Rejuvenation Instructions

#462 – Component & Accessory Selection

This NRI covers the following:

- What to look at for component and accessory selection.
- The common accessories that require selection.
- The Elbow and Splice Application Matrices.

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Patents: http://www.novinium.com/patents/

WARNING: It is dangerous working around energized high-voltage systems, pressurized systems, and chemicals. Always work in accordance to the Novinium Field Operations Safety Handbook (FOSH) or other local governing safety standards.

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Selecting Component Bodies

a. Refer to the Elbow and Splice Application matrices at the end of this NRI or to the manufacturer's website for insulation range and component details.
   - The tables at the end of this NRI are more commonly used elbows and splice bodies.

b. Check that the cable's insulation falls within the insulation range of the component.
   - The size number of Elastimold repair length elbows stands for the insulation range of the elbow.

Figure 1: Elastimold elbow size is the insulation range in inches.

c. Novinium practice increases the lower end of the insulation range by 0.020". This helps ensure that the component body holds tightly to the insulation of the cable.
   - **Example:** An Elastimold 168AELR-6689 elbow has an insulation range of 0.665-0.895". Increasing the lower end of the range by 0.020" would bring the elbow's range to 0.685-0.895".

d. The component body selected must be the tightest fitting component available for the application. This helps ensure that voids will be kept to a minimum, extending the reliability of the system.
   - **Example:** The Elastimold 168AELR-6689 elbow and the Elastimold 168AELR-7495 elbow have insulation ranges that overlap from 0.740" to 0.890". The 6689 elbow would be the tighter fitting elbow if a cable's insulation diameter is say, 0.810".

e. Select the component related to the injection process being used. Molded EPDM components must be used with iUPR injections.

f. The amount of cable length to work with or the environment it is in can dictate the component used.

g. The application and space restrictions can limit component selection.

h. Take into account any customer specified requirements when selecting the component. For instance, load-break and dead-break or requirement of having a capacitive test point.

i. Select the component that is classified for the voltage rating of the circuit.

Selecting Cable Accessories

1. Connectors.

Connectors used depend on the component body, application, etc.

Figure 2: Connector.

Select the connector based on the following:

- The maximum length of the crimped connector. Refer to the templates and the component's manufacturer's instructions.
- The size of the cable's conductor.
- Compact stranded conductors can require connectors one size smaller.
- The type of connector for the application.
- The connector passes a pressure test for leaks and diameter requirements for accessories.

2. Injection adapters (IAs).

Injection adapters (IAs) seal the cable, allowing pressurization for SPR injection. The cable insulation is inserted into the bottom of the IA, while the connector is inserted into the top of the IA.

Figure 3: Injection adapter.

The IA's name is composed of two numbers, both referring to the size of the IA's ends.

- The first number is the insulation end size, and the second number is the size of the connector end.
- Each number means a diameter range, however, the insulation and connector ranges are distinct.
- **Example:** The 2-2 IA. The "2" insulation range is 0.640-0.750", while the "2" connector range is 0.620-0.700".

a. Measure the outside diameter of the cable's insulation and connector.

b. Refer to **NRI 432 The IA Reference Table**.

c. Find the IA that accommodates the insulation diameter and connector diameter measured.

3. Terminator fluid injection caps (TFICs).

TFIC selection is similar to selecting an IA. Each TFIC size has a connector and insulation diameter range.

a. Measure the outside diameter of the cable's insulation and connector.

b. Refer to the TFIC sizes and select the tightest fitting TFIC. A chart can be found in **NRI 542**.

Figure 4: TFIC.

4. Crimping dies.

a. Refer to the manufacturer's instructions or **NRI 442 The Swage & Crimp Die Table** for equivalents.

b. Locate the connector by the conductor size or outside diameter.

c. Select the crimp die based upon the crimping tool.

Figure 5: Crimping die.

5. Swage dies.

- If swaging IAs, select swage dies based upon the requirements of the IA. This can be found in **NRI 432 The IA Reference Table**, on the IA, or on the IA's bag label.
- If swaging connectors, refer to **NRI 442 The Swage & Crimp Die Table**. Select the swage die by the outside diameter of the connector.

Figure 6: Swage dies.

6. Cable test adapters (CTAs).

Cable test adapters, used in flow and pressure testing, come in a variety of sizes.

- The diameter of the cable test adapter is printed on the side of the blue tube.
- Locate the string of numbers starting with "7030." The numbers after the hyphen are the diameter of the tube.
- The smallest sized cable test adapter that fits over the insulation or connector will hold the tightest.

