XLW Connectors

XLW large-bore casing connectors are a unique hybrid connector with integral pin threads and a weld-on box connector. Wedge thread technology and a metal-to-metal primary pressure seal provide reliable performance under extreme loading conditions.

XLW connectors deliver a robust set of performance features for challenging onshore and offshore wells: full pipe body structural strength, full pipe body pressure ratings, and wedge thread technology. XLW connectors are ideally suited for critical casing strings where both pressure ratings and structural strength are design drivers.

The XLW connector features a flush ID profile and integral lift shoulder on the box which makes for easy running and handling on the rig. The tapered wedge thread design provides for deep stabbing, low-torque spin-up, and fast make-up times. XLW connectors, like other XL Systems wedge thread connectors, do not require a mechanical anti-rotation device to prevent unintended connector back-off.

The XLW connector is an adaptation of XL Systems highly successful XLF connector. Both connectors have demonstrated excellent performance in a wide range of challenging onshore and offshore well construction operations.

XLW connectors have more than 20 years of successful field service history including extensive experience running riserless in deepwater subsea wells.

XLW connectors are available in

20- to 48-inch

sizes

for onshore and offshore conductor and surface casing applications

Typical Applications

- Heavily loaded surface casing strings
- Deepwater casing strings run in open water
- Conductors for subsea wells
- Casing for deviated wells
- Drilling with casing

XLW Connectors

Unique Features and Benefits

Metal-to-metal seal

The XLW connector primary pressure seal is a metal-to-metal seal on the ID side of the threads. This seal is intended for sealing liquid pressure.

Dual seal design

In addition to the primary metal seal, the XLW wedge thread design provides a secondary thread-fit seal.

100% pipe body strength

XLW connector strength meets or exceeds pipe body for all strength ratings: tension, compression, bending, internal pressure, and external pressure.

Hybrid design

XLW pin connectors are integral-threaded directly on the pipe body. XLW box connectors are machined from forged rings and welded to the pipe body.

Wedge thread technology

Wedge thread connectors have unique make-up and performance characteristics which enable robust and reliable field performance: deep-stabbing, low-torque spin-up, slim connector profiles, high strength efficiency, and high torque resistance.

Robust field service history

XLW connectors have more than 20 years of successful field service history in demanding offshore projects. Multiple major operators have adopted XLW as a standard connector for 20- and 22-inch casing sizes for deepwater subsea wells.

No mechanical anti-rotation device

XL System wedge thread connector designs including XLW do not require mechanical anti-rotation devices. Make-up torque energy stored as interference over the full wedge thread length prevents unintended connector back-off.

Visual make-up indicator

A knurled band on XLW pin connectors provides a clear indication that the proper make-up position is achieved.

Built on experience

The XLW connector design inherits over 35 years of XL Systems experience designing, manufacturing, and running large-bore wedge thread connectors.

