



**PETROTRIM**  
**SERVICES**  
**SUPPLYING THE OILFIELD**



**GENERAL PRODUCT CATALOG**  
**Houston, Texas**



# **PETROTRIM**

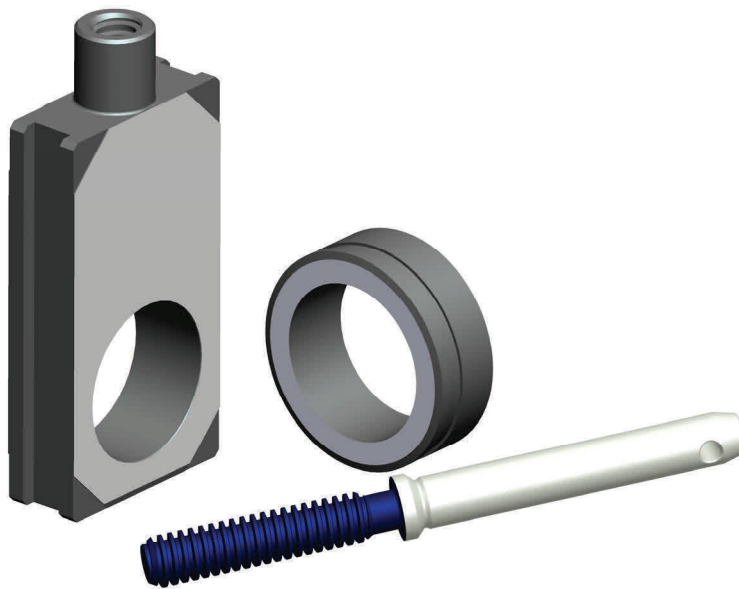
## **SERVICES**

### **SUPPLYING THE OILFIELD**

*Founded in 2009, Petrotrim Services is one of the premier manufactures of Oilfield Equipment in the U.S. We manufacture these products according to API, PSL1 through PSL3. We offer third party inspection for our products, it could be of client's choice or we arrange the internationally renowned agencies such as Bureau Veritas, Det Norske Veritas or American Bureau of Shipping.*

*Petrotrim Services manufacturing facility is ISO 9001 registered and uses the latest design techniques and CNC machines.*

*Petrotrim Services specializes in Custom Design, Engineering and Fabrication Services to meet your individual needs. We can also provide a wide range of Engineering Services such as, API/PED CE Design Packages, Calculations and Reverse Engineering.*



**ISO 9001**  
QMI-SAI Global

# **PETROTRIM**

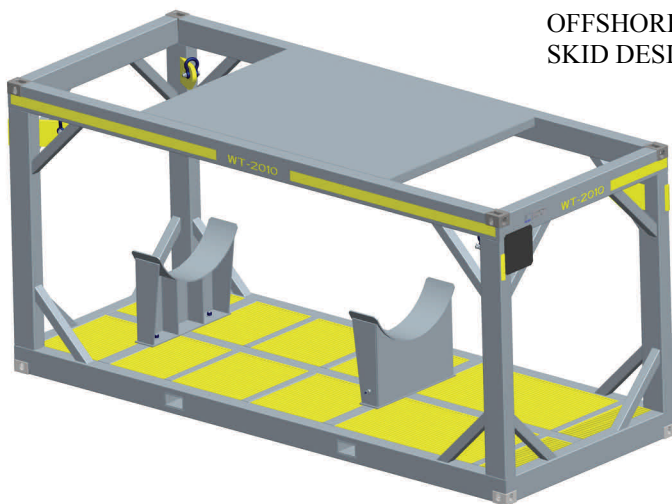
## **SERVICES**

### **SUPPLYING THE OILFIELD**

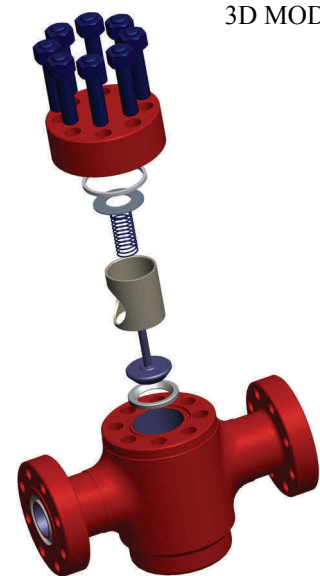
## **Engineering, Reverse Engineering, Design Files and Consulting Services.**