Figure 7: CTA.

Novinium Certified Elbow Application Table[1]				200 Amp Elbow Connector[5,6]								
					Standard Elbows			Injection Elbows[7, 8]				
Voltage & Type	Conductor AWG-Ins. Thickness Cable Table #[2]	Conductor/ Insulation Nominal Diam. (in)[3]	Injection Adapters (IA's)	Manufac-turer[4]	Standard Length[8]	Recommended Connectors	Repair Length	Standard Length	Novinium Part Number	Repair Length with Test Point	Novinium Part Number
15kV load-break	#2-175 1	0.292 / 0.692	2-2	Cooper	LE215A-04	Richards P2ALCU-7					
				Hubbell	9U01ABD623						
				Elastimold	165LR-A		167ELR-6689 5 220	167ALR -F	1-EB-15kV064-082-S	168AELR 6689	1-EB-15kV066-089-L
				Richards	21LBN1B						
	#2-220 16	0.292 / 0.792	3-2	Cooper	LE215A-04	Richards P2ALCU-7					
				Hubbell	9U01ABD633						
				Elastimold	165LR-B		167ELR-6689 5 220	167ALR -F	1-EB-15kV064-082-S	168AELR 6689	1-EB-15kV066-089-L
				Richards	21LBN1B						
	#1-175 2	0.332 / 0.734	2-2	Cooper	LE215A-05	Richards P2ALCU-8					
				Hubbell	9U01ABD633						
				Elastimold	165LR-B		167ELR-6689 5 220	167ALR -F	1-EB-15kV064-082-S	168AELR 6689	1-EB-15kV066-089-L
				Richards	21LBN1B						
	#1-220 17	0.332 / 0.834	4-2	Cooper	LE215B-05	Richards P2ALCU-8					
				Hubbell	9U01ABD634						
				Elastimold	165LR-B		167ELR-7495 5 220	167ALR -G	1-EB-15kV076-095-S	168AELR 7495	1-EB-15kV074-095-L
				Richards	21LBN1B						
	1/0-175 3	0.373 / 0.777	3-2	Cooper	LE215B-06	Richards P2ALCU-9					
				Hubbell	9U01ABD635						
				Elastimold	165LR-B		167ELR-6689 5 220	167ALR -F	1-EB-15kV064-082-S	168AELR 6689	1-EB-15kV066-089-L
				Richards	21LBN1B						
	1/0-220 18	0.373 / 0.877	4-2	Cooper	LE215B-06	Richards P2ALCU-9					
				Hubbell	9U01ABD645						
				Elastimold	165LR-B		167ELR-7495 5 240	167ALR -G	1-EB-15kV076-095-S	168AELR 7495	1-EB-15kV074-095-L
				Richards	21LBN1C						
	2/0-175 4	0.418 / 0.824	4-2	Cooper	LE215B-07	Richards P2ALCU-10					
				Hubbell	9U01ABD646						
				Elastimold	165LR-B		167ELR-7495 5 250	167ALR -G	1-EB-15kV076-095-S	168AELR 7495	1-EB-15kV074-095-L
				Richards	21LBN1B						
	2/0-220 19	0.418 / 0.924	5-3	Cooper	LE215C-07	Richards P2ALCU-10					
				Hubbell	9U01ABD646						
				Elastimold	165LR-C		167ELR-88110 5 250	167ALR -H	1-EB-15kV085-105-S	168AELR 88110	1-EB-15kV088-110-L
				Richards	21LBN1C						
	3/0-175 5	0.470 / 0.878	5-3	Cooper	LE215B-08	Richards P2ALCU-11					
				Hubbell	9U01ABD647						
				Elastimold	165LR-C		167ELR-7495 5 260	167ALR -G	1-EB-15kV076-095-S	168AELR 7495	1-EB-15kV074-095-L
				Richards	21LBN1C						
	3/0-220 20	0.470 / 0.978	5-3	Cooper	LE215C-08	Richards P2ALCU-11					
				Hubbell	9U01ABD647						
				Elastimold	165LR-C		167ELR-88110 5 260	167ALR -H	1-EB-15kV085-105-S	168AELR 88110	1-EB-15kV088-110-L
				Richards	21LBN1C						
	4/0-175 6	0.528 / 0.938	5-3	Cooper	LE215C-09	Richards P2ALCU-12					
				Hubbell	9U01ABD648						
				Elastimold	165LR-C		167ELR-88110 5 270	167ALR -H	1-EB-15kV085-105-S	168AELR 88110	1-EB-15kV088-110-L
				Richards	21LBN1C						
	4/0-220 21	0.528 / 1.038	6-3	Cooper	LE215C-09	Richards P2ALCU-12					
				Hubbell	9U01ABD658						
				Elastimold	165LR-D		167ELR-88110 5 270	167ALR -J	1-EB-15kV098-118-S	168AELR 88110	1-EB-15kV088-110-L
				Richards	21LBN1D						
25kV load-break	#2-260 273	0.292 / 0.852	4-2	Cooper	LE225MB-04	Richards P2ALCU-7					
				Hubbell	9U01BBD623						
				Elastimold	275LR-CC		273ELR-6689 5 240	274ALR -G	1-EB-25kV076-095-S	274AELR 7495	1-EB-25kV074-095-L
	#1-260 31	0.332 / 0.898	4-2	Cooper	LE225MB-05	Richards P2ALCU-8					
				Hubbell	9U01BBD633						
				Elastimold	275LR-CC		273ELR-7495 5 230	274ALR -G	1-EB-25kV076-095-S	274AELR 7495	1-EB-25kV074-095-L
	1/0-260 32	0.373 / 0.941	5-2	Cooper	LE225MB-06	Richards P2ALCU-9					
				Hubbell	9U01BBD645						
				Elastimold	275LR-CC		273ELR-88110 5 240	274ALR -H	1-EB-25kV085-105-S	274AELR 88110	1-EB-25kV088-110-L
	2/0-260 33	0.418 / 0.988	6-2	Cooper	LE225MD-07	Richards P2ALCU-10					
				Hubbell	9U01BBD646						
				Elastimold	275LR-CC		273ELR-88110 5 250	274ALR -H	1-EB-25kV085-105-S	274AELR 88110	1-EB-25kV088-110-L
	3/0-260 34	0.470 / 1.042	7-3	Cooper	LE225MC-08	Richards P2ALCU-11					
				Hubbell	9U01BBD657						
				Elastimold	275LR-DD		273ELR-88110 5 270	274ALR -J	1-EB-25kV098-118-S	274AELR J	1-EB-25kV098-118-L
	4/0-260 35	0.528 / 1.102	7-3	Cooper	LE225MD-09	Richards P2ALCU-12					
				Hubbell	9U01BBD658						
				Elastimold	275LR-DD		273ELR-K 5 270	274ALR -J	1-EB-25kV098-118-S	274AELR J	1-EB-25kV098-118-L

