

API- (Tubular)

- API Standard is Stipulation Between Purchaser and Manufacturer, Containing of :
 - API-5CT ,Specification for Casing & Tubing
 - API-5D Specification for DP
 - API-5L for Line Pipe
 - API-5B for Thread & Connections
 - And API Bulletins



Manufacturing Process

- **Seamless Products** are Suitable for Deep wells and high pressure areas.

In this process the Rod will be produced from raw materials, after coming out of Furnace, Pierced by piercing machine and then goes for mandreling, polish, tests and

- **Electric Resistant Welded Products (ERW)**

In this process the tubular is made from Plates, after making plate from raw materials two steps perform on :

1-Uing Process

2-Oing Process



Manufacturing Process

- When finished Produce process of tube ,will be Quenched or tempered it and make the many tests such pressure tests ,Vinotch charpy test, HRC ...



Various Types of Steel (API)

- 1 - Carbon Steel : this group is categorized in
H-40
J-55
K-55
N-80 -this type of tube is normalized (Quenched and tempered)
- 2 - Controlled yield strength (restricted)
M-65
L-80 , type 1
L-80 , 9cr
L-80 , 13cr
C-90 , type 1
C-90 , type 2



Various Types of Steel (API)

C-95

T-95 , type 1

T-95 , type 2

- 3 - High Strength

P-110

- 4 - High Toughness

Q-125 , type 1

Q-125 , type 2

Q-125 , type 3

Q-125 , type 4



Tubular Connections

Casing & Tubing Threads

Thread is a facility to connect two joints of Casing or Tubing and should have two general specifics :

1- yield strength as nearest as pipe body (more than 85% of Pipe body's yield strength)

2- Sealing



Threader Companies

- Atlas Bradford
- Nippon Steel
- Vetco Gray Thread Connectors
- Benoit Machine , LLC
- Centron International, Inc.
- Grant Prideco
- Fiber Glass Systems ,L.P
- GB Tubular, Inc
- Halliburton Energy Services
- Hydril



Threaders

- HSC Casing
- JFE Steel / Hunting Energy Service
- JFE Steel
- Thyssen Mannesmann (V & M Tubes, Germany)
- Metal One Corp
- Tenaris
- TPS Technibtube Rohrenwerke
- Tubular Fiber Glass
- Vallourec Mannesmann (V & M Tubes France)



Threaders

- Marubeni ITOCHU Steel
- Mitsui
- Atlas Bradford
- Vetco thread connection
- Dalmine
- Siderca
- Tamsa
- PT.Citra Tubindo Tkb



API Connections

- Non-Upset --- (Tubing)
- External Upset --- (Tubing)
- Integral Joint --- (Tubing)
- LRT (LTC) --- (Tubing)
- SRT (STC) --- (Tubing)
- BTC (Standard) --- (Casing)
- BTC (Special Clearance) --- (Casing)



Benoit Machine Connections

- ✓ BTS-6
- ✓ BTS-6U
- ✓ BTS-8
- ✓ Echo/F4
- ✓ Echo/SS



Centron International

- **DHC Casing** (Upset, integral joint, resilient seal)
- **DH8C Casing** (Upset, integral joint, thread seal)
- **DHCC** (Upset, integral joint, resilient seal)
- **DHHC** (Upset, integral joint, resilient seal)



GB Tubular

- GB 3P
- GB Butt



Dalmine

- Antares
- Antares ms
- Antares ms



Grant Prideco

- Advanced NJO
- Big NJO
- FL-4S
- HD-L
- SB (special bore)
- ST-L
- TC-II
- TC-II CRA
- TC-4S
- RTS-6
- RTS-8
- SB-6
- SB-8
- ATS-E
- DWC/C
- XLC-S
- XLF

Halliburton Energy Sys.

