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DISTRIBUTION ENGINEERING DEPARTMENT
NON-NETWORK SYSTEMS

SPECIFICATION EO-100186
REVISION #10
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EFFECTIVE DATE
MAY 15, 2007

**NON-TENSION OVERHEAD CONNECTORS FOR ALUMINUM OR COPPER
SECONDARY CONDUCTORS**

FILE: PURCHASE & TEST MANUAL NO. 6 – SECT. 4

TARGET AUDIENCE	DISTRIBUTION ENGINEERING REGIONAL ENGINEERING REGIONAL CONTROL CENTER OVERHEAD STD COMMITTEE
NESC REFERENCE	NONE

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EO – 100186	Rev 10	May. 2007	05/15/2007	2006-2007 Consolidated Edison Co. of New York, Inc.	
Filing Information		Purchase & Test Manual		Manual No. 4	
		Field Manual		Field Manual No. 9 – Sect. 15	
				Field manual No. 23 – Sect. 6.5	

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1.0 PURPOSE

This specification covers non-tension connectors to join secondary and/or service conductors used in the overhead distribution system.

2.0 APPLICATION

This specification applies to all regions, except Manhattan.

3.0 GENERAL

Non-tension secondary connectors make electrical connection between aluminum-to-aluminum or aluminum-to-copper or copper-to-copper conductors. They must meet electrical and mechanical requirement of ANSI C119.4 (latest revision) for Heavy Duty (Class A) application. Connectors included are miniwedges, parallel groove clamps and compression connectors. When applicable, each connector and cover ordered as a kit shall be supplied in a properly marked and sealed bag. For installation guide of secondary connectors, see [EO-2140](#). For connectors used on primary lines, see [EO-100169](#).

4.0 MATERIAL REQUIREMENTS

- 4.1 Aluminum connectors shall be made from high quality, high strength AA6061 aluminum alloy or other approved material.
- 4.2 Copper connectors shall be made of a copper alloy containing not less than 80% copper. The copper alloy shall meet requirements of ASTM B584-93a (latest revision). Bolts, nuts and lock washers shall be of silicone bronze.
- 4.3 Connectors with inside surface coated with corrosion-resistant inhibiting compound shall be prepackaged in properly sealed bags color-coded or printed with applicable connector sizes.
- 4.4 Pre-insulated connectors shall be made with a moisture proof body, fully insulated and color-coded.
- 4.5 Body of bolted connector shall have interlocking finger design and captive hardware.

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4.6 Plastic cover/casing shall be made of polypropylene or other approved insulating material, which does not deform/soften under normal operating temperature up to 90 degrees C and voltage up to 600V. Permanent locking feature required.

5.0 APPROVED TYPES

Connectors and covers, if applicable, approved for system use are tabulated in the tables below by type, size, material, stock number and manufacturer's catalogue number.

6.0 ALTERNATE MANUFACTURERS

Connectors manufactured by vendors other than listed may be submitted for evaluation and approval. Should such products and vendors be found acceptable, they will be included in subsequent revisions of this specification.

7.0 ATTACHMENTS

The following tables are attached.

- Table #1 - Ampact Miniwedges
- Table #2 - Parallel Groove Clamps
- Table #3 - Service Entrance Compressor Connectors

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<p>REVISION 10: Formatted based on EO-1070 – Rev. 2. Updated general information and tabulated materials. Removed all items and notes relating to parallel groove clamp with breakaway feature. Added 500/350 to 4/0 wedge connectors to table 1.</p>	<p>FILE: Purchase & Test Manual No. 6, Section No. 4—Cable Accessories Field Manual No. 9, Overhead Construction, Section No. 15--Specifications Field Manual No. 23, Overhead Construction, Section No. 6.5--Connectors</p>
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TABLE #1

AMPACT MINIWEDGES

		500	350	4/0	3/0	2/0	1/0
STANDARD QUADRUPLEx & TRIPLEX AAC HOT/NEUTRAL WIRES		500 Cu Str	350 Cu Str	4/0 Al Str	3/0 Al Str 3/0 Cu Str	2/0 Cu Str	1/0 Al Str
#10, #12, #14	#14 Al/Cu Str & Sol			571-554 (83623-9)			571-9547 (83630-1)
	#12 Al/Cu Str & Sol						
#6	#6 Al/Cu Str			571-9646 (1-83623-1)			571-9638 (83592-4)
	#6 Al/Cu Sol						
#4	#4 Al/Cu Str			571-9471 (1-83623-2)			
	#2 Al/Cu Sol						
#2	#2 Cu Str			571-9380 (83631-1)	571-9679 (83631-4)		571-9414 (83592-2)
	#2 Al Str						
1/0	1/0 Al Str			571-9398 (83631-2)	590-5039 (83631-5)		571-9422 (83592-1)
2/0	2/0 Cu Str		571-9406 (83631-3)	571-9406 (8363-3)	571-9687 (83631-6)	571-9539 (83631-9)	571-9430 (83631-8)
4/0	4/0 Al/Cu Str	570-4713 (500SECOVER)	570-4721 (350SECOVER)				

Con Edison
Class & Stock #
AMP Catalog#

Miniwedge
Pliers
059-5181
(109717-1)

Miniwedge
Cover
571-9588
(GHFC-MW-NG)

Note: Miniwedges can be used for copper-to-copper connections of covered conductors when gel-filled cover (C/S #522-4753) is installed. Pliers listed must be used to install each miniwedge connector.

