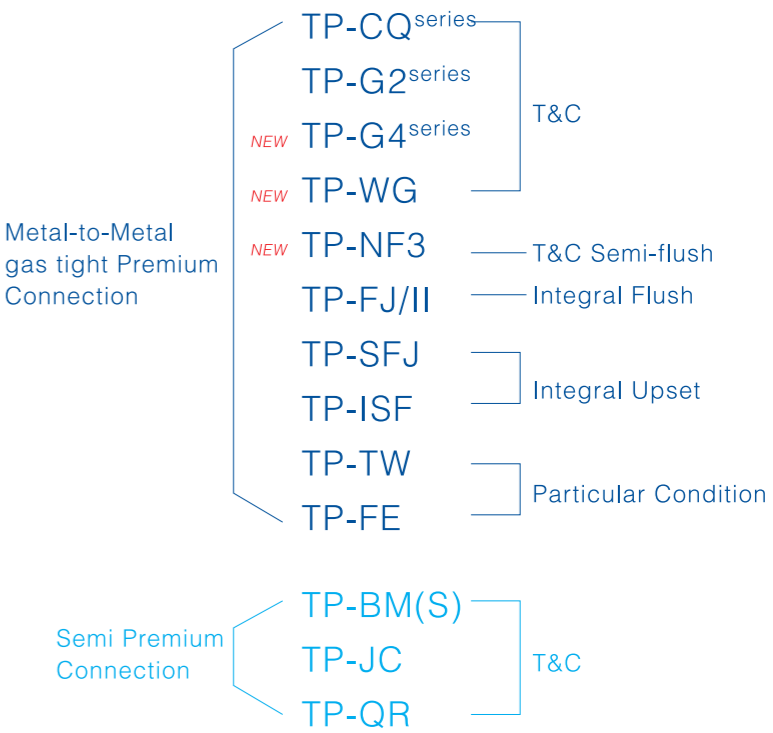


# Semi-Premium TP-QR

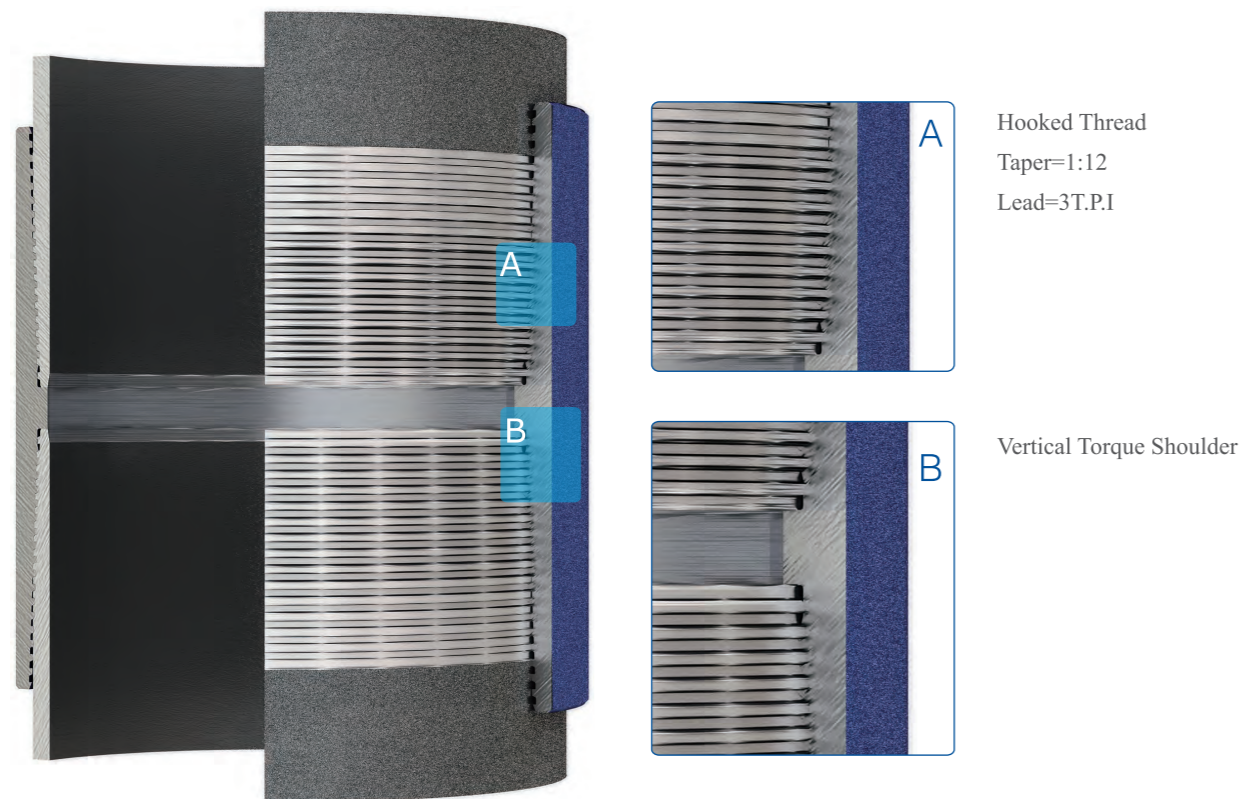


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TP-QR 13-3/8in~24in

Large diameter with fast make-up speed premium connection for casing.

