

# Premium Connections

for Demanding Environments



 **Tenaris**Hydril

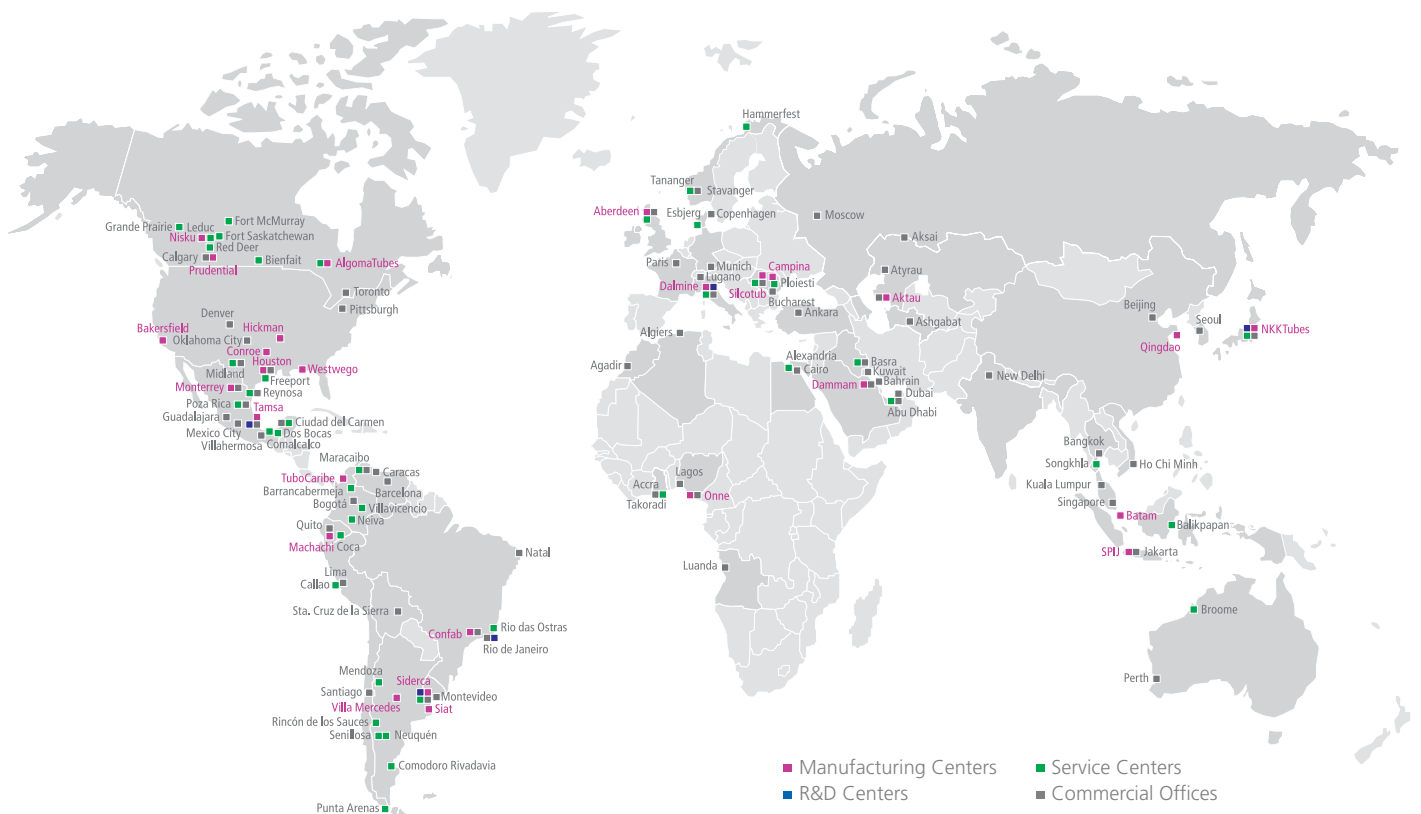


# TenarisHydril

TenarisHydril offers outstanding premium connection design and technology worldwide. With a comprehensive range of high performance products backed by an extensive global field service network and licensed threading shops, we develop solutions to meet the needs of any E&P operations.