Novinium Certified Elbow Application Table[1]				200 Amp Elbow Connector[5,6]							
					Standard Elbows			Injection Elbows[7, 8]			
Voltage & Type	Conductor AWG-Ins. Thickness Cable Table #[2]	Conductor/ Insulation Nominal Diam. (in)[3]	Injection Adapters (IA's)	Manufac-turer[4]	Standard Length[8]	Recommended Connectors	Repair Length	Standard Length	Novinium Part Number	Repair Length with Test Point	Novinium Part Number
35kV load-break	1/0-345 45	0.373 / 1.111	7-2	Cooper	LE235D-06	Richards		LEIN235D-06[7]	1-EB-35kV099-118-06[7]		
				Elastimold	375LR-J	P2ALCU-9					
	2/0-345 46	0.418 / 1.158	8-2	Cooper	LE235D-07	Richards		LEIN235D-07[7]	1-EB-35kV099-118-07[7]		
				Elastimold	375LR-K	P2ALCU-10					
	4/0-345 47	0.528 / 1.272	9-3	Cooper	LE235F-09	Richards		LEIN235F-09[7]	1-EB-35kV099-118-09[7]		
				Elastimold	375LR-K	P2ALCU-12					
15kV/ 25kV dead-break	#2-175 1	0.282 / 0.734	2-2	Cooper	DE225 DA 04 T	Richards					
				Elastimold	156LR-F	P2ALCU-7		156ALR- F	1-EB-15-25kV064-082		
	#2-220 16	0.282 / 0.792	3-2	Cooper	DE225 DA 04 T	Richards					
				Elastimold	156LR-F	P2ALCU-7		156ALR- F	1-EB-15-25kV064-082		
	#1-175 2	0.332 / 0.734	2-2	Cooper	DE225 DA 05 T	Richards					
				Elastimold	156LR-F	P2ALCU-8		156ALR- F	1-EB-15-25kV064-082		
	#1-220 17	0.332 / 0.834	4-2	Cooper	DE225 FA 05 T	Richards					
				Elastimold	156LR-G	P2ALCU-8		156ALR- G	1-EB-15-25kV076-095		
	#1-260 31	0.332 / 0.898	4-2	Cooper	DE225 FA 05 T	Richards					
				Elastimold	156LR-H	P2ALCU-8		156ALR- H	1-EB-15-25kV085-105		
	1/0-175 3	0.373 / 0.777	3-2	Cooper	DE225 DA 06 T	Richards					
				Elastimold	156LR-F	P2ALCU-9		156ALR- F	1-EB-15-25kV064-082		
	1/0-220 18	0.373 / 0.877	4-2	Cooper	DE225 FA 06 T	Richards					
				Elastimold	156LR-G	P2ALCU-9		156ALR- G	1-EB-15-25kV076-095		
	1/0-260 32	0.373 / 0.941	5-2	Cooper	DE225 HA 06 T	Richards					
				Elastimold	156LR-H	P2ALCU-9		156ALR- H	1-EB-15-25kV085-105		
	2/0-175 4	0.418 / 0.824	4-2	Cooper	DE225 FA 07 T	Richards					
				Elastimold	156LR-G	P2ALCU-10		156ALR- G	1-EB-15-25kV076-095		
	2/0-220 19	0.418 / 0.924	5-3	Cooper	DE225 FA 07 T	Richards					
				Elastimold	156LR-H	P2ALCU-10		156ALR- H	1-EB-15-25kV085-105		
	2/0-260 33	0.418 / 0.988	6-2	Cooper	DE225 HA 07 T	Richards					
				Elastimold	156LR-H	P2ALCU-10		156ALR- H	1-EB-15-25kV085-105		
	3/0-175 5	0.470 / 0.878	5-4	Cooper	DE225 FA 08 T	Richards					
				Elastimold	156LR-G	P2ALCU-11		156ALR- G	1-EB-15-25kV076-095		
	3/0-220 20	0.470 / 0.978	5-4	Cooper	DE225 HA 08 T	Richards					
				Elastimold	156LR-H	P2ALCU-11		156ALR- H	1-EB-15-25kV085-105		
	3/0-260 35	0.470 / 1.102	6-4	Cooper	DE225 HA 08 T	Richards					
				Elastimold	156LR-H	P2ALCU-11		156ALR- H	1-EB-15-25kV085-105		
	4/0-220 21	0.528 / 1.038	6-4	Cooper	DE225 HA 09 T	Richards					
				Elastimold	156LR-J	P2ALCU-12		156ALR- J	1-EB-15-25kV098-118		
	4/0-260 35	0.528 / 1.102	7-3	Cooper	DE225 HA 09 T	Richards					
				Elastimold	156LR-J	P2ALCU-12		156ALR- J	1-EB-15-25kV098-118		