- 3T.P.I Coarse Thread Enable Fast Make-up and no Cross-thread
- Torque Shoulder Provides Accurate Power Tight Make-up
- Seal-ability is better than API Buttress Thread
- Internal Flush
- Applied to Surface Casing
- ISO 13679 :2002 Approved



Description

1.1 Threaded Connection

Coarse thread form with a taper of 1:12, 3T.P.I, fast and easy running and avoids cross-threading. A modified hook thread profile with 4° reverse angle on the load flank, not only provides the connection with superior tension strength but also increases its resistance to compression. Optimized thread geometry minimizes the risk of galling.

1.2 Torque Shoulder

The torque shoulder provides accurate power tight make-up, which also enables connection to withstand higher compression load.

1.3 Internal Profile

The streamlined internal profile minimizes turbulence and energy loss when high-velocity gas flows.

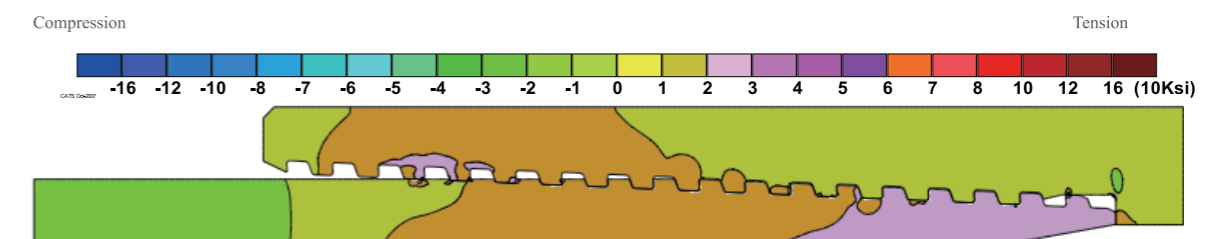
1.4 Coupling Design

Because the coupling covers the vanishing threads, the connection tensile efficiency is maximized.

1.6 Lower Stress Design

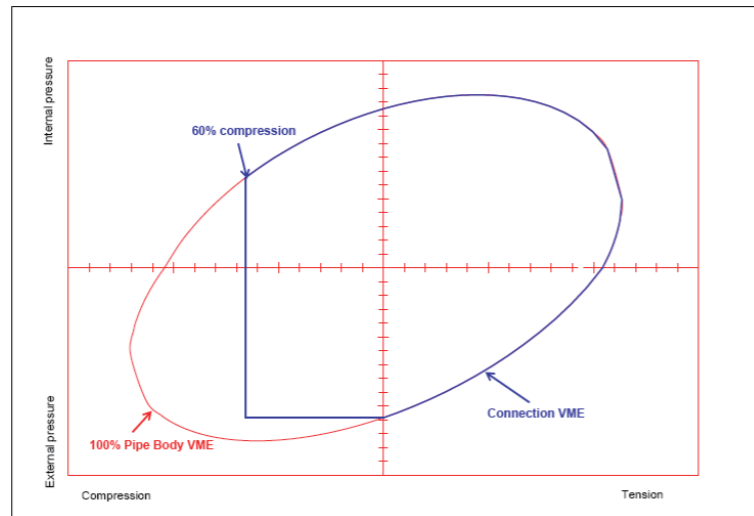
The lower stress design makes the connections reliable in Corrosive conditions.

2. Finite Element Analysis on TP-QR



Finite Element Analysis graphically illustrates the low-stress design which makes TP-QR excellent choices for critical well applications.