**Petrotrim Service offer CAD Services, Product Design Services, Reverse Engineering,  
API-6A/16A/16C Design Calculation Files and 3rd Party Consulting.**

- **Consulting for DNV, BV or ABS Type Projects.**
- **Offshore Skid Design 2.7-1, 2.7-2 & 2.7-3**
- **CE-PED Marking of API Equipment**
- **3D Assembly Drawings, Bills of Materials**
- **Reverse Engineering of Oil and Gas Equipment**
- **3D Marketing Drawings**
- **API-6A/16A/16C Part Designs**
- **Technical Drawings**
- **API-6A/16A/16C Procedures**
- **Operation Manuals**
- **Preparing API Design Files for API Audits**



**OFFSHORE  
SKID DESIGN**



**3D MODELS**

**MATERIAL SPECIFICATIONS**

**AISI/SAE 4130  
LOW ALLOY STEEL.  
75K MIN. NACE SOUR**



**CE MARKING**

# PETROTRIM

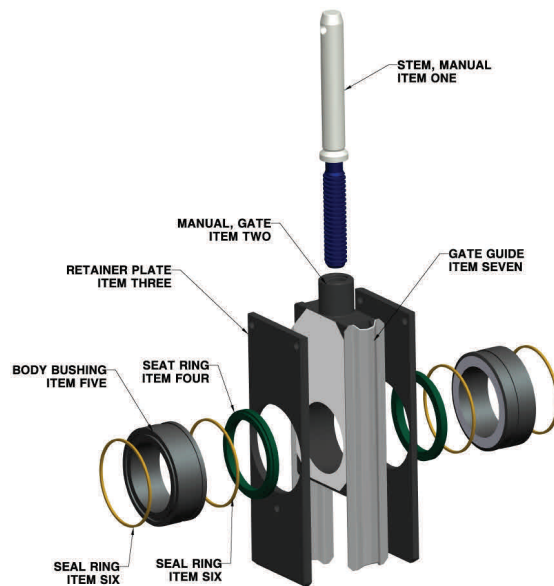
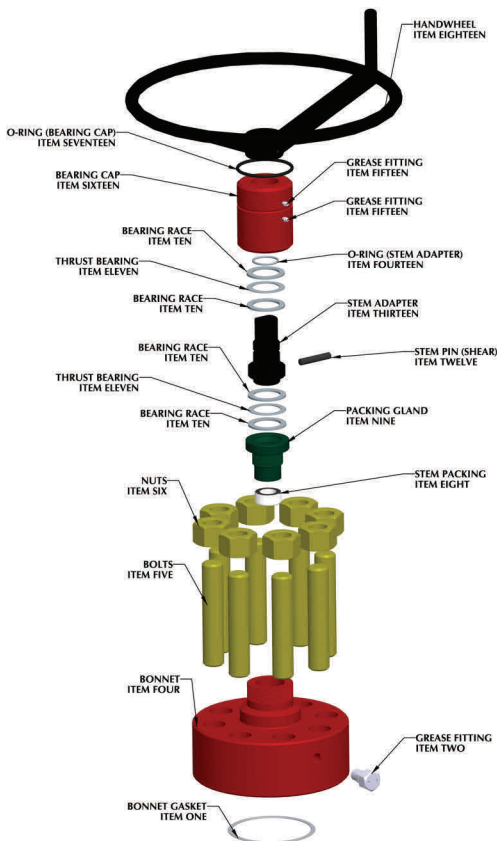
## SERVICES

### SUPPLYING THE OILFIELD

## Manual & Hydraulic Type FC Gate Valve Trim Replacement

Petrotrim Service provides Type FC Trim Replacement.