Notes 2010-06-24

1 For 200 amp standard elbows apply the Novinium prefix "1-EB-" to the manufacturer's part number to identify the Novinium part.

2 The Cable Table # is the "Cable Number" (first column) in the NRI-21 Cable Table.

3 Conductor diameter, insulation O.D., elbow and connector size are based on uncompressed stranded conductor. Cables with compressed or compact conductor will have different conductor and insulation diameters and may require a different size elbow or connector. See the manufacturer's catalogs.

4 Cooper is a registered trademark of Cooper Power Systems. Hubbell is a registered trademark of Hubbell. Elastimold is a registered trademark of Thomas & Betts. Richards is a trademark of Richards Manufacturing, Inc.

5 Except for standard length injection elbows, many elbows may be purchased with capacitive test points. For Elastimold elbows add 1 to the 3 digit part number. The 3 digit part numbers for standard elbows for non-test point and test point elbows respectively are 165 & 166 for 15kV, 275 & 276 for 25kV, and 375 & 376 for 35kV. The 3 digit part numbers for injection elbows for non-test point and test point elbows respectively are 167 & 168 for 15kV. For other part numbers see the manufacturer's catalogs.

6 A blank indicates that a Novinium Certified Elbow is not available. Please contact Novinium engineering for options.

7 Each Cooper® brand 35kV large interface injection elbow requires a sealed probe kit. Specify Novinium part number 1-UP-PKI235BP for 3Φ sealed probe and 1-UP-PKISS235CKBP for 1Φ sealed probe.

