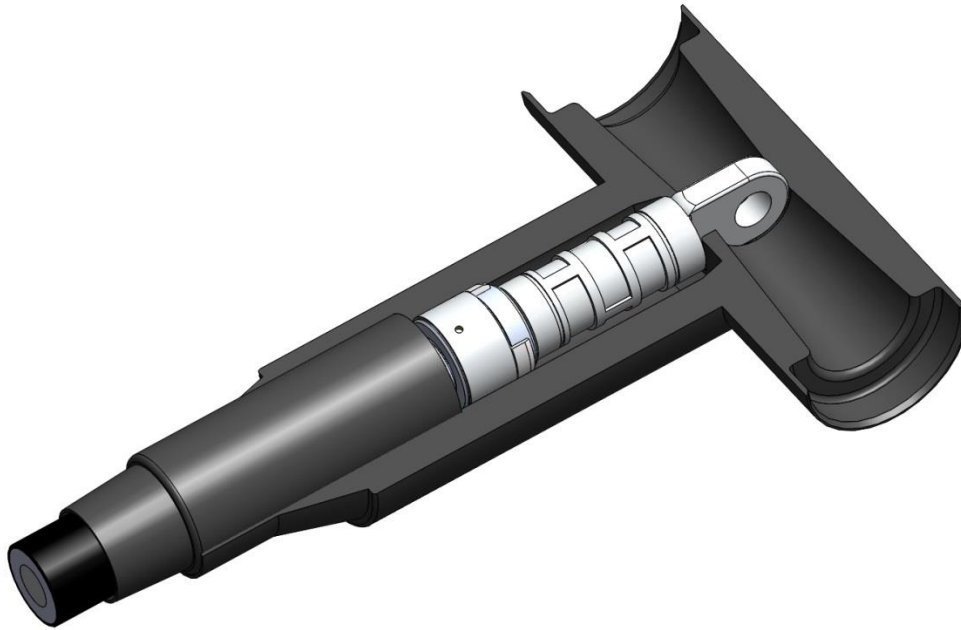


Rejuvenation Instructions

#551 – 600A Dead-Front Terminations – 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 dead-break T-body or separable splice connector.
- How to correctly size and select the right kit to match the cable.

Trademarks: <http://www.novinium.com/trademarks/>

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.

Table of Contents

Introduction 2

Installation 3

 1. Prepare the cable..... 3

 2. Install the threaded seal kit. 4

 3. Test, inject, and complete the termination. 6

Sizing Instructions 6

 1. Select the threaded seal kit for 600A dead-front terminations..... 7

Introduction

The Threaded T-body Seal Kit is a rigid device that seals the gap between the T-body connector and the cable's insulation. A sliding valve allows for fluid injection into the cable. Special tooling allows the seal kit to be adapted to a range of cables and insulation thicknesses.

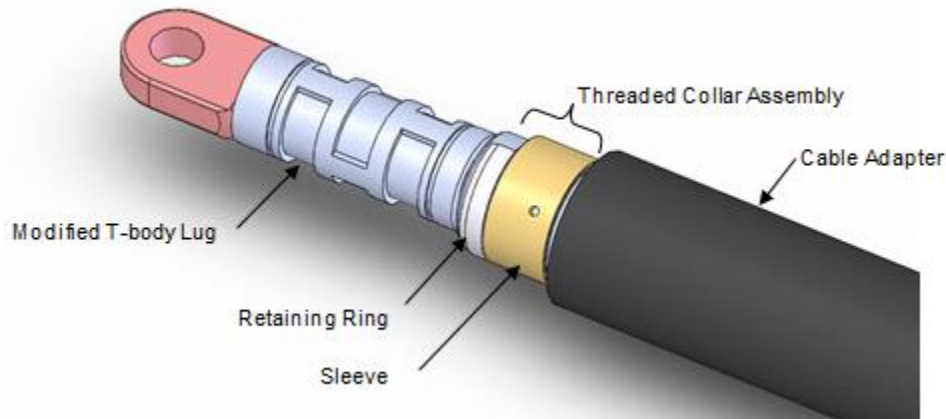


Figure 1: Threaded T-body seal kit.

Applications:

- Large diameter 600A cables.

Pressure Rating:

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

Limitations:

- De-energized injections only.
- 10-35kV insulation thickness.
- Adhesive requires over-night cure time (consult with Engineering for deviations).
- Existing lug must be removed.
- Compatible with all Elastimold and Cooper 600A T-body housings, separable splice connectors, and their accessories.

Required Equipment:

- Thread and shoulder cutting tool kit.
- Adhesive (3M DP8005).
- Cable adapter.
- T-body or separable joint housing.
- Injection adapter (IA).

Installation

1. Prepare the cable.

- a. Prepare the jacket, ground wires, and insulation shield by following the installation instructions for the separable connector.
- 🔗 **NOTE: For 3/0 or 4/0awg sized cables, reduce the semi-con cutback by 0.75" to accommodate for smaller insulation cutbacks in the threaded seal kit connector.**
- b. Strip back the insulation to expose the conductor strands in accordance with Table 1.
- c. Finish the insulation cutback with a smooth and square edge.
- d. File the leading edge of the conductor to remove any burrs or sharp edges.
- e. If installing a separable cable joint, slide the housing onto the cable and park as specified in the instruction sheet supplied by the manufacturer.



