



**Project Piping Materials Packager (PPMP)**

**Product Range**

Pipes/Tubes  
Fittings  
Flanges  
Valves  
Gaskets

Quality is a word we use often.  
But here, we mean it.





# Introduction

**Focal Solutions Inc. (FSI)** is a highly acclaimed and professional **Project Piping Materials Packager (PPMP)** in **China**. We are a proud member of **Qingdao Focal Solutions Group**. We deal in all ferrous and non-ferrous metal products like Pipes, Tubes, Valves, Flanges, Butt welded Pipe Fittings, Forged Fittings, Tube Fittings etc. The company has carved an unparalleled position in the industry by making relentless efforts to cater to the clients with premium quality pipes, tubes and fitting components.

World manufacturing dynamics are evolving very rapidly and subsequent to these rapid developments, **China has emerged as world's manufacturing hub** as far as pipes, fittings, valves etc are concerned. Majority of successful large companies are buying their projects piping materials from China.

## Our Role:

We are Project Piping Materials Packagers. We have partnered with some of China's best manufacturers of these products. They produce piping products as per world's best recognized standards (as specified by our client's requirements).

## Our Differentiators:

- If customer wants to buy a whole piping package, they need to contact at least ten (10) different manufacturers such as pipe manufacturers, fitting factory, flanges forging factory etc. **We offer one stop solution.**
- **Prequalification** of factory is our responsibility
- **Commercial** terms ease. Chinese factories usually don't work on LCs.
- **Quality control** is also in our domain. As we buy in bulk and we have to safeguard our reputation, we take full responsibility of quality.
- In smaller markets, usually the local stock holders buy rejected lots of material and sell them as fresh / quality material. We however give you assurance that the material will always be according to **quality standard** and manufactured especially against your order.
- There are different qualities of same product available in Chinese markets, We make sure that **we deliver the best value to the customers.**

## Delivery / Progress Reporting / Expediting:

We are experts at end-to-end delivery, which is why we are regularly selected for major projects. Our experience covers everything from the delivery of goods through to system and quality documentation.

## Our prices:

**FSI** is your source for the most cost-effective pricing, thanks to our partnerships with the world's top manufacturers. This enables us to provide highly competitive proposals that optimize costs while providing technically advanced solutions that perfectly match your requirements. Optimization extends all along the value chain, from ordering and logistics to technical backup.

## Sectors we serve:

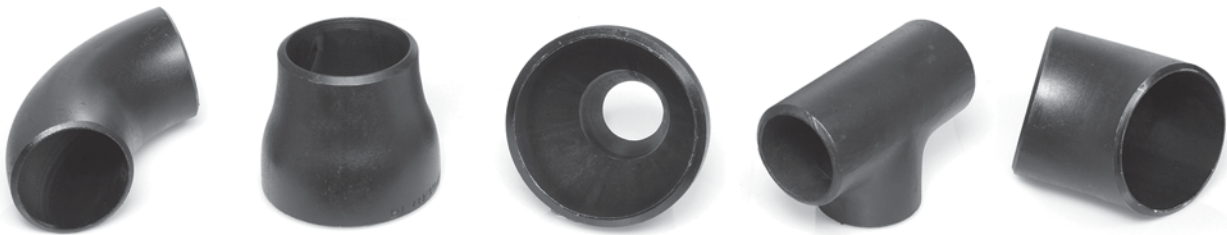
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|---------------------------|------------------------------------|-----------------------|
| • Refineries              | • Gas Processing                   | • Steel               |
| • Cement                  | • Petrochemicals                   | • Fertilizers         |
| • Building & Construction | • Power Generation                 | • Specialty Chemicals |
| • Pharmaceuticals         | • Off-Shore Oil Drilling Companies |                       |

**Right product for the right requirement at the right price**, i.e. rather than a mere supplier of the product we take utmost efforts in understanding the client's requirement, identifying the right product at the right price. This has resulted in close ties with major customers.

## Pipes / Tubes

Supplier of a wide range of seamless and welded pipes in all grades - carbon steel, alloy steel, stainless steel, duplex, super duplex and higher alloys in sizes from 1/8" to 30" NPS.

PRODUCT	MATERIAL	CONSTRUCTION	NORMS	GRADE	RANGE
PIPES/TUBES	CARBON STEEL	SEAMLESS	API 5L A106/A53 A106 A333	B, X42, X52, X60, X65, X70, X80 B GrA, GrC Gr3, Gr6	1/4" - 30"
	ALLOY STEEL	SEAMLESS	A335	P1, P11, P12, P22, P5, P9, P91, P92	1/2" - 30"
	STAINLESS STEEL	SEAMLESS	A312  A790	TP304/304L, TP316/316L TP321, TP321H, TP347, TP347H UNS S31803, UNS S32750	3/8" - 30"



## Fittings

Supplier of forged and butt-weld fittings in all sizes, grades and construction from 1/2" to 96" NPS.