8 Each standard length Elastimold® brand and Richards brand standard elbow requires a compression connector from the adjacent "Recommended Connectors" column.

Novinium Certified Splice Application Table

	Concentric Strand Cable		IA	Splice Kit					Injection [1,6]	
Voltage	Conductor AWG-Ins. Thickness	Conductor / Insulation Nominal Dia. (in) [2]	Injection Adapters (IA's) [4]	Manufacturer [3]	Splice Kit Model	Splice Style [5]	Novinium Certified [3] Connector	Connector Length	1 Way	2 Way
15 kV	#2-175	0.292/0.692	2-2	Elastimold	15PCJ1F	Molded	RICHARDS SALC8-NV	Short	Y	N
				3M	**5411R**	**Molded Repair**	**RICHARDS SALC8-NV**	**Short**	**Y**	**Y**
				3M	**5411R**	**Molded Repair**	**RICHARDS ALC8-NV**	**Long**	**Y**	**Y**
				3M	5415A	Cold Shrink	RICHARDS SALC8-NV	Short	Y	N
	#2-220	0.292 / 0.792	3-2	Elastimold	15PCJ1F	Molded	RICHARDS SALC8-NV	Short	Y	N
				3M	**5411R**	**Molded Repair**	**RICHARDS SALC8-NV**	**Short**	**Y**	**Y**
				3M	**5411R**	**Molded Repair**	**RICHARDS ALC8-NV**	**Long**	**Y**	**Y**
				3M	**5415A**	**Cold Shrink**	**RICHARDS SALC8-NV**	**Short**	**Y**	**Y**
	1/0-175	0.373 / 0.777	3-2	Elastimold	15PCJ1G	Molded	RICHARDS SALC9-NV	Short	Y	N
				3M	**5411R**	**Molded Repair**	**RICHARDS SALC9-NV**	**Short**	**Y**	**Y**
				3M	**5411R**	**Molded Repair**	**RICARDS ALC9-NV**	**Long**	**Y**	**Y**
				3M	5415A	Cold Shrink	RICHARDS SALC9-NV	Short	Y	N
	1/0-220	0.373 / 0.877	4-2	Elastimold	15PCJ1G	Molded	RICHARDS SALC9-NV	Short	Y	N
				3M	**5411R**	**Molded Repair**	**RICHARDS SALC9-NV**	**Short**	**Y**	**Y**
				3M	**5411R**	**Molded Repair**	**RICHARDS ALC9-NV**	**Long**	**Y**	**?**
				3M	5415A	Cold Shrink	RICHARDS SALC9-NV	Short	Y	N
	2/0-175	0.418 / 0.824	3-2	Elastimold	15PCJ1G	Molded	RICHARDS SALC10-NV	Short	Y	N
				3M	**5411R**	**Molded Repair**	**RICHARDS SALC10-NV**	**Short**	**Y**	**Y**
				3M	**5411R**	**Molded Repair**	**RICHARDS ALC10-NV**	**Long**	**Y**	**Y**
				3M	5415A	Cold Shrink	RICHARDS SALC10-NV	Short	Y	N
	2/0-220	0.418 / 0.924	5-2	Elastimold	15PCJ1G	Molded	RICHARDS SALC10-NV	Short	Y	N
				3M	**5412R**	**Molded Repair**	**RICHARDS SALC10-NV**	**Short**	**Y**	**Y**
				3M	**5412R**	**Molded Repair**	**RICHARDS ALC10-NV**	**Long**	**Y**	**Y**
				3M	5415A	Cold Shrink	RICHARDS SALC10-NV	Short	Y	N
				3M	5416A	Cold Shrink	RICHARDS SALC10-NV	Short	Y	?
	3/0-175	0.470 / 0.878	5-3	Elastimold	15PCJ1H	Molded	RICHARDS SALC11-NV	Short	Y	N
				3M	**5412R**	**Molded Repair**	**RICHARDS SALC11-NV**	**Short**	**Y**	**Y**