- True FC Stem Thread Design, Modified ACME, Xylan Coated.
- Corrosion Resistant Alloys per NACE
- DD & EE Material, K+X Temperature Class
- Materials AISI 17-4, 410 SS, Inconel.
- New Style Body Bushing
- Colmonoy #5 or Tungsten Carbide Hardface
- Manufactured Per API-6A PSL-1 thru PSL-3



# **PETROTRIM**

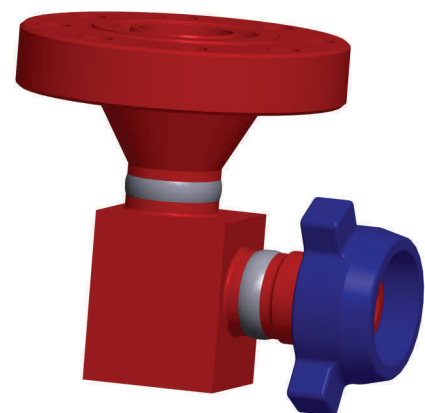
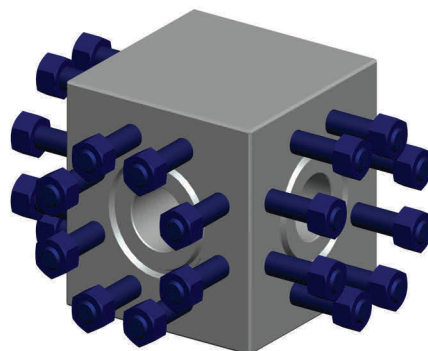
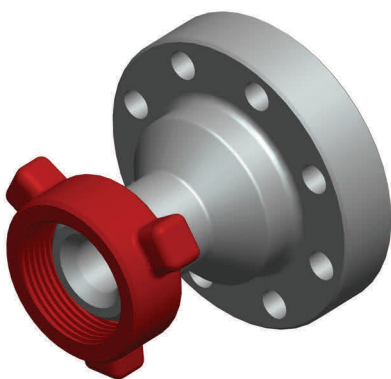
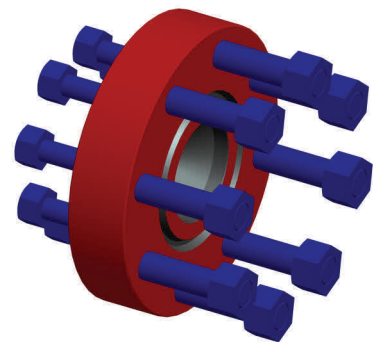
**SERVICES**