PRODUCT	MATERIAL	CONSTRUCTION	NORMS	GRADE	RANGE
FITTINGS	CARBON STEEL	SEAMLESS	A234 A860  MSS SP75  A420	WPB WPHY42, WPHY52, WPHY60, WPHY65 WPHY42, WPHY52, WPHY60, WPHY65 WPL6	1/2" - 96"
		FORGED	A105N A350 A694	LF2 F42, F52, F60, F65	1/4" - 4" 1/2" - 2"
	ALLOY STEEL	SEAMLESS	A234	WP11, WP22, WP5, WP91	1/2" - 96"
		FORGED	A182	F1, F5, F11, F12, F22, F91, F92	1/4" - 4"
	STAINLESS STEEL	SEAMLESS	A403 A815 A182	WP304/304L, WP316/316L UNS S31803, UNS S32750 F304/304L, F316/316L F50, F51, F52, F53, F54, F55 F57, F60, F61	1/2" - 48" 1/2" - 16" 1/4" - 4"
		FORGED			



## Flanges

Supplier of a wide range of ASME flanges in class 150 to 2500 and API flanges in class 2000 Flanges such as swivel, orifice assembly, anchor and long weld-neck flanges in standard dimensions can also be supplied.

PRODUCT	MATERIAL	NORMS	GRADE	RANGE
FLANGES	CARBON STEEL	A105N A350 A694	LF2 F42, F52, F60, F65	1/4"- 72"
		A707	L3 CL3, L5 CL3	12"- 48"
	ALLOY STEEL	A182	F1, F11, F12, F22, F5, F91, F92	1/2"- 48"
	STAINLESS STEEL	A182	F304/304L, F316/316L F50, F51, F52, F53, F54, F55, F57, F60, F61	1/2"- 60" 1/2"- 24"



## Gaskets

Supplier of spiral wound, ring joint gaskets and other types in all metal grades and construction as well as insulation kits.

PRODUCT	CLASSIFICATION	MATERIAL	RANGE
GASKETS	SPIRAL WOUND GASKETS	CARBON STEEL/STAINLESS STEEL WITH OUTER, INNER RING & WINDING	1/4"- 48"
	NON-ASBESTOS SOFT CUT GASKETS	COMPRESSED FIBRE JOINTING MATERIAL - NEOPRENE, EPDM, VITON, NBR & SILICON	1/4"- 48"
	RING JOINT GASKETS	SOFT IRON, STAINLESS STEEL- 304, 316/316L IN R, RX, BX, API 16.20 & API 6A	1/2"- 24"



## Valves

Supplier of Gate, Globe, Check, Ball, Butterfly Valves etc. in all varieties of carbon steel, stainless steel, duplex and other special alloys. We also provide hydro testing, valve automation and retrofitting services.

PRODUCT	MATERIAL	CONSTRUCTION	NORMS	GRADE	RANGE
VALVES (Gate, Globe, Check, Ball & Butterfly Valves, Steam Traps, Strainers & Safety Relief Valves)	CARBON STEEL	FORGED	A105N	LF2	1/2"- 2" Gate, Globe Check Valves 1/2"- 60"Ball Valves Class 150-2500
			A350		2"- 60" Class 150-2500
	STAINLESS STEEL	FORGED	A216	WCB, WCC, WC5, WC6, WC9, WC12(A) LCB, LCC	1/2"- 2" Gate, Globe Check Valves 1/2"- 60"Ball Valves Class 150 -2500
			A352		2"- 60" Class 150 -2500
STAINLESS STEEL	FORGED	A182	F304, F304L, F316, F316L. F321, F347, F5, F9, F11, F12, F22, F91, F92 F51, F53, F55 ALLOY 20, B148	1/2"- 2" Gate, Globe Check Valves 1/2"- 60"Ball Valves Class 150 -2500	
		A351		CF3, CF3M, CF8, CF8C, CF8M, CD4MCU, CW12MW, Al Bronze	2"- 60" Class 150 -2500

## STANDARDS & CODES GUIDELINE

### API Standards

API Std. 598	—Valve Inspection and Test.
API Std. 600	—Flanged & Butt Welded End Steel Gate & Plug Valves for Refinery Use.
API Std. 602	—Compact Design Carbon Steel Gate Valves for Refinery Use.
API Std. 606	—Compact Carbon Steel Gate Valves Extended Body.
API Std. 6D	—Steel Gate, Plug & Check Valves for Pipe Line Service.