				3M	**5412R**	**Molded Repair**	**RICHARDS ALC11-NV**	**Long**	**Y**	**Y**
				3M	5415A	Cold Shrink	RICHARDS SALC11-NV	Short	Y	N
				3M	5416A	Cold Shrink	RICHARDS SALC11-NV	Short	Y	N
	3/0-220	0.470 / 0.978	5-3 or 6-3	Elastimold	15PCJ1H	Molded	RICHARDS SALC11-NV	Short	Y	N
				3M	**5412R**	**Molded Repair**	**RICHARDS SALC11-NV**	**Short**	**Y**	**Y**
				3M	**5412R**	**Molded Repair**	**RICHARDS ALC11-NV**	**Long**	**Y**	**Y**
				3M	5415A	Cold Shrink	RICHARDS SALC11-NV	Short	?	?
				3M	5416A	Cold Shrink	RICHARDS SALC11-NV	Short	Y	N
	4/0-175	0.528 / 0.938	5-4	Elastimold	15PCJ1H	Molded	RICHARDS SALC12-NV	Short	Y	N
				3M	**5412R**	**Molded Repair**	**RICHARDS SALC12-NV**	**Short**	**Y**	**Y**
				3M	**5412R**	**Molded Repair**	**RICHARDS ALC12-NV**	**Long**	**Y**	**Y**
				3M	5415A	Cold Shrink	RICHARDS SALC12-NV	Short	Y	N
				3M	5416A	Cold Shrink	RICHARDS SALC12-NV	Short	Y	N
	4/0-220	0.528 / 1.038	6-4	Elastimold	15PCJ1H	Molded	RICHARDS SALC12-NV	Short	Y	N
				3M	**5412R**	**Molded Repair**	**RICHARDS SALC12-NV**	**Short**	**Y**	**Y**
				3M	**5412R**	**Molded Repair**	**RICHARDS ALC12-NV**	**Long**	**Y**	**Y**
				3M	5416A	Cold Shrink	RICHARDS SALC12-NV	Short	Y	N
	250-175	0.575 / 0.985	NO IA 5-5	Elastimold	15PCJ1J	Molded	RICHARDS SALC13-NV	Short	N	N
				3M	5416A	Cold Shrink	RICHARDS SALC13-NV	Short	N	N
	250-220	0.575 / 1.085	No IA 7-5	Elastimold	15PCJ1J	Molded	RICHARDS SALC13-NV	Short	N	N
				3M	5416A	Cold Shrink	RICHARDS SALC13-NV	Short	N	N
	350-175	0.681 / 1.091	7-6	3M	5416A	Cold Shrink	RICHARDS SALC14-NV	Short	Y	N
	350-220	0.681 / 1.191	9-6	Elastimold	15PCJ1L	Molded	RICHARDS SALC15-NV	Short	Y	N
				3M	5416A	Cold Shrink	RICHARDS SALC15-NV	Short	Y	N
				3M	5417A	Cold Shrink	RICHARDS SALC15-NV	Short	Y	?
	500-175	0.813 / 1.223	10-8	Elastimold	15PCJ1K	Molded	RICHARDS SALC18-NV	Short	?	N
				3M	5417A	Cold Shrink	RICHARDS SALC18-NV	Short	Y	?
	500-220	0.813 / 1.323	10-8	Elastimold	15PCJ1L	Molded	RICHARDS SALC18-NV	Short	?	N
				3M	5417A	Cold Shrink	RICHARDS SALC18-NV	Short	?	?
	750-175	0.998 / 1.412	11-10	Elastimold	15PCJ1L	Molded	RICHARDS SALC23-NV	Short	?	N
				3M	5418A	Cold Shrink	RICHARDS SALC23-NV	Short	?	?
	750-220	0.998 / 1.512	11-10	Elastimold	15PCJ1M	Molded	RICHARDS SALC23-NV	Short	?	N
				3M	5418A	Cold Shrink	RICHARDS SALC23-NV	Short	?	?
	1000-175	1.152 / 1.572	12-12	3M	5418A	Cold Shrink	RICHARDS SALC28-NV	Short	Y	?
	1000-220	1.152 / 1.672	13-12	3M	5418A	Cold Shrink	RICHARDS SALC28-NV	Short	Y	?