## **SUPPLYING THE OILFIELD**

### **PIPING AND FLOWLINE ACCESSORIES**

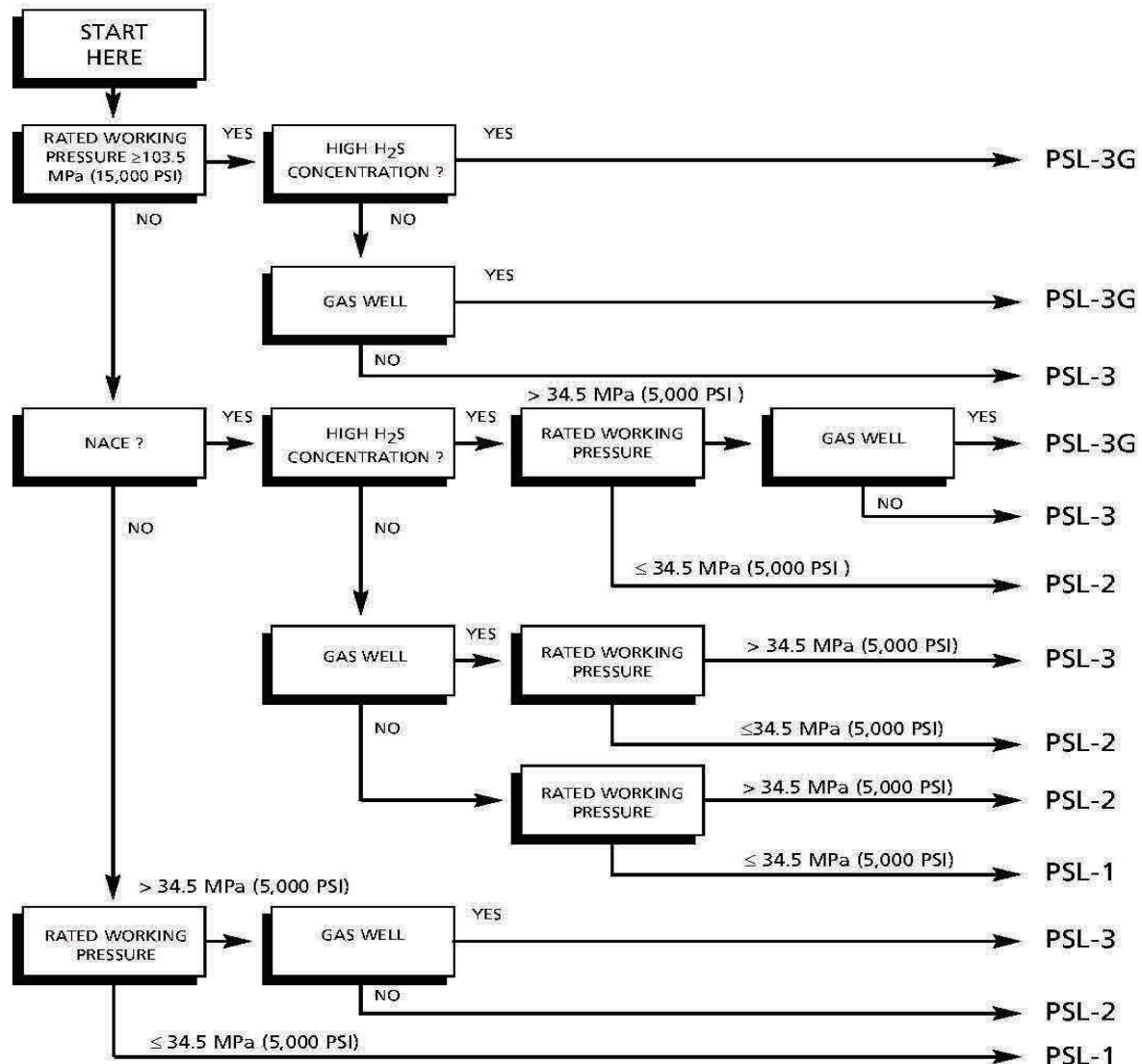
**Petrotrim Service can supply a variety of pipe and flow line accessories.  
We offer A full range of sizes, pressure classes and materials.  
Welded, Integral or threaded.**

- **Spools, Flanged or Hub Connections**
- **Blast Spools (Joints)**
- **Instrument Flanges**
- **Adapter Spools and Crossovers**
- **Flanges, Weld Neck, Blinds and Swivel**
- **API Tees and Crosses, Studded or Flanged**
- **Union End Figure 1002,1502 and 2202**
- **DSA**
- **Custom Designed Flanges**



## *API-6A Reference Information*

API Specification 6A (ISO 10423) provides definition of standard service conditions and introduces the concept of product specification levels (PSL's) which will be referred to throughout the document. The PSL's define different levels of effort, or levels of technical requirements which may be specified for a product. Generally, these levels represent industry practice for various service conditions. The decision tree shown below is designed to assist the purchaser in selecting the proper specification levels (PSL's) for primary parts of **Wellhead and Christmas Tree Equipment**.



## API-6A Reference Information

### Charpy V-notch impact requirements (10 mm × 10 mm)

Temperature		Minimum average impact value Transverse direction J (ft-lbf)		
Temperature classification	Test temperature °C (°F)	PSL 1	PSL 2	PSL 3 and PSL 4
K	-60 (-75)	20 (15)	20 (15)	20 (15)
L	-46 (-50)	20 (15)	20 (15)	20 (15)
N	-46 (-50)	20 (15)	20 (15)	20 (15)
P	-29 (-20)	—	20 (15)	20 (15)
S	-18 (0)	—	—	20 (15)
T	-18 (0)	—	—	20 (15)
U	-18 (0)	—	—	20 (15)
V	-18 (0)	—	—	20 (15)

### Temperature ratings

Temperature classification	Operating range			
	°C		°F	
	min.	max.	min.	max.
K	-60	82	-75	180
L	-46	82	-50	180
N	-46	60	-50	140
P	-29	82	-20	180
S	-18	60	0	140
T	-18	82	0	180
U	-18	121	0	250
V	2	121	35	250