TenarisHydril premium connections are provided and supported by Tenaris, a leading manufacturer and supplier of steel tubes and integrated tubular services to the world's energy industry.

For further information please visit us at [www.tenaris.com](http://www.tenaris.com)



# Application Guide

DEEP WATER	
CONDUCTOR AND SURFACE CASING	Weld-on Connector BlueDock®
	Threaded & Coupled Blue® Quick Seal (*) ERTM
INTERMEDIATE CASING, LINERS AND TIE-BACKS	Threaded & Coupled Blue® Blue® Max (*)
	Integral Semi Flush Wedge 623® (*) Wedge 523® / 521® Blue® Near Flush
	Integral Flush Wedge 513® / 511®
	Threaded & Coupled Blue® Blue® Max (*) Blue® Heavy Wall (*) Wedge 563®
PRODUCTION CASING / LINERS, TIE-BACKS AND TUBING	Integral Semi Flush Wedge 623® (*) Wedge 523® Blue® Near Flush
	Integral Flush Wedge 513®
	Threaded & Coupled Blue® Riser
	Threaded & Coupled Blue®
TOP-TENSIONED / DRILLING RISER	Threaded & Coupled Blue® Riser

SHALLOW WATER	
CONDUCTOR AND SURFACE CASING	Weld-on Connector BlueDock®
	Threaded & Coupled Blue® Quick Seal (*) ERTM
INTERMEDIATE CASING, LINERS AND TIE-BACKS	Threaded & Coupled Blue® Wedge 563®
	Integral Semi Flush Wedge 623® (*) Wedge 523® / 521® Blue® Near Flush
	Integral Flush Wedge 513® / 511®
	Threaded & Coupled Blue® Wedge 563®
PRODUCTION CASING / LINERS, TIE-BACKS AND TUBING	Integral Semi Flush Wedge 623® (*) Wedge 523® Blue® Near Flush
	Integral Flush Wedge 513® / 511®
	Threaded & Coupled Blue®
	Threaded & Coupled Blue®

HP/HT & DEEP WELLS	
CONDUCTOR AND SURFACE CASING	Weld-on Connector BlueDock®
	Threaded & Coupled Blue® Quick Seal (*) ERTM
INTERMEDIATE CASING, LINERS AND TIE-BACKS	Threaded & Coupled Blue® Blue® Max (*)
	Integral Semi Flush Wedge 623® (*) Wedge 523® Blue® Near Flush MACII™
	Integral Flush Wedge 513® / 511®
	Threaded & Coupled Blue® Blue® Max (*) Blue® Heavy Wall (*) Wedge 563®
PRODUCTION CASING / LINERS, TIE-BACKS AND TUBING	Integral Semi Flush Wedge 623® (*) Wedge 523® Blue® Near Flush
	Integral Flush Wedge 513®
	Threaded & Coupled Blue®
	Threaded & Coupled Blue®

SHALES	
PRODUCTION CASING / LINERS AND TUBING	Threaded & Coupled Blue® Wedge 563® Wedge XP™ TXP® Buttress (**)
	Integral Semi Flush Wedge 625® Wedge 521®
	Integral Flush Wedge 513®
	Threaded & Coupled Blue®

THERMAL (SAGD & CSS)	
SURFACE CASING	Threaded & Coupled ERTM
	Integral Semi Flush Wedge 521®
INTERMEDIATE CASING AND LINERS	Threaded & Coupled Blue® Wedge 563®
SLOTTED LINERS AND TUBING	Threaded & Coupled Blue® Thermal Liner
	Integral Flush Wedge 511®

CASING WHILE DRILLING	
SURFACE CASING	Threaded & Coupled ERTM
INTERMEDIATE CASING AND LINERS	Threaded & Coupled Blue® Wedge 563® Wedge XPTM TXP® Buttress ERTM Integral Semi Flush Wedge 523® / 521® Integral Flush Wedge 513® / 511®
PRODUCTION CASING / LINERS AND TUBING	Threaded & Coupled Blue® Wedge 563® Wedge XPTM ERTM Integral Semi Flush Wedge 523® / 521® Integral Upset Wedge 533® Integral Flush Wedge 513® / 511®

WORKSTRINGS	
WORKSTRINGS AND TUBING	Threaded & Coupled Wedge 563® Integral Upset Wedge 533® Integral Flush Wedge 511®

