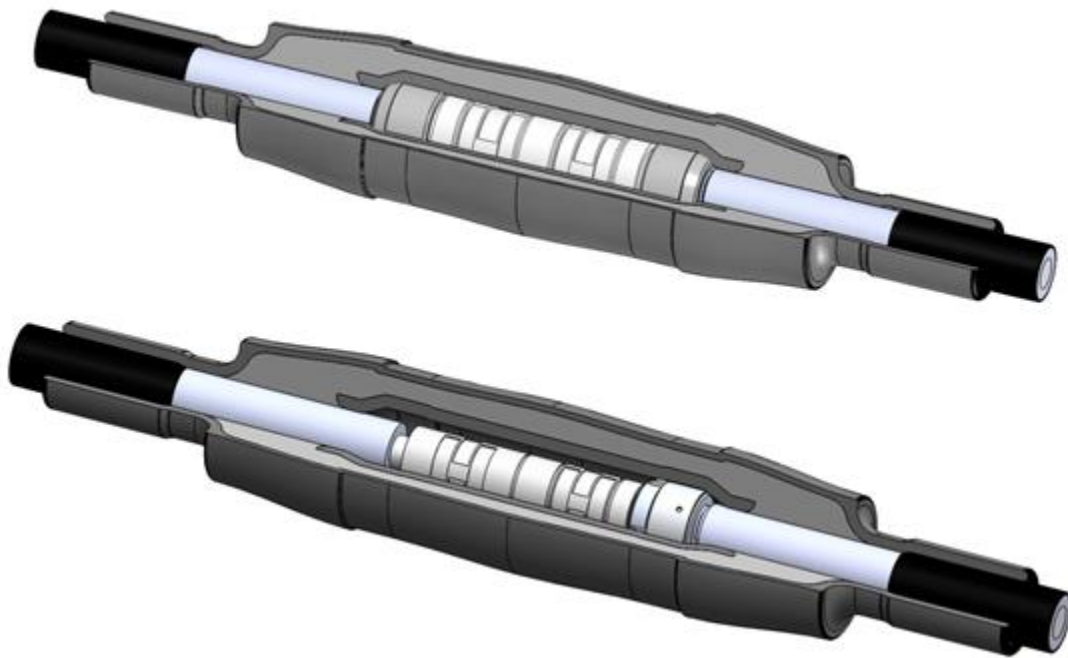


Rejuvenation Instructions

#571 – 600A Splices – UPR



This NRI covers the following:

- Understanding the contents of the threaded seal kit and the required accessories.
- How to install a threaded seal kit on a 600A splice.
- How to correctly size and select the seal kit to match the application.

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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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Introduction

The Threaded Seal Kit for 600A splices is a rigid device that seals the gap between the connector and the cable's insulation and confines the rejuvenation fluid to the conductor area. Once installed, the seal kit fits comfortably within the inner semi-conductive electrode of the cold-shrink splice housing. The seal kit is available in three configurations for "flow-through", 1-way, and 2-way injections. With special tooling, the seal kit can adapt to a range of cables and insulation thicknesses.