## *API-6A Reference Information*

### Quality Control Requirements for Bodies, Bonnets, and End and Outlet Connections

Requirements	PSL-1	PSL-2	PSL-3	PSL-4
Tensile Testing	Yes	Yes	Yes	Yes
Impact Testing	K, L	K, L, P	Yes	Yes
Hardness Testing	Sampling	Single	Multiple	Multiple
Dimensional Verification	Sampling	Sampling	Yes	Yes
Traceability	–	Yes	Yes	Yes
Chemical Analysis	–	Yes	Yes	Yes
Visual Examination	Yes	Yes	–	–
Surface NDE	–	Yes	Yes	Yes
Weld NDE	–	Yes	Yes	Yes
Serialization	–	–	Yes	Yes
Volumetric NDE	–	–	Yes	Yes

**Definitions:**

End and Outlet Connections - Integral threads, male or female; flanges, studded or through-bolted; or any other means used to join together equipment that contains or controls pressure.

Body - Any portion of API Spec 6A equipment between end connections, with or without internal parts, which contains well-bore pressure.

Bonnet - A pressure-containing closure for a body, other than an API end or outlet connection.



## API-6A Reference Information

There are seven Material Classes which specify **minimum** material requirements for general or sour service shown below. API 6A (ISO 10423) equipment must be designed, tested and marked as satisfactory for one of these Material Classes.

### Minimum Material Requirements

API Material Class	Body, Bonnet, End & Outlet Connections	Pressure Controlling Parts, Stems, & Mandrel Hangers
AA - General Service	Carbon or low alloy steel	Carbon or low alloy steel
BB - General Service	Carbon or low alloy steel	Stainless steel
CC - General Service	Stainless Steel	Stainless Steel
DD - Sour Service <sup>a</sup>	Carbon or low alloy steel <sup>b</sup>	Carbon or low alloy steel <sup>b</sup>
EE - Sour Service <sup>a</sup>	Carbon or low alloy steel <sup>b</sup>	Stainless steel <sup>b</sup>
FF - Sour Service <sup>a</sup>	Stainless steel <sup>b</sup>	Stainless steel <sup>b</sup>
HH - Sour Service <sup>a</sup>	Corrosion Resistant Alloy <sup>b</sup>	Corrosion Resistant Alloy <sup>b</sup>

<sup>a</sup>As defined by National Association of Corrosion Engineers (NACE) Standard MR0175

<sup>b</sup>In compliance with NACE Standard MR0175  
Only the most stringent classification is marked.

Specification 6A (ISO 10423) describes pertinent information on inspections, tests, examinations, and required documentation. Since the selection of Product Specification Level (PSL) is ultimately a purchaser's decision, quality control information is provided to make it easy for users to select the PSL level consistent with their risk management needs.

### Quality Control Requirements for Equipment

Requirements	PSL-1	PSL-2	PSL-3	PSL-3G	PSL-4
Drift Test	Yes	Yes	Yes	Yes	Yes
Hydrostatic Test	Yes	Yes	Yes, Extended	Yes, Extended	Yes, Extended
Gas Test	-	-	-	Yes	Yes
Assembly Traceability	-	-	Yes	Yes	Yes
Serialization	-	Yes	Yes	Yes	Yes