HORIZONTAL & EXTENDED REACH WELLS	
INTERMEDIATE CASING AND LINERS	Threaded & Coupled Wedge 563® Blue® Integral Semi Flush Wedge 523® / 521® Integral Flush Wedge 513® / 511®
PRODUCTION CASING / LINERS AND TUBING	Threaded & Coupled Wedge 563® Wedge XPTM Blue® Integral Semi Flush Wedge 625® Wedge 523® / 521® Integral Flush Wedge 513® / 511®

GEOTHERMAL	
SURFACE CASING	Threaded & Coupled ERTM
INTERMEDIATE CASING AND LINERS	Threaded & Coupled Blue® TXP® Buttress ERTM Integral Semi Flush Wedge 521® Integral Flush Wedge 511®
PRODUCTION CASING / LINERS AND TUBING	Threaded & Coupled Blue® ERTM Integral Semi Flush Wedge 521® Integral Flush Wedge 511®

DRIVING INSTALLATION	
CONDUCTOR AND SURFACE CASING	Weld-on Connector BlueDock®

CORROSION PROTECTION & ID COATING	
TUBING	Threaded & Coupled Wedge 563® - CB (Corrosion Barrier) Integral Upset Wedge 533® - CB (Corrosion Barrier)

OTHER APPLICATIONS	
CONDUCTOR AND SURFACE CASING	Weld-on Connector BlueDock® Threaded & Coupled Blue® Quick Seal (*) ERTM
INTERMEDIATE CASING AND LINERS	Threaded & Coupled Blue® ERTM
PRODUCTION CASING / LINERS AND TUBING	Threaded & Coupled Blue® Blue® Thermal Liner ERTM Integral Semi Flush Wedge 523® / 521® Integral Flush Wedge 513® / 511®

(\*) Comes with Dopeless® Technology.  
(\*\*) Compatible with API Buttress.

**NOTE:** Dopeless® technology alternative is available for Blue® and Wedge™ technologies, as well as for TenarisHydril ERTM and TenarisHydril MACII™. This application guide is only a recommendation. Contact a Tenaris technical specialist before selecting connections. In addition to this guide, most connections can perform in different environments and under load modes not listed here.

# Product Characteristics

## THREADED & COUPLED



### Blue®

Available in sizes from 2 3/8" to 13 5/8"

#### FEATURES

- Designed for high performance and versatility.
- ISO 13679 CAL IV tested and field proven.
- Parabolic seal contact pressure profile minimizes galling risk while improving sealing performance stability.

#### APPLICATIONS

- **HP/HT & Deep Wells**
- **Deep Water**
- **Shallow Water**
- **Horizontal & extended reach wells**
- **Shailes**
- **Casing while drilling**
- **Thermal (SAGD & CSS)**
- **Geothermal**
- Surface & intermediate casing
- Production casing, tie-backs & liners
- Tubing

#### OPTIONS

- Dopeless® technology
- Matched strength
- Special bevel
- Special clearance



### Blue® Max

Available in sizes from 7" to 14"

#### FEATURES

- Designed for HP/HT applications that demand 100% pipe body performance on heavier wall pipe.
- Compliant with the API RP 5C5 CAL IV standard.
- 100% ratings matching the pipe body's performance in terms of tension, compression, internal and external pressures.
- Parabolic seal contact pressure profile minimizes galling risk while improving sealing performance stability.
- Easier and faster make-up provided by the twin start thread.
- Comes with Dopeless® technology.

#### APPLICATIONS

- **HP/HT & Deep Wells**
- **Deep Water**
- Intermediate casing
- Production casing
- Tie-backs
- Liners

#### OPTIONS

- Special clearance



### Blue® Heavy Wall

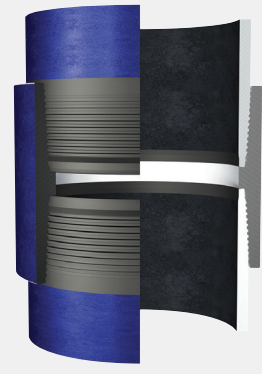
Available in sizes from 7 5/8" to 14"

#### FEATURES

- Designed for Deep Well and HP/HT applications demanding heavy wall pipe with 100% pressure rated seals and enhanced performance.
- Successfully certified in accordance with ISO 13679 CAL IV and continues to be tested under the API RP 5C5 CAL IV protocol.
- Sphere-to-cone seal geometry provides a stable sealing performance under high combined loads.
- 100% pipe body performance in terms of internal and external pressure.
- 80% tension and compression ratings (highest compression rating in the market for the segment).
- Comes with Dopeless® technology.