Novinium Certified Splice Application Table

	Concentric Strand Cable		IA	Splice Kit					Injection [1,6]	
Voltage	Conductor AWG-Ins. Thickness	Conductor / Insulation Nominal Dia. (in) [2]	Injection Adapters (IA's) [4]	Manufacturer [3]	Splice Kit Model	Splice Style [5]	Novinium Certified [3] Connector	Connector Length	1 Way	2 Way
25 kV	1-260	0.332 / 0.898	4-2	Elastimold	15PCJ1G	Molded	RICHARDS SALC8-NV	Short	*?*	*N*
				3M	5451	Molded	RICHARDS SALC8-NV	Short	*?*	*N*
				3M	**5451R**	**Molded Repair**	**RICHARDS SALC8-NV**	**Short**	***Y***	***Y***
				3M	**5451R**	**Molded Repair**	**RICHARDS ALC8-NV**	**Long**	***Y***	***Y***
				3M	5456A	Cold Shrink	RICHARDS SALC8-NV1	Short	*?*	*N*
	1/0-260	0.373 / 0.941	5-2	Elastimold	25PCJ1H	Molded	RICHARDS SALC9-NV	Short	*?*	*N*
				3M	5451A	Molded	RICHARDS SALC9-NV	Short	*?*	*N*
				3M	**5451R**	**Molded Repair**	**RICHARDS SALC9-NV**	**Short**	***Y***	***Y***
				3M	**5451R**	**Molded Repair**	**RICHARDS ALC9-NV**	**Long**	***Y***	***Y***
				3M	5456A	Cold Shrink	RICHARDS SALC9-NV	Short	*Y*	*?*
	2/0-260	0.418 / 0.988	6-2	Elastimold	25PCJ1H	Molded	RICHARDS SALC10-NV	Short	*?*	*N*
				3M	5451A	Molded	RICHARDS SALC10-NV	Short	*?*	*N*
				3M	5451R	Molded Repair	RICHARDS SALC10-NV	Short	*Y*	*Y*
				3M	5451R	Molded Repair	RICHARDS ALC10-NV	Long	*Y*	*Y*
				3M	5456A	Cold Shrink	RICHARDS SALC10-NV	Short	*Y*	*?*
	3/0-260	0.470 / 1.042	6-3	Elastimold	25PCJ1H	Molded	RICHARDS SALC11-NV	Short	*?*	*N*
				3M	**5451R**	**Molded Repair**	**RICHARDS SALC11-NV**	**Short**	***Y***	***Y***
				3M	**5451R**	**Molded Repair**	**RICHARDS ALC11-NV**	**Long**	***Y***	***Y***
				3M	5456A	Cold Shrink	RICHARDS SALC11-NV	Short	*?*	*N*
	4/0-260	0.528 / 1.102	7-4	Elastimold	25PCJ1J	Molded	RICHARDS SALC12-NV	Short	*?*	*N*
				3M	5457A	Cold Shrink	RICHARDS SALC12-NV	Short	*Y*	*?*
				3M	5457A	Cold Shrink	RICHARDS ALC12-NV	Long	*Y*	*?*
				3M	**5457AR**	**Cold Shrink Repair**	**RICHARDS SALC12-NV**	**Short**	***Y***	***Y***
				3M	**5457AR**	**Cold Shrink Repair**	**RICHARDS ALC12-NV**	**Long**	***Y***	***Y***
	250-260	0.575 / 1.149	NO IA 8-5	Elastimold	25PCJ1J	Molded	RICHARDS SALC13-NV	Short	*N*	*N*
				3M	5457A	Cold Shrink	RICHARDS SALC13-NV	Short	*N*	*N*
				3M	5423	Molded	RICHARDS SALC13-NV	Short	*N*	*N*
	350-260	0.681 / 1.255	9-6	Elastimold	25PCJ1L	Molded	RICHARDS SALC15-NV	Short	*Y*	*N*
				3M	5457A	Cold Shrink	RICHARDS SALC15-NV	Short	*Y*	*?*
				3M	**5457AR**	**Cold Shrink Repair**	**RICHARDS SALC15-NV**	**Short**	***Y***	***Y***
	500-260	0.813 / 1.387	10-8	Elastimold	25PCJ1L	Molded	RICHARDS SALC18-NV	Short	*?*	*N*
				3M	**5457AR**	**Cold Shrink Repair**	**RICHARDS SALC18-NV**	**Short**	***Y***	***Y***
				3M	**5457AR**	**Cold Shrink Repair**	**RICHARDS SALC18-NV**	**Short**	***Y***	***Y***
				3M	**5458A**	**Cold Shrink**	**RICHARDS SALC18-NV**	**Short**	***Y***	***Y***
				3M	**5458A**	**Cold Shrink**	**RICHARDS SALC18-NV**	**Short**	***Y***	***Y***
	750-260	0.998 / 1.576	12-10	Elastimold	25PCJ1N	Molded	RICHARDS SALC23-NV	Short	*?*	*N*