# PETROTRIM

## SERVICES

### SUPPLYING THE OILFIELD

**PIPE WALL THICKNESS CHART**

PIPE SIZE	OD in INCHES	5S	5	10S	TRUE 10	20	30	40S & STD	TRUE 40	60	80S & XS	TRUE 80	100	120	140	160	XXS
1/8	.405		.035 .1383	.049 .1863	.049 .1863			.068 .2447	.068 .2447		.095 .3145	.095 .3145					
1/4	.540		.049 .2570	.065 .3297	.065 .3297			.088 .4248	.088 .4248		.119 .5351	.119 .5351					
3/8	.675		.049 .3276	.065 .4235	.065 .4235			.091 .5676	.091 .5676		.126 .7388	.126 .7388					
1/2	.840	.065 .5383	.065 .5383	.083 .6710	.083 .6710			.109 .8510	.109 .8510		.147 .1088	.147 .1088				.187 .1304	.294 .1714
3/4	1.050	.065 .6838	.065 .6838	.083 .8572	.083 .8572			.113 .1131	.113 .1131		.154 .1474	.154 .1474				.218 .1937	.308 .2441
1	1.315	.065 .8678	.065 .8678	.109 .1404	.109 .1404			.133 .1679	.133 .1679		.179 .2172	.179 .2172				.250 .2844	.358 .3659
1-1/4	1.660	.065 .1107	.065 .1107	.109 .1806	.109 .1806			.140 .2273	.140 .2273		.191 .2997	.191 .2997				.250 .3765	.382 .5214
1-1/2	1.900	.065 .1274	.065 .1274	.109 .2085	.109 .2085			.145 .2718	.145 .2718		.200 .3631	.200 .3631				.281 .4859	.400 .6408
2	2.375	.065 .1604	.065 .1604	.109 .2638	.109 .2638			.154 .3653	.154 .3653		.218 .5022	.218 .5022				.344 .7462	.436 .9029
2-1/2	2.875	.083 .2475	.083 .2475	.120 .3531	.120 .3531			.203 .5793	.203 .5793		.276 .7661	.276 .7661				.375 .1001	.552 .1370
3	3.500	.083 .3029	.083 .3029	.120 .4332	.120 .4332			.216 .7576	.216 .7576		.300 .1025	.300 .1025				.438 .1432	.600 .1858
3-1/2	4.000	.083 .3472	.083 .3472	.120 .4937	.120 .4937			.226 .9109	.226 .9109		.318 .1251	.318 .1251					.636 .2285
4	4.500	.083 .3915	.083 .3915	.120 .5613	.120 .5613			.237 .1079	.237 .1079		.337 .1498	.337 .1498	.438 .1900			.531 .2251	.674 .2754
5	5.563	.109 .6349	.109 .6349	.134 .7770	.134 .7770			.258 .1462	.258 .1462		.375 .2078	.375 .2078	.500 .2704			.625 .3296	.750 .3855
6	6.625	.109 .7585	.109 .7585	.134 .9289	.134 .9289			.280 .1897	.280 .1897		.432 .2857	.432 .2857	.562 .3639			.719 .4335	.864 .5316
8	8.625	.109 .9914	.109 .9914	.148 .1340	.148 .1340	.250 .2236	.277 .2470	.322 .2855	.322 .2855	.406 .3564	.500 .4339	.500 .4339	.594 .5095	.719 .6071	.812 .6776	.906 .7479	.875 .7242
10	10.75	.134 .1519	.134 .1519	.165 .1865	.165 .1865	.250 .2804	.307 .3424	.365 .4048	.365 .4048	.500 .5474	.500 .5474	.594 .6443	.719 .7703	.844 .8229	1.000 .1041	1.125 .1156	1.000 .1041
12	12.75	.156 .2107	.165 .2218	.180 .2418	.180 .2418	.250 .3338	.330 .4377	.375 .4956	.406 .5352	.562 .7315	.500 .6542	.688 .8863	.844 .1073	1.000 .1255	1.125 .1367	1.312 .1603	1.000 .1255
14	14.00	.156 .2307		.188 .2773	.250 .3671	.312 .4561	.375 .5457	.375 .5457	.438 .6344	.594 .8505	.500 .7209	.750 .1061	.938 .1309	1.094 .1508	1.250 .1702	1.406 .1891	
16	16.00	.165 .2790		.188 .3175	.250 .4205	.312 .5227	.375 .6258	.375 .6258	.438 .8277	.594 .1075	.500 .8277	.750 .1366	.938 .1648	1.094 .1924	1.250 .2236	1.594 .2453	
18	18.00	.165 .3143		.188 .3576	.250 .4739	.312 .5894	.375 .8215	.375 .7059	.438 .1047	.594 .1382	.500 .9345	.750 .1709	.938 .2080	1.156 .2441	1.375 .2742	1.562 .3085	1.781 .3085
20	20.00	.188 .3978		.218 .4605	.250 .5273	.375 .7860	.500 .1041	.375 .7860	.438 .1231	.594 .1664	.500 .1041	1.031 .2089	1.281 .2561	1.500 .2964	1.750 .3411	1.969 .3792	
24	24.00	.218 .5537		.250 .6341	.250 .6341	.375 .9642	.562 .1407	.375 .9642	.438 .1713	.594 .2384	.500 .1255	1.219 .2966	1.531 .3674	1.812 .4294	2.062 .4831	2.344 .5421	
26	26.00				.312 .8560	.500 .13617		.375 .10263			.500 .13617						
28	28.00				.312 .9226	.500 .14685	.625 .18273	.375 .11064									
30	30.00	.250 .7943		.312 .9893	.312 .9893	.500 .15753	.625 .19608	.375 .11865			.500 .15753						
32	32.00				.312 .10559	.500 .16821	.625 .20943	.375 .12666	.688 .23008		.500 .16821						
34	34.00				.312 .11225	.500 .17889	.625 .22278	.375 .13467	.688 .24477								
36	36.00				.312 .11892	.625 .23613	.375 .14268	.750 .28235			.500 .18957						