#### APPLICATIONS

- **HP/HP & Deep Wells**
- **Deep Water**
- Intermediate casing
- Production casing
- Tie-backs



### Blue® Quick Seal

Available in sizes from 18" to 22"

#### FEATURES

- Designed for large OD surface casing that requires a gas-tight seal and fast make-up, for operations potentially facing shallow gas.
- Tested in accordance with the API RP 5C5 CAL I and additional elevated temperature evaluations.
- 100% pipe body structural performance.
- Comes with Dopeless® technology.

#### APPLICATIONS

- **HP/ HT & Deep Wells**
- **Deep Water**
- **Shallow Water**
- Surface casing





### Blue® Riser

Available in sizes from 7 5/8" to 16"

#### FEATURES

- High fatigue resistance design: performance comparable to the pipe body.
- First engaged thread with improved fatigue performance due to the innovative R-Arch™ design.
- Double elliptical groove to improve connection fatigue resistance.
- No fretting fatigue due to external seal design.
- Gas-tight internal seal.
- Tested sealability under the API RP 5C5 CAL-IV protocol.
- Tested for fatigue performance.

#### APPLICATIONS

- **Deep Water**
- Top-Tensioned risers
- High pressure drilling risers



### Blue® Thermal Liner

Available in sizes from 2 3/8" to 10 3/4"

#### FEATURES

- Used for slotted pipes to be utilized on heavy oil and thermal operations like SAGD and CSS.
- Fast and easy make-up with minimum cross-threading risk.

#### APPLICATIONS

- **Thermal (SAGD & CSS)**
- Slotted liners & tubing

#### OPTIONS

- Dopeless® technology
- Matched strength
- Special clearance
- Special bevel



### Wedge 563®

Available in casing sizes from 5" to 13 5/8"  
Available in tubing sizes from 2 3/8" to 7"

#### FEATURES

- 100% ratings in tension and compression provided by the dovetail threads.
- 100% collapse rate created by full form contact of the dovetail threads.
- Wedge 563® is interchangeable with Wedge 533® and Wedge 553®.

#### APPLICATIONS

- **HP/HT & Deep Wells**
- **Deep Water**
- **Shallow Water**
- **Horizontal & extended reach wells**
- **Shales**
- **Casing while drilling**
- **Workstrings**
- **Thermal (SAGD & CSS)**
- **Corrosion protection & ID coating**
- Intermediate Casing
- Production casing, tie-backs & liners
- Tubing

#### OPTIONS

- Dopeless® technology
- Matched strength
- Recess free bore (RFB)
- CB® ring

Sizes 2 3/8" to 4 1/2" have a Recess-Free Bore coupling (RFB option) as standard. Sizes 5" to 7" must be specified as RFB option if a Recess-Free Bore coupling is required.



### Wedge XPT™

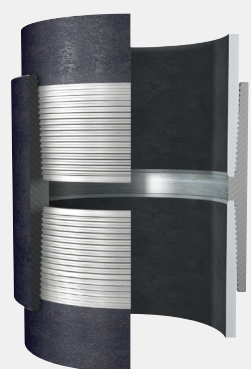
Available in sizes from 4 1/2" to 5 1/2"

#### FEATURES

- Wedge thread profile providing maximum over torque capacity to manage longer laterals.
- Pin-to-Pin back up mechanism granting additional torque capability to handle rotation.
- Lower threads per inch profile (3 vs. 5 TPI of a typical BTC modified) rugged coarse thread design and deep stabbing allow for speed of installation, enhancing the performance of an industrial drilling approach.
- 100% compression
- 100% tension
- Standard bevel of 20°.

#### APPLICATIONS

- **Shales**
- **Casing while drilling**
- Production casing and liners



### ERT™

Available in sizes from 7" to 24 1/2"

#### FEATURES

- Easy stabbing, fast make-up with minimum cross threading risk.

