SOLO HD® Single-Die HIGH-TEMPERATURE COMPRESSION SYSTEM

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New developments in transmission compression technology are limited due to the success and reliability of the standard two-die compression systems available. Most full-tension compression accessories suitable for elevated conductor temperatures require two sizes of dies for installation, as well as field-injection of filler compound. Removing adverse installation steps promotes risk reduction and grid protection, reinforcing new grid-hardening programs. Creating more reliable and sustainable transmission accessories supports grid modernization initiatives. A compression system that involves only a single die set without requiring filler compound would simplify power transmission line construction.

With a continual need for new construction and replacement of existing aerial conductors, in conjunction with a new generation of linemen, efficiency is critical for installation – including speed, consistency, and reliability. Grid modernization and hardening are paramount in new construction planning, and AFL remains at the forefront in the design and application of conductor accessories. The

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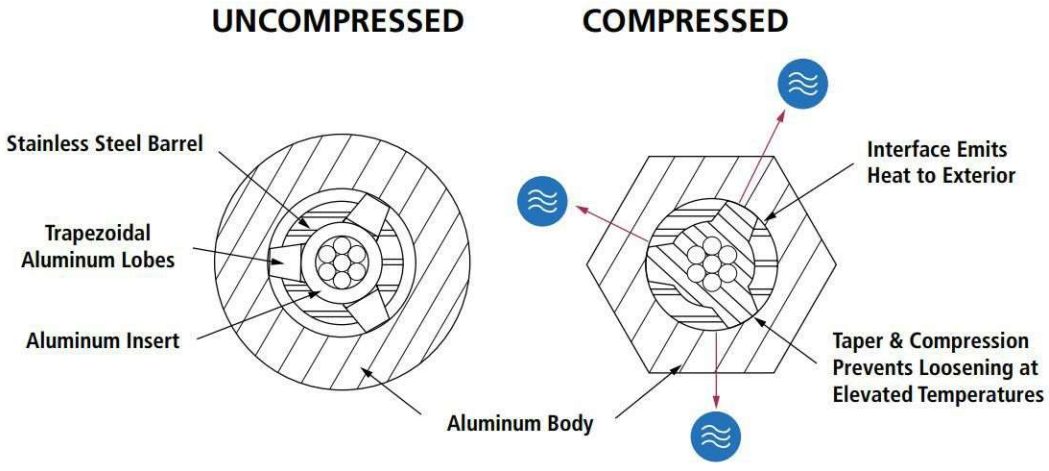
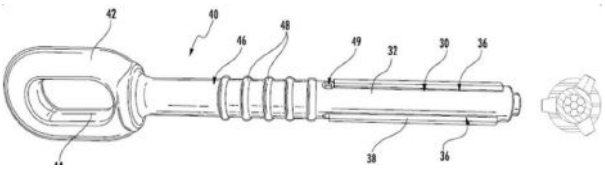
American National Standards Institute (ANSI)-qualified AFL SOLO HD® new compression system utilizes a specialized core grip to eliminate speculation from the compression process, removing obstacles and providing a consistent and quality installation.

Benefits of AFL SOLO HD® include:

- Half the Installation Time – An innovative core grip system allows one Aluminum Hex (AH) die set to compress the outer aluminum barrel, gripping both the steel core as well as the aluminum stranding.
- No Compound Required—By creating a practically void-free compression, rejecting ingress of water, and using stainless steel to





SOLO HD CORE GRIP SYSTEM

eliminate the exposure of raw steel after galvanized steel compression, thereby eliminating rust and corrosion, AFL has removed variability in the amount of compound being placed in each connector.

- Joints Travel Over Sheaves—Enhancing the speed of installation, the high-strength construction of full tension joints can travel through sheaves without impact to the performance of the connector, allowing for more conductors to be strung from a single location.
- Same Install Method—With no new tools required, installation crews do not require training on new compression tools.
- One Connector—Assembly can be used for both ACSS and ACSR type conductors, eliminating the need for multiple part numbers, consolidating inventory management, and reducing sourcing errors.
- Same Compression Die Set—The AH die size remains the same as that of the standard AFL two-die system used today and eliminates the need for the Steel Hex dies altogether.
- Same Compression Tools—By using the same compression pumps and presses, AFL does not require the need for a large investment in both the tools and training.

The SOLO HD® single-die high temperature compression system has passed all requirements of ANSI C119.4-2016. These results qualify the single-die compression connector system for use on conductors with operating temperatures up to 250°C. SOLO HD® is mechanically and electrically equivalent to standard two-die full tension compression accessories. The SOLO HD® single-die system enables quick installation and high temperature operation, while the full-tension joint is capable of traveling over sheave wheels without bending the splice body or damaging conductor stranding.

The SOLO HD® compression system provides a quicker full-tension compression accessory installation, particularly for applications requiring elevated conductor temperatures. Filler compound is not required due to the use of stainless steel in the specialized core assembly design, and the solid mass created when the dead end and splice assemblies are fully compressed. With filler compound eliminated, and only one AH die size required for applications up to 250°C – the resulting decrease in compression installation errors adds certainty to project installation and longevity of the power transmission line system.

Click here to read the complete SOLO HD® white paper, which covers the following topics:

1. Introduction
2. Compression Installation Techniques
3. Existing Technology for Elevated Temperatures
4. SOLO HD® Performance Requirements
5. SOLO HD® Design Theory
6. SOLO HD® Testing and Results ■