**BLACK = Wall Thickness in Inches**  
**RED = Steel Weight per Foot in Pounds\***

\*To calculate the weight for the alloys below, multiply the weight per foot from the chart with these factors...

ALLOY 200 1.1343  
ALLOY 400 1.1272  
ALLOY 600 1.0742  
ALLOY 825 1.0389  
ALLOY 800 1.0247  
ALLOY 020 1.0220

*Information provided is for reference only and is not to be used as a sole source for design or application purposes.*

# PETROTRIM

## SERVICES

### SUPPLYING THE OILFIELD

#### THREADS

<p style="text-align: center;"><b>INCH</b></p> <p>Gage to determine number of threads per inch</p> <p style="text-align: center;">Six threads per inch</p> <p style="text-align: center;">EXTERNAL MINOR DIAMETER MAJOR DIAMETER</p> <p style="text-align: center;">INTERNAL</p>	<p style="text-align: center;"><b>METRIC</b></p> <p>Gage to determine the pitch of threads</p> <p style="text-align: center;">2mm</p> <p style="text-align: center;">EXTERNAL 2mm PITCH MINOR DIAMETER MAJOR DIAMETER</p> <p style="text-align: center;">INTERNAL</p>
<p><b>1.500 - 6 UNC - 2A (21)</b></p> <ul style="list-style-type: none"> <li>Nominal Diameter</li> <li>Number of Threads per Inch</li> <li>Thread Form &amp; Series             <ul style="list-style-type: none"> <li>UN = Unified National</li> <li>UNC = Course</li> <li>UNF = Fine</li> <li>UNEF = Extra Fine</li> <li>UNJ = Controlled Root Radius</li> <li>UNS = Special</li> </ul> </li> <li>Thread Class             <ul style="list-style-type: none"> <li>1 = Loose Tolerance</li> <li>2 = Medium Tolerance</li> <li>3 = Tight tolerance</li> <li>A = External Thread</li> <li>B = Internal Thread</li> </ul> </li> <li>Inspection Level             <ul style="list-style-type: none"> <li>21 = Lowest Level</li> <li>22 = Middle Level</li> <li>23 = Highest Level</li> </ul> </li> </ul>	<p><b>M30 X 2 - 4h6h (21)</b></p> <ul style="list-style-type: none"> <li>Metric Thread</li> <li>Nominal Diameter</li> <li>BY</li> <li>Pitch (mm)</li> <li>Tolerance Position } major dia</li> <li>Tolerance Grade } major dia</li> <li>Tolerance Position } pitch dia</li> <li>Tolerance Grade } pitch dia</li> <li>Inspection Level             <ul style="list-style-type: none"> <li>21 = Lowest Level</li> <li>22 = Middle Level</li> <li>23 = Highest Level</li> </ul> </li> </ul>
<p style="text-align: center;"><b>EXTERNAL THREAD (Inch &amp; Metric)</b></p> <p>No thread relief. The last thread will be incomplete.</p> <p style="text-align: center;">Thread Relief</p>	<p style="text-align: center;"><b>INTERNAL THREAD (Inch &amp; Metric)</b></p> <p>No thread relief. The last threads will be incomplete.</p> <p style="text-align: center;">Thread Relief</p> <p style="text-align: center;">Bottom Tap</p>