#### APPLICATIONS

- **HP/HT & Deep Wells**
- **Deep Water**
- **Shallow Water**
- **Casing while drilling**
- **Thermal (SAGD & CSS)**
- **Geothermal**
- Surface & intermediate casing

#### OPTIONS

- Dopeless® technology
- Matched strength
- Special clearance
- Special bevel

## THREADED & COUPLED



### TXP® Buttress

Available in sizes from 4 1/2" to 16"

#### FEATURES

- API Buttress compatible
- 100% tension
- Enhanced structural capacity:
  - 100% PBYS in compression
  - Bending same as pipe body
- Extra torque capability
- Positive torque shoulder
- Enhanced ID flow
- Make-up repeatability
- Standard Bevel of 20°

#### APPLICATIONS

- **Shales**
- **Casing while drilling**
- **Geothermal**
- Intermediate Casing
- Production casing, liners & tubing

#### OPTIONS

- Special clearance
- Seal ring
- Regular API

## INTEGRAL SEMI FLUSH



### Wedge 623®

Available in sizes from 7" to 16 1/2"

#### FEATURES

- Complies with the API RP 5C5 CAL-IV protocol and meets additional operator requirements for survival loads. Wedge 623® provides validated reliability under combined loads.
- Internal and external pressure seals (metal-to-metal) in line with API RP96 for deep water applications.
- Outstanding compression efficiency of 80 to 86%, equivalent to the performance of TenarisHydril Wedge 523® connection.
- Comes with Dopeless® technology.

#### APPLICATIONS

- **HP/HT & Deep Wells**
- **Deep Water**
- **Shallow Water**
- Intermediate casing & liners
- Production casing, liners & tie-backs.



### Wedge 625®

Available in sizes from 4 1/2" to 7"

#### FEATURES

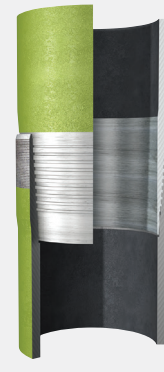
- 90% ratings in tension provided by the vanishing threads at the pin OD and the box ID (truly exceptional for a semi-flush integral connection).
- Over 94% ratings in compression provided by the vanishing threads at the pin OD and the box ID.
- 100% burst and collapse ratings provided by the two-way metal to metal mid seal that is locked by the adjacent dovetail Wedge threads and reinforced by the step-to-step Wedge.
- 90% ratings in bending provided by both Wedge threads and reinforced by the step-to-step Wedge design.
- Box OD approximately 5% over pipe body.

#### APPLICATIONS

- **Shales**
- **Horizontal & extended reach wells**
- Production casing, liners & tubing

#### OPTIONS

- Dopeless® technology



### Wedge 523®

Available in sizes from 7" to 16"

#### FEATURES

- High compression rating provided by the reverse angle stab flank of the threads makes the Wedge 523® suitable for the most severe compression applications. Compression strength exceeds tension strength.
- 100% collapse rated metal-to-metal seal.
- Wedge 523® is interchangeable with Wedge 513®.

#### APPLICATIONS

- **HP/HT & Deep Wells**
- **Deep Water**
- **Shallow Water**
- **Horizontal & extended reach wells**
- **Casing while drilling**
- Intermediate casing & liners
- Production casing

#### OPTIONS

- Dopeless® technology





### Wedge 521®

Available in sizes from 4" to 18 5/8"

#### FEATURES

- High compression rating provided by the reverse angle stab flank of the dovetail threads makes the Wedge 521® suitable for the more severe compression applications.
- Compression rating is typically 80–89% of the pipe body, and is usually higher than the tension rating.
- Thread form provides 100% pipe body internal yield and collapse strength.
- Excellent for large diameter pipe, the dovetail thread eliminates thread pull-out, even on thin wall pipe.

#### APPLICATIONS

- **Deep Water**
- **Shallow Water**
- **Horizontal & extended reach wells**
- **Shales**
- **Casing while drilling**
- **Thermal (SAGD & CSS)**
- **Geothermal**
- Intermediate casing
- Production casing & liners
- Surface Casing

#### OPTIONS

- Dopeless® technology



### Blue® Near Flush

Available in sizes from 5" to 13 5/8"

#### FEATURES

- Designed for high performance, structural efficiency and maximum clearance.
- ISO 13679 CAL IV tested and field proven.
- Box OD only 2–3% larger than pipe body (1–2% larger than API maximum) permits use in tight clearance situations.

