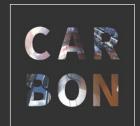
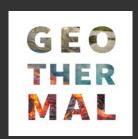
# Alternative Energy







As our industry works toward a future of decarbonization, our product portfolio is well equipped to support efforts in geothermal, carbon capture and storage and hydrogen production. Structural, conductor and surface casings are critical to preventing collapse, supporting the isolation of the annulus and withstanding external elements and pressures of all wells. Recognized as the leader in large outer diameter (OD) casing technology, our integral wedge thread product lines have served alternative energy markets for decades.

## Built on experience. Built to last.



#### XLF 20- to 48 in. Integral wedge thread connector

Featuring a true flush inner diameter (ID) and OD, a dual-seal design with an internal metal-to-metal primary pressure seal and a tapered dovetail wedge thread secondary thread-fit seal. Makes up in three turns and run with PDL lifting devices.



XLC-S
20- to 48 in.
Integral wedge
thread technology

Featuring a true flush ID and OD, a dual-seal design with tapered dovetail wedge thread primary thread-fit seal, and a secondary external metal seawater exclusion seal. Makes up in three turns and run with PDL lifting devices.



XLW-S 20- to 48 in. OD and up to 1.00- in. wall thickness

Unique gas-tight hybrid integral wedge thread technology featuring a lift shoulder for the weld-on box, an integrally threaded pin providing a true flush ID, an internal metal-to-metal primary pressure seal, thread-fit secondary pressure seal, and three turn makeup without a manual



anti-rotation device.

### XCalibur 16- to 24 in. threaded and coupled gas-tight connector

Suitable for alternative energy and NACE applications. Featuring double start hooked threads, integrally threaded pins for a flush ID profile, a shouldered box coupling, and a gas-tight metal-tometal primary pressure seal.

#### **Geothermal use case**

Thermal cycling has always been a 'hot' topic for geothermal companies. Our integral wedge thread XLF connectors have been installed in several wells with recorded temperatures between 150°C and 180°C (300°F and 356°F) in the top hole section where casings were subjected to high compression loading as a result of thermal expansion forces. During production, the surface casings in the well were heated via conduction from inner production fluids up to 280°C (536°F). Injection testing showed that our XLF product line maintained its sealing ability after 7 years of thermal cycling.

