Connector, Insulated Aluminum Compression

1. Scope

This standard covers the requirements for insulated aluminum compression connectors. Insulated aluminum compression connectors are also known as service entrance splices.

This standard applies to the following Seattle City Light (SCL) stock numbers:

Stock No.	Color End Cap A	Color End Cap B
650554	Blue	Green
014189	Blue	Blue
650557	Orange	Green
650558	Orange	Blue
650559	Orange	Orange
650561	Red	Green
650562	Red	Blue
650563	Red	Orange
650564	Red	Red
650565	Yellow	Red
650567	Yellow	Blue
650568	Yellow	Orange
650569	Yellow	Yellow

2. Application

Insulated compression connectors may be used for aluminum-to-aluminum and aluminum-to-copper connections. Insulated compression connectors are typically used for overhead service entrance connectors.

Insulated compression connectors are prefilled with oxide inhibitor.

3. Industry Standards

Insulated compression connectors shall meet the applicable requirements of the latest revision of the following industry standards:

ANSI C119.4; American National Standard for Electric Connectors—Connectors for Use Between Aluminum-to-Aluminum and Aluminum-to-Copper Conductors Designed for Normal Operation at or Below 93° C and Copper-to-Copper Conductors Designed for Normal Operation at or Below 100 °C

ASTM D1248; Standard Specification for Polyethylene Plastics Extrusion Materials for Wire and Cable

ASTM D4066; Standard Classification System for Nylon Injection and Extrusion Materials

ASTM D566; Standard Test Method for Dropping Point of Lubricating Grease

4. Requirements

4.1 Material and Dimensions

Compression connector shall be made of 1350 grade aluminum and configured as detailed in Figure 4.1 and Table 4.1.

Figure 4.1 Connector Configuration

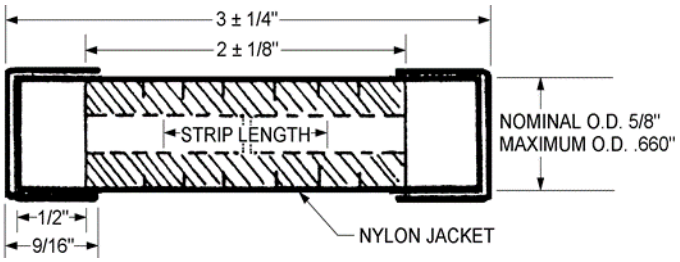

Table 4.1. Size and Color Code – Aluminum or Copper

Stock No.	Conductor A				Conductor B			
	Solid	Stranded	ACSR	Color	Solid	Stranded	ACSR	Color
650554	#4	–	#6-6/1	Blue	#6	#8	–	Green
014189	#4	–	#6-6/1	Blue	#4	–	#6-6/1	Blue
650557	#2	–	#4-6/1, 7/1	Orange	#6	#8	–	Green
650558	#2	–	#4-6/1, 7/1	Orange	#4	–	#6-6/1	Blue
650559	#2	–	#4-6/1, 7/1	Orange	#2	–	#4 6/1, 7/1	Orange
650561	#1	#1 & #2	#2-6/1, 7/1	Red	#6	#8	–	Green
650562	#1	#1 & #2	#2-6/1, 7/1	Red	#4	#5 & #6	#6-6/1	Blue
650563	#1	#1 & #2	#2-6/1, 7/1	Red	#2	#3 & #4	#4 6/1, 7/1	Orange
650564	#1	#1 & #2	#2-6/1, 7/1	Red	#1	#1 & #2	#2 6/1, 7/1	Red
650565	#1	1/0	1/0-6/1	Yellow	#1	#1 & #2	#2 6/1	Red
650567	#1	1/0	1/0-6/1	Yellow	#4	–	#6-6/1	Blue
650568	#1	1/0	1/0-6/1	Yellow	#2	–	#4-6/1	Orange
650569	#1	1/0	1/0-6/1	Yellow	–	1/0	1/0-6/1	Yellow

4.2 Jacket

The jacket for the compression connector shall be covered with a nylon insulating jacket.

The nylon jacket shall be securely anchored to the connector to prevent the jacket from slipping during compression.

4.3 End Caps

The end caps shall be made of polyethylene conforming to ASTM D1248, Class C. The end caps shall be color-coded as cited in Table 4.1.

4.4 Inhibitor

Compression connectors shall be factory-filled with a measured amount of oxide-inhibiting compound. The dropping point of the inhibitor shall meet the requirements as stated in ASTM D566.

4.5 Installing Tool and Die

The connector shall be designed to be installed with any of the following tools and dies and the given number of crimps on each end as stated in table 4.5.

Table 4.5. Tool and Die Installation

Tool	Kearny	Thomas & Betts	Thomas & Betts	Burndy	Burndy	Burndy
Die Code	5/8	TU	52	BG	W-BG	U-BG
Number of Crimps	3	3	1	3	1	1

5. Marking

Each connector shall have durable markings showing the following information:

- Conductor size
- Die number
- Number of crimps
- Strip length
- Manufacturer name or trademark and catalog number

6. Packaging

Compression connectors shall be packaged to prevent damage during shipping, storage, and handling.

Each package shall be legibly marked with the following information:

- Manufacturer identification
- Quantity
- Product description
- Seattle City Light purchase order number

7. Issuance

Stock Unit: EA

8. Approved Manufacturers

				Manufacturer Catalog No.	
Stock No.	**Color End Cap A**		**Color End Cap B**	**ABB/Thomas and Betts/Homac**	**Penn Union**
650554	Blue		Green	U1N68	PIK68
014189	Blue		Blue	U1N66	PIK66
650557	Orange		Green	U1N48	PIK26
650558	Orange		Blue	U1N46	PIK24
650559	Orange		Orange	U1N44	PIK22
650561	Red		Green	U1N28	PIK16
650562	Red		Blue	U1N26	PIK14
650563	Red		Orange	U1N24	PIK12
650564	Red		Red	U1N22	PIK11
650565	Yellow		Red	U1N102	PIK01
650567	Yellow		Blue	U1N106	PIK04
650568	Yellow		Orange	U1N104	PIK02
650569	Yellow		Yellow	U1N1010	PIK00

9. Sources

Tilley, Kathy: SCL Electrical Engineering Support Specialist, subject matter expert, and originator of 6774.20

SCL Material Standard 6774.2 (canceled); “Insulated Aluminum Compression Connectors”