VME envelope application

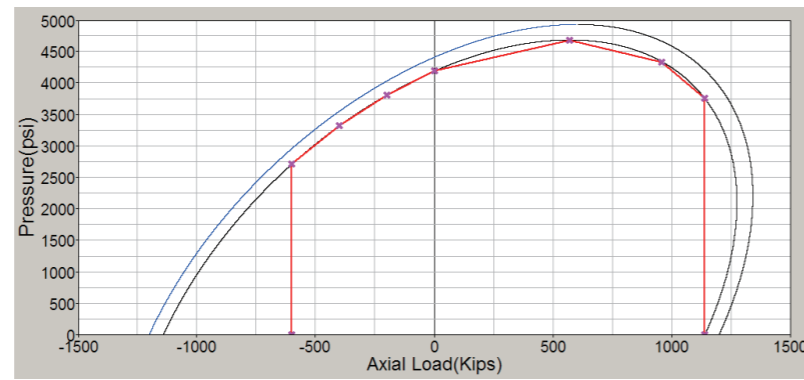


### 3. Test Reports: TP-QR @ TPCO

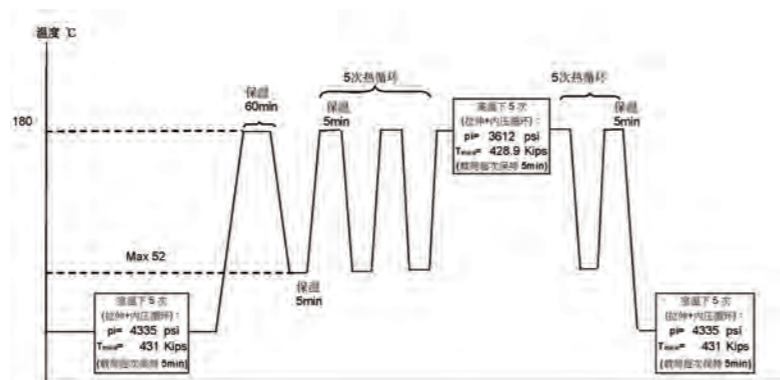
#### 3.1 J55 ksi 13-3/8in 68.0PPF (339.72x12.19mm)

ISO 13679:2002 CAL II:

- Bending=5°/100' (30.48 m)
- VME=95%
- Compression=50%P.B.Y.S
- Thermal Cycling@90%VME: 100times



Series B Test

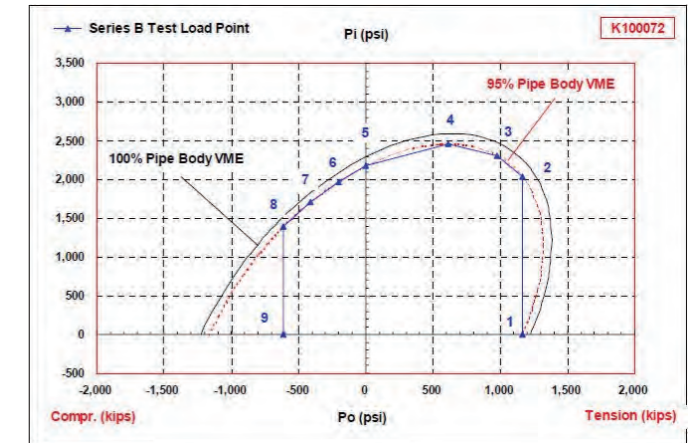


Series C Test

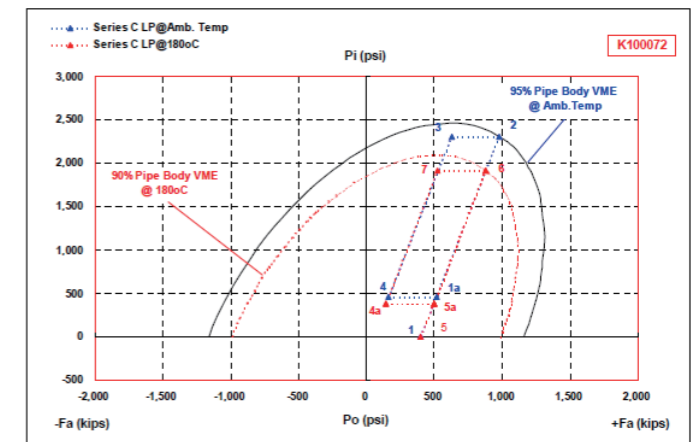
#### 3.2 K55 ksi 18-5/8in 87.5PPF (473.08x11.05mm)

ISO 13679:2002 CAL II:

- VME=95%
- Compression=50%P.B.Y.S
- Thermal Cycling@90%VME: 100times



Series B Test



Series C Test

### 3.3 Qualification Test Summary for TP-QR

Connection	Size	Grade	Weight lbs/ft	Anti-galling Treatment	Test Spec.	CAL Level	Load Condition	Test Lab	Date
TP-QR	13 3/8 in	J55	68.0	Box: Phosphating	ISO 13679:2002	CAL II (Abbreviated)	1*(H(A)/L(B) were tested with ISO B(50%Compr.)+C(Temperature 180 C) Bending=5°/100' , VME=95%	TPCO	2009.05
TP-QR	18 5/8 in	K55	87.5	Box: Phosphating	ISO 13679:2002	CAL II (Abbreviated)	1*(H(A)/L(B) were tested with ISO B(50%Compr.)+C(Temperature 180 C) VME=95%	TPCO	2010.03

