

CASE STUDY



Advanced shear bolt connection system



The Elastimold™ advanced shear bolt connection system provides a highly reliable solution for 600 A and 900 A elbow connectors that helps reduce the likelihood of installation error with the shear bolt connector’s range-taking capability.

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01 Installed shear
bolt connector

Challenge

Many utilities are now installing more underground systems, as well as expanding those they already have and increasing the system loads from 200 A to 600 A current rating applications. These larger loads require a 600 A elbow connector and, typically, larger-sized conductors. The traditional contact used is a compression lug requiring a specified-ton compression tool and die, a specified number of crimps and proper crimping technique for installation. The chances for failure are high if the correct sized lug is not used to match the size of the conductor or if the correct compression tool is not used with the correct die. In addition, the contact is likely to overheat beyond the rated specifications if the compression lug is not properly crimped. Larger-ton compression tools can be costly, as well as heavy and bulky for transporting to the installation site.

Solution

The Elastimold advanced shear bolt connection system provides a reliable solution for 600 A elbow connectors that helps reduce the opportunity for human error while simplifying and speeding installation. Compatible with 600 A and 900 A current rating applications, the shear bolt connector is rated and tested with all 600/900 A IEEE 386 separable connectors, including the T-body elbow connector, vault stretcher and straight receptacle for 15 kV, 25 kV and 35 kV voltage systems. It is available in a range-taking selection of five sizes from #2 AWG to 1500 kcmil conductors, both aluminum and copper. This range-taking capability helps to substantially reduce the chance of accidentally installing the wrong connector.

In contrast to traditional compression lugs, only a standard wrench is needed to install the Elastimold advanced shear bolt connection system — and to further increase the speed of installation, an impact wrench can be used. No dies or pneumatic compression tools are required.



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01 Elastimold advanced shear bolt connection system

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02 Shear bolt

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03 600/900 A elbow and shear bolt

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04 Shear bolt connector family

Installation of the advanced shear bolt connection system is simple. **Note: The circuit must be de-energized before installation.** Wire brush the conductor to break up the oxide layer, and fully insert the conductor into the shear bolt connector barrel. Start with the bolt farthest from the connector head and work up, aligning the contact to the equipment bushing for proper placement. Apply torque alternating among the bolts until all bolt heads shear off automatically at the pre-set torque value.

This simple, reliable solution leaves a smooth, flush finish with no protruding or sharp edges to injure personnel or damage cables or equipment. There's no need for filing or aluminum tape, plugs or any extra components.

Conclusion

The Elastimold advanced shear bolt connection system provides a highly reliable solution for 600 A and 900 A elbow connectors that helps reduce the likelihood of installation error with its range-taking capability. The shear bolt connector also simplifies and speeds installation by requiring only a standard wrench and leaving a smooth finish. It does not require large compression tools or dies nor is there any need for filing or any extra components that can increase the time and complexity of installation.