- Oeco A & B
- Oeco C & D



Hunting Energy Services

- Big “O” Seal
- FJ-150
- Seal Lock Flush
- LTC
- Seal Loc Apex
- Seal Lock Boss
- Seal Lock HC
- Seal Lock HT
- Seal Lock XP
- Seal Lock Semi Flash
- TKC Convertible
- TKC MMS
- TKC LTC
- TKC 4040
- TS-HP
- TS-HD
- Fox Premium Connection

Fiber Glass Connections

- Aliphatic Amine Cured Epoxy (T&C 200 deg F)
- Aliphatic Amine Cured Epoxy Integral (200 F)
- Anhydride Cured Epoxy (150 F)
- Aromatic Amine Cured Epoxy (220 F)



Hydril

- PH-6
- PH-4
- Inter Lock
- CS
- Suprem LX
- Suprem CRA
- MAC II
- Series 500 Type 503
- Series 500 Type 511
- Series 500 Type 513
- Series 500 Type 521
- Series 500 Type 523
- Series 500 Type 533
- Series 500 Type 553
- Series 500 Type 563

JFE Steel

- Fox (Premium Connection)
- KS Bear



Tenaris

- Tenaris Blue
- Tenaris 3-SB
- Tenaris MS
- Tenaris MS-28
- Tenaris XT-XC
- Tenaris MS-28 XT-XC
- Tenaris HW
- Tenaris ER
- Tenaris PJD



TPS Technitube

- Techni sael
- TPS Non Upset Optiflow
- TPS External Upset Optiflow
- TPS Moltiseal TS-8/TS-8TR
- TPS Moltiseal TS-6/TS-6TR
- TPS Multiseal TS-4



VAM Family

- Sumitomo Metal Industries
- Big Omega
- Dino Vam
- New Vam
- TDS
- Vam Pro
- Vam Top
- Vam Top HC (High Compression)
- Vam Top HT (High Torque)
- Vam Top FE
- Vam Must
- Vam ACE
- Vam FJL
- Vam HW-ST
- Vam SL
- Vam SLIJ-II

Centron

- DH8C
- *Uses 4-TPI with coarse & LTC . the shallow angle form is rugged and more resistance to stab damage ; and O-Ring seal prevent fluid penetration into threads and keep dope from entering the formation in injection application.*
- *“8” Designation indicates the industry standard API 8RD threads.*
- *DHC : Same as above*



Fiber Glass System

Act integral joint

(Aliphatic amine cured epoxy) 8RD EUE, LTC, are molded for smooth sealed and corrosion resistant integral joint with ceramic and graphite reinforcement which provides lower break out torque value .precision threads use graphite as a lubricant .

Laminate handles up to 4000 psi at 200 F

ACT Integral Joint : same as above with 2000 psi at 200 F



GB

- GB-3P

3P- 3 pitch threads is a large OD thread –and-coupled connection.

It features a deep-stab and no-cross, heavy cross section provides reinforcement for make up and break out repeatability. With the API BTC treads and in sever duty is like API buttress.

- GB-Buttress

Is Gas-tight tread and coupled connection , design using the proven twin cantilever coupling concept, can provide special clearance without loss of pressure rating and its ideal for Directional and horizontal purposes.

Grant Prideco

- “Advanced” NJO”
 - Improves Compression and bending efficiency with addition of a significantly torque shoulder area .it is integral joint , metal to metal seal enhanced external pressure sealing,
- “Big “ NJO”
 - Is a proven and rugged connection with extensive success in deep high pressure and corrosive gas wells. It suitable for critical casing liner and tie-back string ; features is tow step tapered hooked tread form that eliminates jump-out also metal to metal radial seal to ensure gas tight pressure integrity.

FL-4H

- Connection is an integral joint true-Flash Connection for repair and other low pressure liner application, metal to metal internal radial flank seal , 15 deg reverse angle, it has a resilient teflon seal,

• HD-L

- Connection is a flash-OD integrity with superior metal to metal seal a robust hooked thread form that resist cross thread and jump-out , and excellent for combined loading and bending. 2 3/8" to 20".