Imperial Units

Size (OD)	Nominal weight	Wall thickness		Drift	Coupling OD	Make up loss	Coupling length	Yield strength(1000lb.)						External pressure(psi)						Minimum internal yield pressure(psi)					
		inch	mm					55ksi	80ksi	95ksi	110ksi	125ksi	140ksi	55ksi	80ksi	95ksi	110ksi	125ksi	140ksi	55ksi	80ksi	95ksi	110ksi	125ksi	140ksi
inch mm	lb./ft	inch	mm	inch	inch	inch	inch																		
13-3/8 339.72	54.00	0.380	9.65	12.459	14.375	6.201	13.386	853	1241	1473	1706	1939	2171	1130	1140	1140	1140	1140	1140	2730	3980	4720	5470	6210	6960
	61.00	0.430	10.92	12.359	14.375	6.201	13.386	962	1399	1661	1923	2185	2448	1540	1670	1670	1670	1670	1670	3090	4500	5340	6190	7030	7880
	68.00	0.480	12.19	12.259	14.375	6.201	13.386	1069	1555	1847	2139	2430	2722	1950	2260	2330	2330	2330	2330	3450	5020	5970	6910	7850	8790
	72.00	0.514	13.06	12.191	14.375	6.201	13.386	1142	1661	1973	2284	2595	2907	2230	2670	2820	2880	2880	2880	3700	5380	6390	7400	8410	9420
16 406.40	84.00	0.495	12.57	14.822	17.000	6.240	13.465	1326	1929	2291	2652	3014	3376	1410	1480	1480	1480	1480	1480	2980	4330	5140	5960	6770	7580
18-5/8 473.08	87.50	0.435	11.05	17.567	20.000	6.240	13.465	1367	1989	2362	2734	3107	3480	630	630	630	630	630	630	2250	3270	3880	4500	5110	5720
	96.50	0.485	12.32	17.467	20.000	6.240	13.465	1520	2211	2626	3040	3455	3870	870	870	870	870	870	870	2510	3650	4330	5010	5700	6380
	127.50	0.649	16.48	17.140	20.000	6.240	13.465	2016	2932	3482	4032	4581	5131	1830	2100	2130	2130	2130	2130	3350	4880	5790	6710	7620	8540
18-3/4 476.32	152.41	0.783	19.88	17.000	20.000	6.240	13.465	2431	3536	4199	4862	5525	6188	2690	3200	3460	3640	3720	3720	4020	5850	6940	8040	9130	10230
478.56	160.53	0.827	21.00	17.000	20.000	6.240	13.465	2450	3564	4232	4900	5568	6236	3040	3540	3880	4120	4280	4340	4220	6150	7300	8450	9600	10750
20 508.00	94.00	0.438	11.13	18.936	21.000	6.240	13.465	1480	2153	2557	2961	3365	3768	520	520	520	520	520	520	2110	3070	3640	4220	4790	5370
	106.50	0.500	12.70	18.813	21.000	6.240	13.465	1685	2450	2910	3369	3829	4288	770	770	770	770	770	770	2410	3500	4160	4810	5470	6130
	14.30	0.563	14.30	18.687	21.000	6.240	13.465	1891	2750	3266	3782	4297	4813	1100	1100	1100	1100	1100	1100	2710	3940	4680	5420	6160	6900
	133.00	0.635	16.13	18.543	21.000	6.240	13.465	2089	3039	3609	4179	4748	5318	1500	1600	1600	1600	1600	1600	3060	4450	5280	6110	6950	7780
	147.60	0.709	18.00	18.395	21.000	6.240	13.465	2089	3039	3609	4179	4748	5318	1900	2190	2250	2250	22550	2250	3410	4960	5890	6820	7750	8690
	167.65	0.812	20.62	18.189	21.000	6.240	13.465	2089	3039	3609	4179	4748	5318	2500	3020	3240	3370	3410	3410	3520	5120	6070	7030	7990	8950
	203.70	1.000	25.40	17.813	21.000	6.240	13.465	2089	3039	3609	4179	4748	5318	4040	4990	5380	5630	5890	6180	4330	6300	7480	8660	9840	11030
24 609.60	152.30	0.600	15.24	22.613	25.000	6.240	13.465	2426	3529	4190	4852	5513	6175	770	770	770	770	770	770	2410	3500	4160	4810	5470	6130

NOTE:

The data are for reference only.

For size expansion and more information please contact TPCO International Trading Dept. or R&D Center.