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# Tech Tips

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## Improved Anaerobic Polishing Process

Field polished fiber optic connectors have been the foundation for fiber infrastructure connectivity for more than two decades. During that time, there have been many types of connectors and processes introduced to utilize this type of termination. While the polishing process for fiber optic cable terminated with anaerobic adhesives remained reliable, there has been a growing need to simplify the process and reduce the necessary inventory of consumables.

## Fewer Steps in the Termination Process

During the last few years, CommScope has been working not only to improve the field polishing process, but also to reduce the time and consumables needed for proper termination. With the introduction of the new pre-radiused LCR connector, CommScope now offers a consumable kit for all multimode cables and another for all single-mode cables. These kits allow installers to terminate STU, SCU and the new LCR connectors utilizing the same multimode or single-mode kit.

With the new kit comes a new process that allows installers to terminate multimode fibers in two simple steps and single-mode fibers in three simple steps. The introduction of pre-radiused LCR connectors makes it possible to complete termination of the fiber cable in fewer steps. Utilizing pre-radiused ferrules in connectors ensures a higher probability of achieving reliable connections between fibers, as well as allowing for fewer steps in the termination process and fewer polishing papers/consumables used at the installation site.

	Termination Process Multimode	Termination Process Single-mode	Sheets Used Multimode	Sheets Used Single-mode
Old Style LC Connectors	3 Steps	5 Steps	8 Sheets	10 Sheets
Pre-Radiused LCR Connectors	2 Steps	3 Steps	1 Sheet	2 Sheets

### Reduced Time and Cost

There are several benefits offered by consolidating the termination kits for multimode and single-mode fiber cables. One of the primary benefits in the new termination process for both multimode and single-mode is that there are fewer consumables used. More specifically, there are fewer sheets of polish paper used, and there are no pads or spacers required. This reduces both time and cost of the installation. Other significant benefits include:

- One consumable kit for all three connector types
- Less inventory of termination materials to maintain
- More efficient use of consumables
- Fewer steps for pre-radiused LCR connectors (as shown above)
- Improved end-face geometry
- Consistently low insertion loss

### Conclusion

Fiber terminations must not adversely affect the performance of the network. While connector design is important, good termination practices and installer skill are even more important. Dimensional tolerances of fiber optic connectors are held within microns. Therefore connectors must be properly polished for optimum fiber alignment and performance. Using improved connector technology to reduce the number of steps involved in polishing will not only simplify and speed installation but can help to increase overall system performance.



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