73689	73689	25	Yellow Power Booster	WPBYN Box 25
086-84247	84247	1	Power Unit with Small Head Tool (For White, Red, and Blue coded Connectors)	WTB with WTHRB1S
086-84248	84248	1	Power Unit with Large Head Tool (For Yellow coded Connectors)	WTB with WTHY1S

Catalog # in red belongs to Transmission and there already is a specification document for it.

— End of Specification —

Appendix

Appendix 1: Table of Compliance for Wedge Connectors

Line	Criteria	Description	Pass/Fail (P / F)	Comments
1	Specification	The Proponent complies with the corresponding specification document 4350.295.		
2	Industry Standards	The Proponent complies with the industry standards ANSI C119.4-Class 3 & RUS.		
3	Material	• Wedge: Aluminum Alloy • Body: Aluminum Alloy		
4	Product Requirements	Suitable for Aluminum and Copper conductors		
		Oxide Inhibitor applied to Body and Wedge from factory.		
		Color-Coded Connector with Wire Size Range permanently marked in the Wedge.		
		Corresponding Propellant Cartridge or Power Booster Included.		
5	Run & Tap Range	As per Table 1		

Appendix 2: Table of Compliance for Propellant Cartridges or Power Boosters

Line	Criteria	Description	Pass/Fail (P / F)	Comments
1	Specification	The Proponent complies with the corresponding specification document 4350.295.		
2	Industry Standards	The Proponent complies with the industry standards ANSI C119.4-Class 3 & RUS.		
3	Material	Primer and powder charge housed in a polyethylene waterproof cartridge.		
4	Product Requirements	Color-Coded		
		AMPACT Models as per Table 2		
		Burndy Models as per Table 3		

Appendix 3: Table of Compliance for Power Unit with Head

Line	Criteria	Description	Pass/Fail (P / F)	Comments
1	Specification	The Proponent complies with the corresponding specification document 4350.295.		
2	Industry Standards	The Proponent complies with the industry standards ANSI C119.4-Class 3 & RUS.		
3	Material	Robust and light weight construction.		
4	Product Requirements	Easily opened and closed design for cartridges replacement.		
		Powder actuated using the correct cartridge.		
		Power Unit with Small Head for white, red, and blue color-coded connectors.		
		Power Unit with Large Head for yellow color-coded connectors.		
		AMPACT Model as per Table 2		
		Burndy Model as per Table 3		

4350.295 Wedge Connectors & Accessories (5-17-24)

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