20- to 48-inch Sizes

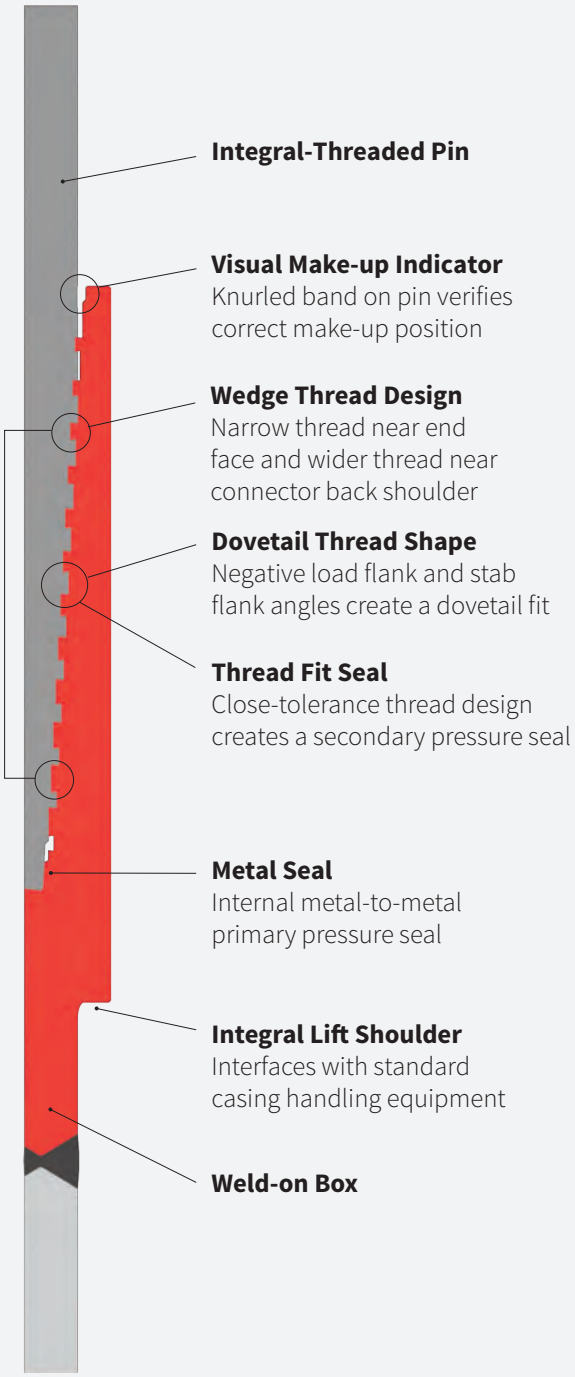
XLW connectors are designed for robust and reliable performance in demanding onshore and offshore surface casing, liner string, and conductor applications. The connector wedge thread design provides for easy handling and fast connector make-up on the rig.

The primary pressure seal for XLW connectors is a metal-to-metal seal on the ID side of the threads. This seal is rated at full pipe body pressure for liquid service. A separate product, the XLW-GT connector, is designed and tested for sealing gas pressure. XLW connectors have a secondary thread-fit pressure seal.

XLW connectors match full pipe body structural strength in a compact connector profile. Wedge thread technology eliminates the need for a thick torque shoulder, simultaneously providing robust connector strength and generous ID and OD clearances. XLW connectors feature a true flush ID profile in all sizes and an integral lift shoulder on the OD of the box connector.

The XLW thread design features a dovetail thread shape with negative load flank and stab flank angles. This geometry provides for smooth load transfer across the thread interface and prevents thread jump-out failures under extreme overload conditions.

XLW connectors make-up in approximately 3 turns from stab to full make-up and do not require a mechanical anti-rotation device to prevent unintended connector back-off.



Connector Performance Data Sheets

XL Systems maintains a library of connector performance data sheets or 'spec sheets' for all of our connector products on the nov.com website. Select the **Specs Direct** link from the XL Systems homepage at **nov.com/xlsystems**. Pipe and connector performance data change from time to time and users are encouraged to obtain up-to-date product data for each project.

XLW and XLW-GT Non-Interchangeability

It is important to emphasize that XLW and XLW-GT connectors are not interchangeable and will not thread together. Users are cautioned to segregate XLW and XLW-GT connector inventories to prevent field problems.

Connector Material Grades

XLW pin connectors are integral-threaded on the pipe body. XLW box connectors are machined from forged rings produced to NOV XL Systems material specifications in three primary grades: M70, M80, and M95. The table below shows recommended connectors grades matched to API 5L pipe grades. Other standard connector grades with higher strength or special alloying are available.

Connector Grade	Connector Yield Strength	API 5L Pipe Grade					
		X52	X56	X60	X65	X70	X80
M70	70.0 ksi = 483 MPa	R	R	R	R	R	NR
M80	80.5 ksi = 555 MPa	O	O	O	O	O	R
M95	95.0 ksi = 655 MPa	O	O	O	O	O	R

R — Recommended pipe and connector grade combination

O — Optional grade combination for higher connector strength

NR — Not recommended

Field Service Procedures

See the following XL Systems field service procedures for additional information on running and handling pipe with XLW connectors:

FSPXL0007 Wedge thread connector storage, inspection, and repair

FSPXL0012 XLW & XLW-GT connector field service procedure

FSPXL0019 Approved thread compounds