#### APPLICATIONS

- **HP/HT & Deep Wells**
- **Deep Water**
- **Shallow Water**
- Intermediate casing & liners
- Production casing, liners, tie-backs & tubing

#### OPTIONS

- Dopeless® technology



### MACII™

Available in sizes from 5 1/2" to 16"

#### FEATURES

- High performance achieved by machining pin and box on formed ends.
- Suitable alternative for heavy wall applications with reduced clearances.

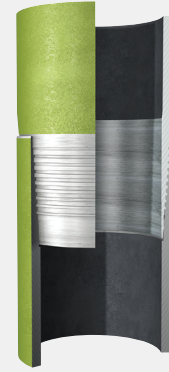
#### APPLICATIONS

- **HP/HT & Deep Wells**
- Intermediate casing, liners & tie-backs
- Production casing & liners

#### OPTIONS

- Dopeless® technology

## INTEGRAL FLUSH



### Wedge 513®

Available in sizes from 4 1/2" to 16"

#### FEATURES

- High compression rating provided by the reverse angle stab flank of the dovetail threads makes the Wedge 513® suitable for all liner applications. Compression strength exceeds tension strength.
- 100% internal pressure rated metal seal maintains gas sealing capability under high axial loads.
- 100% collapse rated metal-to-metal seal.
- Wedge 513® is interchangeable with Wedge 523®.

#### APPLICATIONS

- **HP/HT & Deep Wells**
- **Deep Water**
- **Shallow Water**
- **Horizontal & extended reach wells**
- **Shales**
- **Casing while drilling**
- Intermediate casing & liners
- Production casing & tubing

#### OPTIONS

- Dopeless® technology

## INTEGRAL FLUSH



### Wedge 511®

Available in sizes from 2 1/16" to 18 5/8"

#### FEATURES

- High compression rating provided by the reverse angle stab flank of the dovetail threads makes the Wedge 511® suitable for use in a variety of applications requiring high clearance, high compression & torque capability. Compression strength exceeds tension strength.

#### APPLICATIONS

- HP/HT & Deep Wells
- Deep Water
- Shallow Water
- Horizontal & extended reach wells
- Casing while drilling
- Workstrings
- Thermal (SAGD & CSS)
- Geothermal
- Intermediate casing & liners
- Production casing, slotted liners & tubing

#### OPTIONS

- Dopeless® technology

## INTEGRAL UPSET



### Wedge 533®

Available in sizes from 2 3/8" to 7 5/8"

#### FEATURES

- 100% ratings for tension and bending provided by machining pin and box on hot forged internal-external upsets. Reverse angle stab flank provides 100% compression rating.
- 100% collapse rated metal-to-metal seal.
- Wedge 533® is interchangeable with Wedge 553® and Wedge 563®.

#### APPLICATIONS

- Casing while drilling
- Workstrings
- Corrosion protection & ID coating
- Tubing

#### OPTIONS

- Dopeless® technology
- CB® ring



### Wedge 553®

Available in sizes from 2 3/8" to 7 5/8"

#### FEATURES

- 100% pipe body ratings for tension and bending developed using nonupset pin end and upset box end pipe. Reverse angle stab flank provides 100% compression rating.
- Wedge 553® is interchangeable with Wedge 503®, Wedge 533® and Wedge 563®.

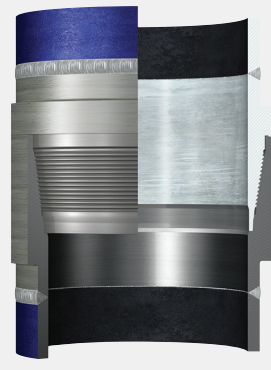
#### APPLICATIONS

- Workstrings
- Corrosion protection & ID coating
- Tubing

#### OPTIONS

- Dopeless® technology
- CB® ring

## WELD-ON CONNECTOR



### BlueDock®

Available in sizes from 18" to 38"

#### FEATURES

- 100% ratings in tension, compression and bending.
- Primary Seal Metal-to-Metal (up to 24") or Elastomeric (pre-installed, up to 38"). Optional Secondary Elastomeric Seal.
- Gas and water sealability verified by full-scale testing on 95% pipe body VME according to the API RP 5C5 CAL I protocol.
- Up to three anti-rotational keys that prevent buck-off and provide additional support to torque retention.
- High fatigue performance under bending and/or tension/compression cycling loads given by maximized radii and avoidance of stress-risers.
- Driving installation capacity verified by full scale testing.
- Dope pockets to avoid excessive dope pressure.