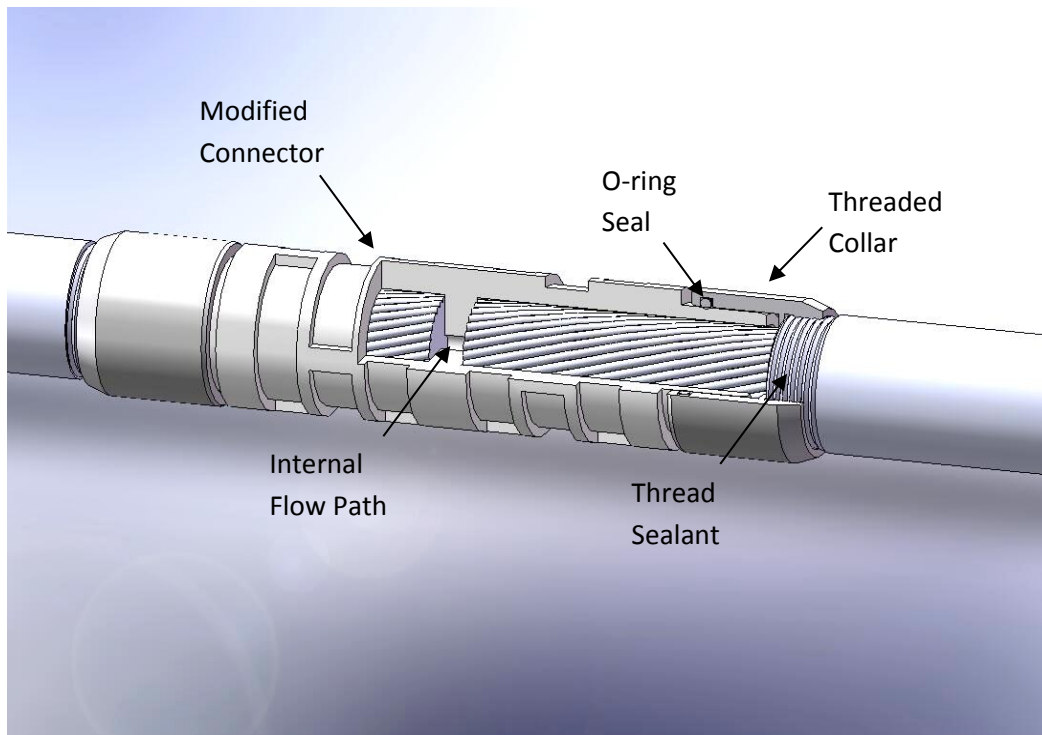


Figure 1: Threaded seal kit.

1. Applications.

- For large diameter cables.
- For flow-through applications, select kits from the 11571 series.
- For 1-way injectable applications, select kits from the 11613 series.
- For 2-way injectable applications, select kits from the 11614 series.

2. Pressure rating.

- Up to 120psi injection pressure.
- 30psi static head pressure while the cable is in service (consult with Engineering for higher pressures).

3. Limitations.

- De-energized injections only.
- 10-35kV insulation thickness.
- Adhesive requires an over-night cure time (consult with Engineering for deviations).
- Existing splice must be removed.
- Compatible with 3M QSIII and Prysmian Elaseed cold-shrink splices only.

4. Required equipment.

- Thread and shoulder cutting tool kit.
- Adhesive (3M DP8005).
- Splice housing.
- Injection adapter (IA).

Installation

1. Prepare the cable.

- a. Prepare the jacket, ground wires, and insulation shield by following the instructions sheet included in either the 3M QSIII or Prysmian Elaseed cold shrink splice kit.
- b. Follow the splice manufacturer's instructions and nest all specified parts on the cable (splice body, jacket tube, etc.).

c. Strip back the insulation to expose the conductor strands in accordance with Table 1.

Size	Conductor	Flow Thru (±1/8")	1-way		2-way (±1/8")	Tooling	
			Injection Side (±1/8")	Non-Inj. Side (±1/8")		Threading Die	Blade 11585-
1000	Standard	3 1/2"	3 5/8"	3 5/8"	3 1/2"	1 1/2"-12	-1
	Compact		3 5/8"	3 5/8"			
750	Standard	3"	3 5/8"	3 5/8"	3 1/2"	1 3/8"-12	-2
	Compact		3 1/4"	3 1/4"			
500	Standard	3"	3 1/4"	3 1/4"	3"	1 1/8"-12	-4
	Compact		3 1/4"	3 1/4"			
350	Standard	2 1/4"	2 3/8"	2 5/8"	2 3/8"	1"-14	-5
	Compact		2 3/8"	2 5/8"			
250	Standard	2 1/4"	2 3/8"	2 5/8"	2 3/8"	15/16"-16	-6
	Compact	1 7/8"	2"	2 5/8"	2"	13/16"-16	-7
4/0	Standard	1 7/8"	2"	2 5/8"	2"	13/16"-16	-7
	Compact		2"	2 5/8"			

*11585-6 may be necessary (for small tool) depending on conductor diameter.

