

# PREMIUM CONNECTIONS

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Premium and Semi-Premium connections are a class of high-performance thread profiles that are used in today's more sophisticated completions. Premium threads are available in a number of configurations and are typically designed to provide performance beyond standard API connections.

***Benoit***<sup>®</sup>

# INTEGRAL JOINT CONNECTIONS

Integral connections are designed to perform at 30% to 100% of the tubular body strength. They can use the original tubular geometry or they can also be mechanically upset to provide more cross-sectional strength. They are generally used where wellbore clearance is critical.

## FLUSH

Uses original tubular geometry and exhibits strengths of 30% to 60% of pipe body.

## INTEGRAL UPSET

Tubular ends are upset at high temperatures to provide enough geometry to achieve 90% to 100% of tubular body strength.

## SEMI-FLUSH

Ends of the tubular are cold deformed to improve the connection strengths to 60% to 90% of the pipe body.

## PREMIUM UPSET

Tubular ends are heavily upset at high temperatures to provide enough geometry to achieve 90% to 115% of tubular body strength.



## FLUSH

True flush joint connections are designed to ensure that the connection ODs and IDs are the same as the original tubular body. Used predominantly in special clearance applications like liners, the flush joint connections exhibit strengths of 30% to 60% of the pipe body.

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**BEN FJ**



## SEMI-FLUSH

Semi-flush joint connections are mechanically expanded on the box end and swaged on the pin end to provide a geometry that strengthens the connection. The connection's OD is slightly larger than the tubular body.

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## INTEGRAL UPSET

Utilizing smaller in diameter upsets, yet longer than API upsets, these connections are designed to perform at 100% of the pipe body strength while providing better clearance than threaded and coupled connections. A uniform ID allows for lining the connection against corrosion.

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**BEN EUI BEN EUI-PR BEN EUI-FGL**



## PREMIUM UPSET

Tubular ends are heavily upset at high temperatures to provide enough geometry to achieve 90% to 115% of tubular body strength. The two-step thread design helps eliminate cross-threading and prevents damage to the thread during stabbing and impact loading.

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**BENOIT BTS-4 BENOIT BTS-6 BENOIT BTS-8**

# THREADED & COUPLED CONNECTIONS



Threaded and coupled connections are designed to perform at 100% of the tubular body strength. They use the original tubular geometry and employ a larger diameter coupling to ensure connection strength.

## PREMIUM

Premium threaded and coupled connections use metal-to-metal seals to ensure both liquid and gas sealability. Most use proprietary thread forms to enhance both the tension and compression efficiencies.

## SEMI-PREMIUM

Semi-Premium threaded and coupled connections have no metal-to-metal seals within their design and are available in either proprietary or API thread forms. Engineered for enhanced torque versus standard API connections, their designs vary depending on coupling design.



## PREMIUM

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## SEMI-PREMIUM PIN SHOULDER

Semi-Premium threaded and coupled connections have no metal-to-metal seals. Pin shoulder designs utilize contact between the tubular pin noses to generate improved torque over standard API connections.

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## PREMIUM SPECIAL CLEARANCE COUPLING

Modifications can be made to the coupling of premium threaded and coupled connections to allow operation in very slim-hole wells, yet maintain the 100% tension and compression efficiencies required to ensure matched tubular body strength.

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## SEMI-PREMIUM COUPLING SHOULDER

Coupling shoulder designs utilize heavier walled couplings to ensure contact between the tubular pin nose and a coupling torque shoulder. Both forms of semi-premium connections are available with either proprietary threads or API BTC compatible threads depending on coupling design.

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**BEN TC**



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