THE CITY OF FORT COLLINS - UTILITIES

Light and Power Department
P.O. Box 580
Fort Collins, CO 80521

SPECIFICATION NO: **367-200**

SEPARABLE INSULATED LOADBREAK CONNECTORS

APPROVED BY: _____
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ORIGNATED: 6/23/72
REVISION DATE: 6/14/02
REV: **S**

REV. SYM: **S**

REVISION DESCRIPTIONS

REVISION DESCRIPTION (previous descriptions on file)	**CHANGE NOTICE**	**APPROVED**
Rev. **P**: □ Appendix A – added CS754 to indicate customer special	N/A	Sagen/Coram – 2/8/91
Rev. **Q**: □ Appendix A – added Blackburn as approved	N/A	Sagen/Coram – 6/12/92
Rev. **R**: □ Appendix A – removed Blackburn (purchased by Elastimold	N/A	Sagen/Coram – 2/7/94
Rev. **S**: □ Reformatted (electronic)	N/A	Sagen/Bray – 6/14/02

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SPECIFICATION FOR
SEPARABLE INSULATED LOADBREAK CONNECTORS

1. SCOPE

This specification establishes the minimum requirements for separable insulated loadbreak connectors rated 200 amperes, 8.3kV phase-to-ground / 14.4kV phase-to-phase @ 60 HZ.

2. APPLICABLE DOCUMENTS

Connectors purchased under this specification shall, unless otherwise specified, conform to ***IEEE Std. 386-1995, or latest revised edition,*** in its entirety. In the case of any conflict between City of Fort Collins requirements (this specification) and ***IEEE Std. 386-1995***, Fort Collins requirements shall take precedence.

3. DEFINITIONS

IEEE Std. 386 definitions apply.

4. SERVICE CONDITIONS

No *unusual* service conditions apply.

5. RATINGS AND CHARACTERISTICS

5.1 Voltage Rating

8.3/14.4 kV rms phase-to-ground/ phase-to-phase. The load-break connector shall be capable of switching 14.4 kV across the open contacts.

5.2 Continuous Current Rating

200 amps rms (switching, fault-closure & short-time current ratings applicable to load-break connectors having a 200 amp continuous current rating shall apply).

6. CONSTRUCTION

6.1 Insulation

Only peroxide cured EPDM shall be permitted.

6.2 Shielding

The connectors shall have a 1/8" minimum thick, molded peroxide cured semi-conductive exterior shield meeting the requirements of IEEE Std. 592-1990 (or latest revision).

6.3 Test Point

All load-break elbows shall be furnished with a capac itively coupled voltage test point. In addition to the requirements of IEEE Std. 386-1995, the test point shall be accurate within ±20% for an applied test voltage range of 7kV – 11kV when tested in accordance with paragraph 7.2 of this specification.

6.4 Compression Connector

The compression connector shall be suitable for use with 1/0 AWG, 19 strand, class "B" strand or compressed strand, EC grade aluminum conductor. Connectors shall meet the requirements of EEI-TDJ-162 for class "A" connectors, and shall have an aluminum compression barrel ***friction welded*** to a threaded copper electrode connector. Each compression barrel shall be filled with an oxide-inhibiting compound.

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6.5 Operating Means

An operating eye suitable for use with a hot stick shall be provided and the connector shall conform to the operating force requirements specified in IEEE Std. 386-1995 for connectors **without** hold-down bails.

6.6 Insulation Diameter Range

The connector shall be suitable for use over a cable insulation diameter range of 0.665 to 0.905 inches.

7. QUALITY ASSURANCE / TESTING

7.1 General

7.1.1 Responsibility for Inspection

Unless otherwise specified, the vendor is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified, the vendor may utilize his own facilities or any commercial laboratory acceptable to the City of Fort Collins. The City reserves the right to perform or witness any of the inspections set forth in this specification where such inspections are deemed necessary.

7.2 Production (Functional) Tests

In addition to the production tests required by IEEE 386 for 100% of production units, a **20%** sampling of all components having capacitive test points are required to be tested in accordance with the following:

- Test points shall be tested for a maximum allowable variation between components of ±20% for an applied test voltage range of 7kV – 11kV
- Test point measurements shall be taken with a Ross Hi-Z® (model VM 25-A) AC voltmeter fitted with a VMP25-A high voltage probe (calibrated to 1.6-1.8 PF to 8-10 PF)
- The 7kV to 11kV test voltage shall be introduced to sample elbows via 1/0 AWG, class B stranded, shielded cable with 220 mil thick XLP insulation (or a City of Fort Collins approved test mandrel).
- Results for this test shall accompany each shipment and shall, as a minimum, document those values taken @ 7kV and 11kV

8. SUPPLIER REQUIREMENTS

8.1 General

8.1.1 Approved Manufacturers

Product purchased under this specification shall be of the manufacturers listed in Appendix A. Manufacturers not listed may submit written proposals demonstrating compliance with these specifications for consideration of addition to the accepted manufacturer list prior to the next request for bids. Acceptability of the listed manufacturer's will not be determined solely by inclusion in this list. Listed manufacturers must satisfy all requirements of this specification to be acceptable.

8.1.2 Approved Distributors

To avoid conflicts regarding warranty service, any distributor bidding must be an authorized distributor appointed by an approved manufacturer to serve the Fort Collins area.

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8.2 Packaging

Packaging and marking of articles under this drawing shall be in accordance with the purchase order and the following special requirements:

8.2.1 Each kit shall be individually packaged

8.2.2 Instruction sheets shall be included in each individual kit

8.2.3 Each kit shall contain all components required to produce a complete, functional assembly. This may included but not be limited to connectors, arc probes, probe wrenches, silicone cable lubricant, and cable cut back templates.

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APPENDIX A

Approved Manufacturers

Connectors purchased under this specification shall be of the make shown below. Manufacturers not listed below may submit written proposals demonstrating compliance with these specifications for consideration of addition to the approved manufacturer list prior to the next request for bids. Inclusion on the list below does necessarily guarantee product approval. All products provided by an approved manufacturer must still fully satisfy all requirements of this specification to be acceptable.

Manufacturer	Catalog Number
Elastimold	166LR-B-5240