Table 1: Insulation cutback chart and tooling.

- d. Finish the insulation cutback with a smooth and square edge.
- e. File the leading edge of the conductor to remove any burrs or sharp edges.

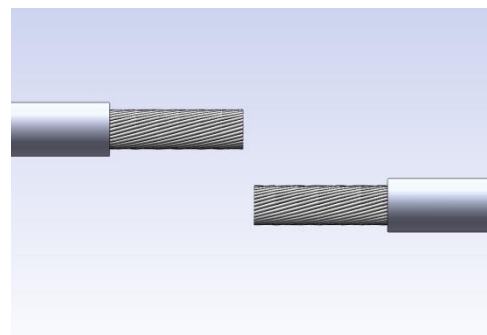


Figure 2: Finish the insulation with a smooth and square edge.

- f. Configure the shoulder and threading tool by fitting the blade and threading die specified in Table 1.
- g. Select the bushing that provides the best fit on the conductor.

🔗 For more details, refer to the Shouldering and Threading Tool Instructions (P/N 860340).

- h. Use the shoulder cutting end of the thread and shoulder cutting tool to create a shoulder on the cable end(s).
- i. Visually inspect the shoulder to see that it is round and concentric to the conductor.

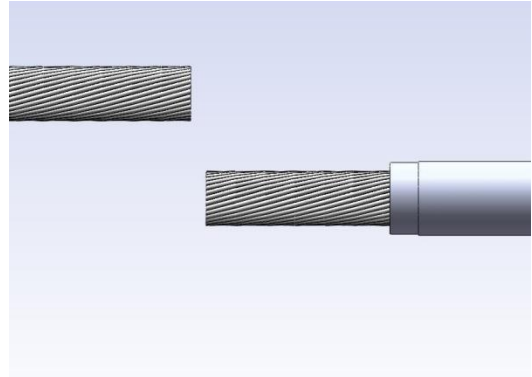


Figure 3: Shoulder the insulation end(s).

- a. Use the threading end of the thread and shoulder cutting tool to thread the shoulder(s).
- b. Thread only as far as the die readily advances into the cable.
- c. Do **NOT** overturn as this will damage the threads.
- d. Clean and pull away burrs and any loose shavings from the thread and the square edge.

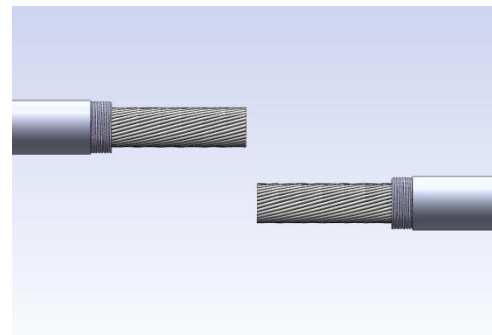


Figure 4: Thread the insulation.

2. Install the threaded seal kit.

- a. Due to the short curing time of the thread sealant, this section must be completed within five minutes.
- b. Create a clean environment around where the termination will be installed.
- c. Remove the protective tape wrapping from the machined shoulder to get the threaded collar assembly and the modified connector ready.
- d. Affix the static mixer nozzle provided (this seal kit) to the adhesive gun assembly (from the thread and shoulder cutting tool kit) and squeeze a quarter-sized bead onto a drop cloth.
- e. Apply an even coating of adhesive to the internal thread of the threaded collar and the external thread of the cable.
- f. Use the supplied brush to help spread the adhesive.