- SB (Special Bore)

- Its an integral joint external upset with a slightly increase OD to have a finished diameter to pipe body equal ID and eliminate standard tow step connection internal restriction.

- ST-L

Is an integral joint Flash OD and ID premium tubing connection negative load flank angle , radial metal to metal seal and provide protection against internal external pressure. 15 deg tapped external for high make up torque. designed for easy stab in and fast make up.

TC-II

- Its coupled connection , features modified BTC, metal to metal radial flank seal , optional resilient teflon seal ring, 15 deg reverse shoulder torque ,smooth ID, min. Coupling OD.

DWC/C

Semi-Premium coupled connection, design features a fatigue resistance groove in the coupling to increase fatigue life along with a pin to pin torque .



•ATS-E

- Semi-premium coupled connection , with a patented seal ,robust , 3-pitch thread for 13 3/8” and 4-pitch for (7”-11 7/8”), the coupling incorporate API BTC, stock dimension.

XLC-S

- Integral wedging connection was developed for structural applications where tension and compression strength and fatigue performance dominate the string design criteria ; is available in 20” casing and larger.

Typical application for this included of : Drive pipe, conductor, platform conductors and ...



XLF

- Integral joint ,with the thread machine into the pipe wall, flush ID & OD, and dovetail thread shape is for 20” and larger sizes , intermediate , deep well, tight clearance and tieback string.



Hunting Oilfield Service (HOS)

- Big “O” Seal-Lock ,

coupled & integral connection, metal to metal seal and integral torque shoulder, 3-pitch hooked thread design, no welding needed because it is threaded on plain-end pipe.

- FJ-150

integral joint Included an ID/OD flush connection which made it ideal for high grade steels and chrome the 90° load flank and large radius stab flank allow low hoop stress and reduce running time. Axial metal to metal nose seal creates by an internal shoulder



- Seal-Lock Flush

- Is a premium connection with a metal to metal seal, external torque shoulder for liner applications. It offers excellent clearance and pipe body burst.

- KC Convertible

- Includes an converter ring press fit into J-area after mill end make up, which provides a smooth bore for turbulent free flow, positive torque stop for field end make up, and metal to metal seal when used according to pin end specifications.

Manufactured to 1/5 API tolerances ensures match with API 8 RD pins. Ability to withstand bending and torsional loads , ideal for horizontal and deviated wells.



Seal-Lock Apex

- Is a new threaded and coupled , non upset premium connection designed to provide internal and external pressure integrity under extreme loads. Apex utilizes a patented sealing thread form and a metal to metal seal to provide rating equal or exceed pipe body in tension internal and external pressure. a negative load flank thread and advanced conn. Geometry in smooth running.



Seal-Lock Boss

➤ Is a coupled casing connection that is cost-competitive with API BTC.

It uses a patented sealing and unique pin to pin torque shoulder for enhanced compressive loading. Rugged thread form and quick make up without cross threading.



Seal-Lock HC

Threaded and Coupled Connection is for •
light to mid-weight tubular, features include
gas-tight metal to metal seal torque
Shoulder and its form provide multiple
make up and breaks. Stresses are
minimized to provide superior performance
in H₂S and Co₂.



Seal-Lock HT

- Is a threaded and coupled casing connection featuring a tapered run-out hooked thread form and unique pin-to-pin shoulder to provide excellent torsional, bending and tensile performance in horizontal and tensile performance in horizontal and directional wells.
- The close tolerance thread form provide pipe body pressure capability under the most extreme well condition.



Seal-Lock Semi-Flush

- Bi-directional metal to metal seal delivers full body API rating internally and externally performance. EXT and INT shoulders permit visual make up indication and increase torque rating for down hole rotation applications.



TKC-MMS

- Coupled thread. For internally plastic coated casing .teflon center ring allows for turbulent free flow. when used with pin end finished specifications, a gas tight seal is provided, along with 100% holiday free connection.



TKC-LTC

- Has

