Standard Materials (Carbon Steel) G-0020 R3

Yoke Closures:
Double Bolt

Head: *Flared and Dish*ed – SA516 70N; Impact Tested @ -50F; Heat Code Identified; Test Reports with Shipment

Pancake (CL1500) – SA350 LF2 Class 1; 42,000 PSI Min Yield; Heat Code Identified; Test Reports with Shipment

Hub: SA350 LF2 Class 1/A694-F46 (dual certified); Heat Code Identified; Test Reports with Shipment

Yoke: SA350 LF2 Class 1/A694-F42; Heat Code Identified; Test Reports with Shipment

Yoke Bolts: SA193 B7; Teflon Coat Blue; Parts Stamped B7; Test Reports with Shipment

Yoke Bolt Nuts: *Round (5/8" thru 7/8")* – SA193 B7; Teflon Coat Blue; Parts Stamped B7; Test Reports with Shipment

Square (1"+) – SA194-2H; Teflon Coat Blue; Parts Stamped 2H; Test Reports with Shipment

PWD Nipple: SA479 304L; Heat Code Identified; Test Reports with Shipment

Single Bolt (2" – 8" CL150S, 300S, 600S)

Head: *2"-6":* SA105; Heat Code Identified; Test Reports with Shipment

8": SA516 70N; Heat Code Identified; Test Reports with Shipment

Hub: *2"-4":* SA106 Gr B. 46,000 PSI MYS; Heat Code Identified; Test Reports with Shipment

6"-*8":* SA350 LF2 Class 1; Heat Code Identified; Test Reports with Shipment

Yoke: SA352 Grade LCB; Heat Code Identified; Test Reports with Shipment

SA105/SA350LF2 Class 1 for 4" only

Yoke Bolt: SA193 B7; Parts Stamped B7

PWD Nipple (as required): SA479 304L; Heat Code Identified; Test Reports with Shipment

Standard Materials (Carbon Steel)

Threaded Closures:

Head: *Casting* (*2”-6” CL900)* – SA352 Grade LCB; Heat Code Identified; Test Reports with Shipment

Forging (8”-12” CL900) – SA105/SA350 LF2 Class 1, dual certified; Heat Code Identified; Test Reports with Shipment

Pancake with welded Hammer Lugs (8”-10” CL600) – SA105/SA350 LF2 Class 1, dual certified; Heat Code Identified; Test Reports with Shipment

Plate (*14”-24” CL900, 26”-42” CL600)* – SA516 70N, Impact Tested at -50F; Heat Code Identified; Test Reports with Shipment

Hub: *Pipe* (*2”-6”)* – SA106 Grade C. 46,000 PSI MYS; Heat Code Identified; Test Reports with Shipment

Pipe (*8”)* – SA106 Grade C. 42,000 PSI MYS; Heat Code Identified; Test Reports with Shipment

Forging (10”-42”) – SA350 LF2 Class 1/A694-F46, dual certified; Heat Code Identified; Test Reports with Shipment

PWD: SA479 304L; Heat Code Identified; Test Reports with Shipment

Standard Materials (Carbon Steel)

Tool-less® Closures:

Head: *Plate (8”-12” CL300 & 600)* – SA516 70N; Impact Tested @ -50F; Heat Code Identified; Test Reports with Shipment

Pancake (all other sizes) – SA350 LF2 Class 1; Heat Code Identified; Test Reports with Shipment

Hub: *Forging* – SA350 LF2 Class 1/A694-F46 (dual certified); Heat Code Identified; Test Reports with Shipment

Locking Segments: *Pipe (8” CL300-900)* – SA312 304; Heat Code Identified; Test Reports with Shipment

Forging (10”-72” CL300, 10”-72” CL600, 10”-42” CL900, 8”-36” CL1500) – SA182 F304; Heat Code Identified; Test Reports with Shipment

Forging (44” CL900 and larger) – SA182 F51*; Heat Code Identified; Test Reports with Shipment

PWS: SA479 304L; Heat Code Identified; Test Reports with Shipment

* When ordering SA182 F51 the following must be included in the raw material description:

- Impact Test Required at specified MDMT
- Lateral Expansion Report required for each of three specimens. Each individual specimen must have at least .015” lateral expansion.

Insulated Joints (W-Style):

Hubs: *Pipe (2" thru 6")* – SA106 Br. B/C; 52,000 PSI Min Yield; Hardness = Rockwell C22 Max (NACE); Heat Code Identified; Test Reports with Shipment

Forging (8"+) – SA105/SA350 LF2 Class 1/A694-F52 (dual certified); Heat Code Identified; Test Reports with Shipment

Mexico – SA105N/A694-F52; Ni = 1.0% Max; CE = 0.48% Max; Hardness = Rockwell C22 Max; Heat Code Identified; Test Reports with Shipment (Reference "Scope of Supply for Insulated Joints for Mexico")

Yoke: *Pipe (2", 4", 6")* – SA106 Br. B/C; 46,000 PSI Min Yield; Heat Code Identified; Test Reports with Shipment

Forging (3", 8"+) – SA105/SA350 LF2 Class 1/A694-F46; Heat Code Identified; Test Reports with Shipment

Mexico – SA105N/A694-F46; Ni = 1.0% Max; CE = 0.48% Max; Heat Code Identified; Test Reports with Shipment (Reference "Scope of Supply for Insulated Joints for Mexico")

O-Rings: FKM (Viton)

Insulated Gasket Material: Epoxy Base/Glass fiber reinforced high strength laminate (NEMA Gr. FR-4)

Insulated Joints (Pipe Up Style):

Hubs: API 5L GR X52 PSL-2 and ISO 3183-3 GR L360 (X52) PSL-2 CERT

Yokes: A694-F52

O-Ring: FKM (Viton)

Insulated Gasket Material: Epoxy Base/Glass fiber reinforced high strength laminate (NEMA Type G10/FR4 or G11/FR5

T-Bolt Closures:

Reference the T-Bolt Rating Sheets 90.7339

Head/Hub: SA516 Gr.70N; Heat Code Identified; Test Reports with Shipment

Bolts: SA325 Type 1; Parts Stamped A325

Anchor Flanges:

Hub: A694-F52 (or per customer request, typically); Heat Code Identified; Test Reports with Shipment

Swivel Ring Flanges:

Hub: A694-F52 (or per customer request, typically); Heat Code Identified; Test Reports with Shipment

Ring: A694-F46 (46,000 PSI Min. Yield per design); Heat Code Identified; Test Reports with Shipment

MATERIAL SPECS

TYPE:	**C.S.**	**S/S - 304, 304L, 316, 316L, ETC**
PLATE	SA516 GR. 70	SA240
FORGINGS	SA105 SA350-LF2 CL. 1 (LOW TEMP) SA266 GR. 4 (HIGH YIELD) A694-F__ (HIGH YIELD)	SA182
BOLTING	SA325 TYPE 1 (TB) SA193 GR. B7, B7M SA320 L7, L7M	SA193 GR. B8 CL1 (304) SA193 GR. B8M CL1 (316) SA193 GR. B8 CLASS 2 STRAIN HARDENED (304)
NUTS	SA194 GR. 2H SA194 GR. 2HM	SA194 GR. 8 (304) SA194 GR. 8M (316)
PIPE	SA106 GR. B or C	SA312
BAR STOCK	SA36	SA479