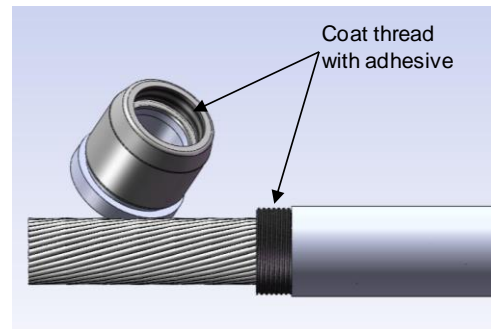


Figure 5: Apply adhesive to the threaded shoulder and the internal threads of the collar.

- g. Slide the threaded collar assembly over the conductor strands and thread onto the cable's insulation until it has bottomed out.
- h. The strap wrench from the thread and shoulder cutting tool kit can be used to assist.

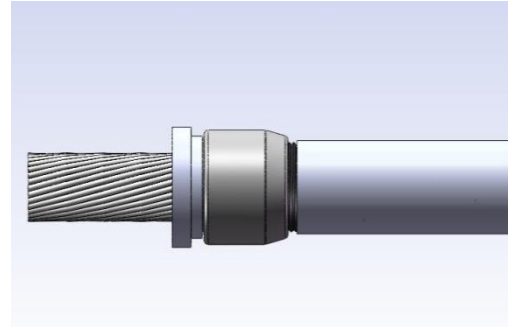


Figure 6: Thread the collar onto the cable until it has bottomed out.

- i. Using a wire brush and corrosion inhibiting compound or other local procedure, remove the pilot bushing from the threaded collar and prepare the conductor strands for crimping.
- j. Use cable cleaner to clean away any adhesive that may have run off onto the cable's insulation surface.
- k. Apply o-ring lubricant to the leading edge of the modified connector and insert past the internal o-ring of the threaded collar.
- Use the pilot bushing to create the necessary gap to account for connector elongation.
- **NOTE: No gap is required to install the 13/16" -16 sized collar (3/0 and 4/0 sized cable).**

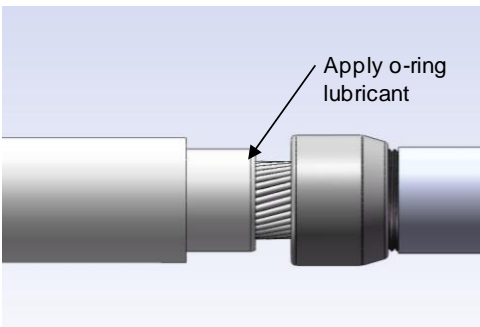


Figure 7: Lubricate the leading edge of the compression lug.

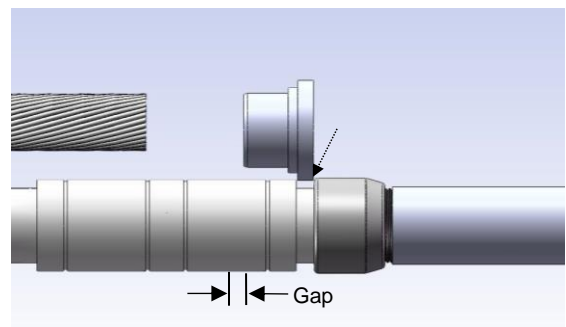


Figure 8: Insert the leading edge of the connector past the internal o-ring and measure the gap.

- l. Crimp the modified connector using the correct Burndy U or P series die staying between the two machined grooves.

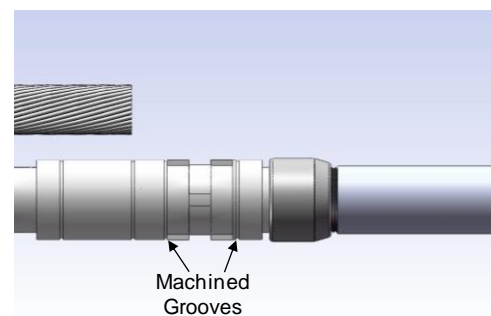


Figure 9: Crimp the connector using a Burndy U or P-series die.

- m. Repeat the procedure from steps a through l for the second threaded collar assembly for flow through and 2-way kit configurations.
- n. Inspect the connector and use a file to smooth any sharp edges that could damage the housing.