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

Selection Criteria			Cutbacks	Tooling	
Kcmil/AWG	Conductor Type	Conductor Dia. (in.)	Insulation (+/-1/8")	Threading Die	Blade 11585-
1000	Standard	1.072-1.152	3 7/8"	1 1/2"-12	-1
	Compact	1.037-1.077		1 3/8"-12	-2
750	Standard	.933-.998		1 3/8"-12	-2
	Compact	.898-.938		1 1/4"-12	-3
500	Standard	.757-.814		1 1/8"-12	-4
	Compact	.732-.760		1 1/8"-12	-4
350	Standard	.637-.681	3 3/4"	1"-14	-5
	Compact	.613-.640		1"-14	-6
250	Standard	.538-.575		15/16"-16	-7
	Compact	.518-.541		13/16"-16	-7
4/0	Standard	.493-.528	3 1/4"	13/16"-16	-8
	Compact	.475-.496		13/16"-16	-8

Table 1: Insulation cutback chart.

- f. Clean the insulation and slide the cable adapter onto the cable's cleaned insulation, leaving 1" of insulation exposed.
- g. Wipe away any silicone lubricant left on the insulation's surface.



Figure 3: Slide the cable adapter onto the insulation.

- h. Configure the shoulder and threading tool by fitting the blade and threading die specified in Table 1.
- i. 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).



Figure 4: Shoulder the insulation.

- j. Use the shoulder cutting end of the thread and shoulder cutting tool to turn down the diameter of the cable's insulation.
- k. Visually inspect the shoulder to see that it is round and concentric to the conductor.
- l. Use the threading end of the thread and shoulder cutting tool to thread the shoulder.
- m. Thread only as far as the die readily advances into the cable.
- n. Do **NOT** overturn as this will damage the threads.
- o. Clean and pull away burrs and any loose shavings from the thread and the square edge.



Figure 5: 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 (from the 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.

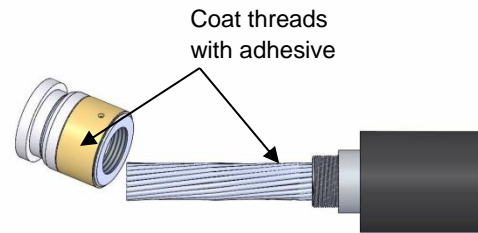


Figure 6: Apply adhesive to the threaded shoulder and the internal threads of the collar.

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

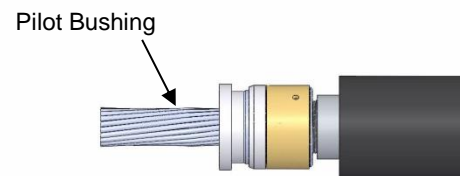


Figure 7: Thread the collar onto the cable until it has bottomed out.

- i. Remove the pilot bushing from the threaded collar.
- j. Using a wire brush and corrosion inhibiting compound or other local procedure, prepare the conductor strands for crimping.
- 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 at the 13/16"-16 sized collar (3/0 and 4/0 sized cable).**

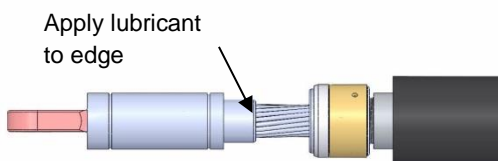


Figure 8: Lubricate the leading edge of the compression lug.

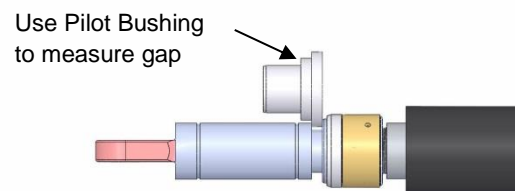


Figure 9: Insert the leading edge of the connector past the internal o-ring and measure the gap.

- l. Use cable cleaner to clean away any adhesive that may have run off onto the cable's insulation surface.

- m. Crimp the modified connector using the correct Burndy U or P series die, while staying between the two machined grooves.
- n. Inspect the connector and use a file to smooth any sharp edges that could damage the housing.

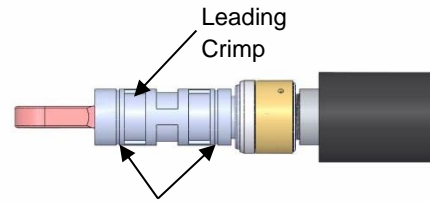


Figure 10: Crimp the connector using a Burndy U or P-series die.

3. Test, inject, and complete the termination.

- 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				Part No. 11591-				Tool Kit
Kcmil/ AWG	Conductor Type	Conductor Dia. (in.)	Insulation Min. Dia. (in.)	All Aluminum	Aluminum with Threads	Copper Top	Copper Top with Threads	Part No. 11582-
1000	Standard	1.072-1.152	1.49	-15	-30	-45	-60	-1
	Compact	1.037-1.077	1.37	-14	-29	-44	-59	-1
750	Standard	.933-.998	1.37	-12	-27	-42	-57	-1
	Compact	.898-.938	1.24	-11	-26	-41	-56	-1
500	Standard	.757-.814	1.12	-8	-23	-38	-53	-1
	Compact	.732-.760						-1
350	Standard	.637-.681	1.00	-6	-21	-36	-51	-1
	Compact	.613-.640						-2
250	Standard	.538-.575	.93	-3	-18	-33	-48	-2
	Compact	.518-.541						-2
4/0	Standard	.493-.528	.81	-2	-17	-32	-47	-2
	Compact	.475-.496						-2

Table 2: Sizing table.

1. Select the threaded seal kit for 600A dead-front terminations.

- 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.

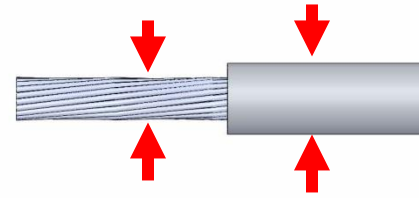


Figure 11: Size the threaded seal kit by measuring the conductor and insulation diameters.