#### APPLICATIONS

- HP/HT & Deep Wells
- Deep Water
- Shallow Water
- Driving Installation
- Conductor and surface casing

#### OPTIONS

- External Flush
- Sea Water Exclusion Seal

# Connections Nomenclature

## TECHNOLOGY SHORT FORMS

### WEDGE SERIES

TenarisHydril Wedge 563®	TSH WEDGE 563
TenarisHydril Wedge 563® Dopeless®	TSH WEDGE 563-DOPELESS
TenarisHydril Wedge 563® Matched Strength	TSH WEDGE 563-MS
TenarisHydril Wedge 563® Corrosion Barrier	TSH WEDGE 563-CB
TenarisHydril Wedge 563® Recess Free Bore	TSH WEDGE 563-RFB
TenarisHydril Wedge 563® Wider Face	TSH WEDGE 563-WF
TenarisHydril Wedge 523®	TSH WEDGE 523
TenarisHydril Wedge 523® Dopeless®	TSH WEDGE 523-DOPELESS
TenarisHydril Wedge 521®	TSH WEDGE 521
TenarisHydril Wedge 521® Dopeless®	TSH WEDGE 521-DOPELESS
TenarisHydril Wedge 513®	TSH WEDGE 513
TenarisHydril Wedge 513® Dopeless®	TSH WEDGE 513-DOPELESS
TenarisHydril Wedge 511®	TSH WEDGE 511
TenarisHydril Wedge 511® Dopeless®	TSH WEDGE 511-DOPELESS
TenarisHydril Wedge 533®	TSH WEDGE 533
TenarisHydril Wedge 533® Dopeless®	TSH WEDGE 533-DOPELESS
TenarisHydril Wedge 533® Corrosion Barrier	TSH WEDGE 533-CB
TenarisHydril Wedge 553®	TSH WEDGE 553
TenarisHydril Wedge 553® Dopeless®	TSH WEDGE 553-DOPELESS
TenarisHydril Wedge 553® Corrosion Barrier	TSH WEDGE 553-CB
TenarisHydril Wedge 623® Dopeless®	TSH WEDGE 623-DOPELESS
TenarisHydril Wedge 625®	TSH WEDGE 625
TenarisHydril Wedge 625® Dopeless®	TSH WEDGE 625-DOPELESS
TenarisHydril Wedge XP™	TSH WEDGE XP

### BLUE® SERIES

TenarisHydril Blue®	TSH BLUE
TenarisHydril Blue® Dopeless®	TSH BLUE-DOPELESS
TenarisHydril Blue® Matched Strength	TSH BLUE-MS
TenarisHydril Blue® Special Clearance 85%	TSH BLUE-SC85 (*)
TenarisHydril Blue® Special Bevel	TSH BLUE-SB
TenarisHydril Blue® Max Dopeless®	TSH BLUE MAX-DOPELESS
TenarisHydril Blue® Heavy Wall Dopeless®	TSH BLUE HW-DOPELESS
TenarisHydril Blue® Quick Seal Dopeless®	TSH BLUE QS-DOPELESS
TenarisHydril Blue® Thermal Liner	TSH BLUE TL
TenarisHydril Blue® Thermal Liner Dopeless®	TSH BLUE TL-DOPELESS
TenarisHydril Blue® Thermal Liner Matched Strength	TSH BLUE TL-MS
TenarisHydril Blue® Thermal Liner Special Clearance 90%	TSH BLUE TL-SC90 (*)
TenarisHydril Blue® Thermal Liner Special Bevel	TSH BLUE TL-SB
TenarisHydril Blue® Near Flush	TSH BLUE NF
TenarisHydril Blue® Near Flush Dopeless®	TSH BLUE NF-DOPELESS
TenarisHydril Blue® Riser	TSH BLUE RISER