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TABLE #2
PARALLEL GROOVE CLAMPS

STOCK # (Regular Clamp Only, Not Kit)	WIRE SIZE (ALUM. TO ALUM. OR ALUM. TO CU)				ITEM CAT. #	MFG.	KIT C/S#(**)
	MAIN RUN		TAP				
	MAX.	MIN.	MAX.	MIN.			
--	1/0 Str.	#8 Sol.	#2 Str.	#8 Sol.	LC51A-XB52PT	ANDERSON	571-5404+
--	1/0 Str.	#8 Sol.	1/0 Str.	#8 Sol.	WCG25RSCEKIT	BURNDY	571-5404+
--	2/0 Str.	#8 Sol.	2/0 Str.	#8 Sol.	LC52A-XB52PT	ANDERSON	571-5412+
--	400 Kcmil	#1 Sol.	2/0 Str.	#8 Sol.	LC52C-XB52PT	ANDERSON	571-5420+
571-4878++	400 Kcmil	1/0 Str.	400 Kcmil	1/0 Str.	LC66A-XB	ANDERSON	--
571-4878+	400 Kcmil	1/0 Str.	400 Kcmil	1/0 Str.	382.2P	ALCOA	--
571-7798+	954 Kcmil	398 Kcmil	2/0 Str.	#8 Sol.	LC83A-XB	ANDERSON	--
571-7798+	1000 Kcmil	450 Kcmil	2/0 Str.	#6 Sol.	393.6P	ALCOA	--
571-5909++	1000 Kcmil	450 Kcmil	400 Kcmil	3/0 Str.	483.2P	ALCOA	--
WIRE SIZE (COPPER TO COPPER)							
--	1/0 Str.	#6 Sol.	1/0 Str.	#6 Sol.	UC6W25CONKIT	BURNDY	007-9590
--	4/0 Str.	#4 Sol.	4/0 Str.	#4 Sol.	UC4W28CONKIT	BURNDY	007-4120

*--3-BOLT CLAMP
+...SINGLE-BOLT CLAMP
++...DOUBLE-BOLT CLAMP
(**)...INCLUDES CONNECTOR WITH COVER

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TABLE #3

SERVICE ENTRANCE COMPRESSION CONNECTORS

STOCK #	WIRE SIZE/INSULATED CONNECTOR		MANUFACTURERS/ITEM CATALOGUE NUMBERS		
	SIZE "A"	SIZE "B"	HOMAC	PENN UNION	THOMAS & BETTS
571-0405	#4 Str-#2 Sol	#2 Sol-#4 Str	U1N44	PIK-22	ICS 68-1
571-0397	#4 Str-#2 Sol	#4 Sol-#6 Str	U1N46	PIK-24	ICS-67-1
571-0389	#4 Str-#2 Sol	#6 Sol-#8 Str	U1N48	PIK-26	ICS-66-1
571-0371	#4 Str-#2 Sol	#8 Sol-#10 Str.	U1N41	PIK-28	ICS-65-1
571-0348	#6 Str-#4 Sol.	#6 Sol-#8 Str	U1N68	PIK-46	ICS-63-1
571-0355	#6 Str-#4 Sol.	#4 Sol-#6 Str	U1N66	PIK-44	ICS-64-1
571-0454	1/0 Str.	#2 Sol-#4 Str	U1N104	PIK-02	ICS-76-1
571-0439	1/0 Str.	#6 Sol-#8 Str	U1N108	PIK-06	ICS-74-1
571-0447	1/0 Str.	#4 Sol-#6 Str	U1N106	PIK-04	ICS-75-1
571-0462	1/0 Str.	#2 Str.	U1N102	PIK-01	ICS-77-1
571-0470	1/0 Str.	1/0 Str.	U1N1010	PIK-00	ICS-78-1
571-0413	#2 Str.	#2 Sol.	U1N24	PIK-12	ICS-72-1
571-0421	#2 Str.	#2 Str-#1 Str.	U1N22	PIK-11	ICS-73-1
	WIRE SIZE/UNINSULATED CONNECTOR				
571-1742	1/0 Str.	#2 Sol-#4 Str	U1B104	PSK-02	
571-1767	1/0 Str.	#2 Str-#1 Str.	U1B102	PSK-01	
571-1759	#1 Str-#2 Str.	#2 Sol-#4 Str	U1B24	PSK-12	
571-5289	2/0 Str.	1/0 Str.	X1N2010	PS-200	
571-5941	1/0 Str.	1/0 Str.	U1B1010	PS-00	

Note: These connectors are acceptable when installed using tools and dies as recommended by the connectors' manufacturers.

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