				3M	5457AR	Cold Shrink Repair	RICHARDS SALC23-NV	Short	*?*	*?*
				3M	**5457AR**	**Cold Shrink Repair**	**RICHARDS ALC23-NV**	**Long**	***Y***	***Y***
				3M	5458A	Cold Shrink	RICHARDS SALC23-NV	Short	*?*	*?*
	1000-260	1.152 / 1.736	13-12	Elastimold	25PCJ1N	Molded	RICHARDS SALC28-NV	Short	*N*	*N*
				3M	5458A	Cold Shrink	RICHARDS SALC28-NV	Short	*Y*	*N*
35 kV	1/0-345	0.373 / 1.111	7-2	Elastimold	35PCJ1K	Molded	RICHARDS SALC9-NV	Short	*Y*	*?*
				3M	5461	Molded	RICHARDS SALC9-NV	Short	*?*	*N*
				3M	**5467A**	**Cold Shrink**	**RICHARDS SALC9-NV**	**Short**	***Y***	***Y***
			8-2	Elastimold	35PCJ1K	Molded	RICHARDS SALC9-NV	Short	*Y*	*?*
				3M	5461	Molded	RICHARDS SALC9-NV	Short	*?*	*N*
				3M	**5467A**	**Cold Shrink**	**RICHARDS SALC9-NV**	**Short**	***Y***	***Y***
	2/0-345	0.418 / 1.158	8-2	Elastimold	35PCJ1K	Molded	RICHARDS SALC8-NV	Short	*Y*	*N*
				3M	5461	Molded	RICHARDS SALC8-NV	Short	*Y*	*N*
				3M	5467A	Cold Shrink	RICHARDS SALC8-NV	Short	*Y*	*?*
	3/0-345	0.470 / 1.212	No IA 9-3	Elastimold	35PCJ1K	Molded	RICHARDS SALC11-NV	Short	*N*	*N*
				3M	5467A	Cold Shrink	RICHARDS SALC11-NV	Short	*N*	*N*
	4/0-345	0.528 / 1.272	NO IA 10-4	Elastimold	35PCJ1L	Molded	RICHARDS SALC12-NV	Short	*N*	*N*
				3M	5467A	Cold Shrink	RICHARDS SALC12-NV	Short	*N*	*N*
	250-345	0.575 / 1.319	No IA 10-5	Elastimold	35PCJ1L	Molded	RICHARDS SALC13-NV	Short	*N*	*N*
				3M	5467A	Cold Shrink	RICHARDS SALC13-NV	Short	*N*	*N*
	350-345	0.681 / 1.425	No IA 11-6	Elastimold	35PCJ1M	Molded	RICHARDS SALC15-NV	Short	*?*	*N*
				3M	5467A	Cold Shrink	RICHARDS SALC15-NV	Short	*Y*	*N*
				3M	5468A	Cold Shrink	RICHARDS SALC15-NV	Short	*Y*	*?*
	500-345	0.813 / 1.557	12-8	Elastimold	35PCJ1N	Molded	RICHARDS SALC18-NV	Short	*Y*	*N*
				3M	5467A	Cold Shrink	RICHARDS SALC18-NV	Short	*?*	*N*
				3M	**5468A**	**Cold Shrink**	**RICHARDS SALC18-NV**	**Short**	***Y***	***Y***
	750-345	0.998 / 1.746	14-10	Elastimold	35PCJ1P	Molded	RICHARDS SALC23-NV	Short	*Y*	*N*
				3M	5468A	Cold Shrink	RICHARDS SALC23-NV	Short	*?*	*?*
	1000-345	1.152 / 1.906	15-12	3M	5468A	Cold Shrink	RICHARDS SALC28-NV	Short	*Y*	*N*

Notes:

1. **Y (Yes) or N (No) indicates if the splice body will accommodate 1-way or 2-way injection. A "?" indicates the acceptability has not been determined.**
2. **Conductor diameter, insulation O.D., elbow and connector size are based on uncompressed stranded conductor. Cables with compressed or compact conductor will have different conductor and insulation diameters and may require a different size splice, IA or connector. Please contact Novinium Engineering for options.**
3. **3M is a registered trademark of 3m. Elastimold is a registered trademark of Thomas & Betts. Richards is Richards Manufacturing, Inc.**
4. **Splices noted *No IA* in the Injection Adapter column do not have a standard Injection Adaptor. Please contact Novinium Enginering for options.**
5. **Bold highlights splices that will accommodate 2 Way Injection.**
6. **Italics Indicate a template will need to be drawn.**