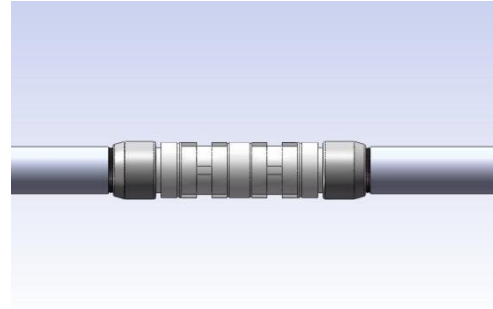


Figure 10: Repeat steps to install 2nd threaded seal kit for flow-through and 2-way applications.

3. Test, inject, and complete the splice.

- a. It is ideal to perform a flow and pressure test at this point.
 - The thread sealant must be allowed to cure overnight prior to exposing to Cablecure fluids.
- b. Clean the cable adapter and connector with an approved cable cleaner following standard line worker practice.
- c. After the injection process is complete, continue to install the separable connector by following the instruction sheet supplied by the manufacturer.

Sizing Instructions

Selection Criteria				Seal Kit Part No.			Tool Kit
Kcmil/ AWG	Conductor Type	Conductor Dia. (in.)	Insulation Min. Dia. (in.)	Flow-Thru 11571-	1-way 11613-	2-way 11614-	Part No. 11582-
1000	Standard	1.077-1.152	1.49	-1	-1	-1	-1
	Compact	1.037-1.083	1.37	-2	-2	-2	-1
750	Standard	.933-.998	1.37	-4	-4	-4	-1
	Compact	.898-.938	1.24	-6	-6	-6	-1
500	Standard	.761-.814	1.12	-9	-9	-9	-1
	Compact	.732-.765					-1
350	Standard	.633-.681	1.00	-11	-11	-11	-1
	Compact	.613-.637	1.00	-12	-12	-12	-2
250	Standard	.532-.575	.93	-13	-13	-13	-2
	Compact	.518-.535	.81	-14	-14	-14	-2
4/0	Standard	.488-.528	.81	-14	-14	-14	-2
	Compact	.475-.491					-2

Table 2: Seal kit selection table.

1. Select the threaded seal kit for 600A splices.

- a. Select the conductor size.
- b. Select the level of conductor compression.
- c. Verify that the conductor diameter falls within the given range.
- d. Verify that the insulation diameter meets or exceeds the minimum requirement.
- e. Select the splice housing (see Table 3).

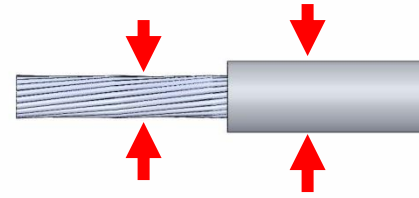


Figure 11: Verify the conductor and insulation diameters.

Selection Criteria		3M QSIII		Prysmian Elaseped	
Kcmil/AWG	Voltage	3M p/n	Novinium p/n	Prysmian p/n	Novinium p/n
1000	15kV	5418A	818871	15SIJCe	819391
	25kV	5458A	818907	25SIJCe	819397
	35kV	5468A	818872		
750	15kV	5418A	818871	15SIJCe	819391
	25kV	5458A	818907	25SIJCe	819397
	35kV	5468A	818872		
500	15kV	5417A	818905	15SIPJCe	819390
	25kV	5457A	818906	25SIPJCe	819396
	35kV	5467A	818908		
350	15kV	5416A	819125	15SFJCe	819388
	25kV	5457A	818906	25SFJCe	819394
	35kV	5467A	818908		
250	15kV	5416A	819125	15SEJCe	819387
	25kV	5456A	818126	25SFJCe	819394
	35kV	5467A	818908		
4/0	15kV	5416A	819125	15SEJCe	819387
	25kV	5456A	818126	25SFJCe	819394
	35kV	5467A	818908		

Table 3: Splice selection table.