## TECHNOLOGY SHORT FORMS

### LEGACY SERIES

TenarisHydril ER™	TSH ER
TenarisHydril ER™ Dopeless®	TSH ER-DOPELESS
TenarisHydril ER™ Matched Strength	TSH ER-MS
TenarisHydril ER™ Special Clearance 85%	TSH ER-SC85 (*)
TenarisHydril ER™ Special Bevel	TSH ER-SB
TenarisHydril MACII™	TSH MACII
TenarisHydril MACII™ Dopeless®	TSH MACII-DOPELESS
TenarisHydril 3SB™	TSH 3SB
TenarisHydril 3SB™ Special Clearance 85%	TSH 3SB-SC85 (*)
TenarisHydril 3SB™ Special Bevel	TSH 3SB-SB
TenarisHydril PH4™	TSH PH4
TenarisHydril PH4™ Matched Strength	TSH PH4-MS
TenarisHydril PH4™ Corrosion Barrier	TSH PH4-CB
TenarisHydril PH6™	TSH PH6
TenarisHydril PH6™ Matched Strength	TSH PH6-MS
TenarisHydril PH6™ Corrosion Barrier	TSH PH6-CB
TenarisHydril CS®	TSH CS
TenarisHydril CS® Matched Strength	TSH CS-MS
TenarisHydril CS® Corrosion Barrier	TSH CS-CB

### TENARISXP® SERIES

TXP® Buttress	TXP BTC
TXP® Buttress Special Clearance 85%	TXP BTC-SC85 (*)
TXP® Buttress Seal Ring	TXP BTC-SR
TXP® Buttress Regular API	TXP BTC-RA

### BLUEDOCK® WELD-ON CONNECTOR (\*\*)

TenarisHydril BlueDock® Low Range 70 Elastomeric Seal	TSH BLUEDOCK LR 70 ELS
TenarisHydril BlueDock® Low Range 70 Metal-to-Metal	TSH BLUEDOCK LR 70 MTM
TenarisHydril BlueDock® Low Range 90 Elastomeric Seal	TSH BLUEDOCK LR 90 ELS
TenarisHydril BlueDock® Low Range 90 Metal-to-Metal	TSH BLUEDOCK LR 90 MTM
TenarisHydril BlueDock® High Range 70 Elastomeric Seal	TSH BLUEDOCK HR 70 ELS
TenarisHydril BlueDock® High Range 70 Metal-to-Metal	TSH BLUEDOCK HR 70 MTM
TenarisHydril BlueDock® High Range 90 Elastomeric Seal	TSH BLUEDOCK HR 90 ELS
TenarisHydril BlueDock® High Range 90 Metal-to-Metal	TSH BLUEDOCK HR 90 MTM

(\*) SC85 refers to 85% tensile efficiency, SC90 refers to 90% tensile efficiency - other alternatives may be available with a similar denomination.  
 (\*\*) Sea Water Exclusion Seal (SWS) is an optional for all the family.  
 - External Flush (EF) configurations available  
 - HR & LR refer to the Wall Thickness Range (HR: High Range; LR: Low Range). 70 & 90 refer to the Connector's SMYS (90: 90 ksi SMYS; 70: 70 ksi SMYS), specified depending on the required product performance. MTM & ELS refer to Connector's Primary Seal (MTM: Metal to Metal; ELS: Elastomeric).



For additional information, please visit  
[www.tenaris.com](http://www.tenaris.com)



Tenaris has produced this brochure for general information only. While every effort has been made to ensure the accuracy of the information contained within this publication, Tenaris does not assume any responsibility or liability for any loss, damage, injury resulting from the use of information and data herein. Tenaris products and services are only subject to the Company's standard terms and Conditions or otherwise to the terms resulting from the respective contracts of sale, services or license, as the case may be. The information in this publication is subject to change or modification without notice. For more complete information please contact a Tenaris's representative or visit our website at [www.tenaris.com](http://www.tenaris.com). This brochure supersedes TSH / PC / Version 07 / April 2015. TSH / PC / Version 08 / March 2017 ©Tenaris 2017. All rights reserved.