### ANSI Standards

ANSI B1.1	—Unified & American Screw Threads.
ANSI B1 .2	—Screw Thread Gauges & Gauging.
ANSI B2.1	—Pipe Threads.
ANSI B16.5	—Steel Pipe Flanges & Flanged Fittings.
ANSI B16.9	—Steel Butt Welding Fittings.
ANSI B16.10	—Face-to-Face Dimensions of Ferrous Flanged & Welding End Valves.
ANSI B16.11	—Forged Steel Fittings. Socket-Welding and Threaded.
ANSI B16.14	—Ferrous Plugs. Bushings & Lock Nuts with Pipe Threads.
ANSI 16.25	—Butt Welding Ends.
ANSI B16.34	—Valves - Flanged and Butt Welding Ends.
ANSI B18.2	—Square & Hexagon Bolts & Nuts.
ANSI	—Code for Pressure Piping
B31.1.0	—Power Piping (Section 1)
B31.3	—Chemical Plant end Petroleum Refinery Piping (Section 3)
B31.4	—Liquid Petroleum Transportation Piping Systems (Section 4)
B31.8	—Gas Transmission and Distribution Piping Systems (Section 8)

### ASTM Standards

ASTM A105	—Forgings. Carbon Steel, for Piping Components.
ASTM A106	—Seamless Carbon Steel Pipe for High Temperature Service.
ASIM A182	—Forged or Rolled Alloy-Steel Pipe Flanges, Forged Fittings & Valves & Parts for High Temperature Service.
ASTM A193	—Alloy Steel Bolting Materials for High Temperature Service.
ASTM A194	—Carbon & Alloy Steel Nuts for Bolts for High Pressure & High Temperature Service

# STANDARD PIPE SCHEDULE & WEIGHT MEASUREMENT

Nominal Size		Outside Diameter mm	Nominal Wall Thickness & Weight for Welded & Seamless Steel Pipe ASME B36.10										Dimensions (mm) Weight (kg/m)			
DN	NPS		STD	EXTRA STRONG	XX STRONG	SCHED. 10	SCHED. 20	SCHED. 30	SCHED. 40	SCHED. 60	SCHED. 80	SCHED. 100	SCHED. 120	SCHED. 140	SCHED. 160	
6	1/8	10.3	1.73 <i>0.37</i>	2.41 <i>0.47</i>	-	-	-	-	-	-	-	-	-	-	-	
8	1/4	13.7	2.24 <i>0.63</i>	3.02 <i>0.80</i>	-	-	-	-	-	-	-	-	-	-	-	
10	3/8	17.1	2.31 <i>0.84</i>	3.20 <i>1.10</i>	-	-	-	-	-	-	-	-	-	-	-	
15	1/2	21.3	2.77 <i>1.27</i>	3.73 <i>1.62</i>	7.47 <i>2.55</i>	-	-	-	-	-	-	-	-	-	4.78 <i>1.95</i>	
20	3/4	26.7	2.87 <i>1.69</i>	3.91 <i>2.20</i>	7.82 <i>3.64</i>	-	-	-	-	-	-	-	-	-	5.56 <i>2.90</i>	
25	1	33.4	3.38 <i>2.50</i>	4.55 <i>3.24</i>	9.09 <i>5.45</i>	-	-	-	-	-	-	-	-	-	6.35 <i>4.24</i>	
32	1 - 1/4	42.2	3.56 <i>3.39</i>	4.85 <i>4.47</i>	9.7 <i>7.77</i>	-	-	-	-	-	-	-	-	-	6.35 <i>5.61</i>	
40	1 - 1/2	48.3	3.68 <i>4.05</i>	5.08 <i>5.41</i>	10.15 <i>9.56</i>	-	-	-	-	-	-	-	-	-	7.14 <i>7.25</i>	
50	2	60.3	3.91 <i>5.44</i>	5.54 <i>7.48</i>	11.07 <i>13.44</i>	-	-	-	-	-	-	-	-	-	8.74 <i>11.11</i>	
65	2 - 1/2	73.0	5.16 <i>8.63</i>	7.01 <i>11.41</i>	14.02 <i>20.39</i>	-	-	-	-	-	-	-	-	-	9.53 <i>14.92</i>	
80	3	88.9	5.49 <i>11.29</i>	7.62 <i>15.27</i>	15.24 <i>27.67</i>	-	-	-	-	-	-	-	-	-	11.13 <i>21.35</i>	
90	3 - 1/2	101.6	5.74 <i>13.57</i>	8.08 <i>18.63</i>	-	-	-	-	-	-	-	-	-	-	-	
100	4	114.3	6.02 <i>16.07</i>	8.56 <i>22.32</i>	17.12 <i>41.03</i>	-	-	-	-	-	-	-	11.13 <i>28.32</i>	-	13.49 <i>33.54</i>	
125	5	141.3	6.55 <i>21.77</i>	9.53 <i>30.97</i>	19.05 <i>57.43</i>	-	-	-	-	-	-	-	12.7 <i>40.28</i>	-	15.88 <i>49.11</i>	
150	6	168.3	7.11 <i>28.26</i>	10.97 <i>42.56</i>	21.95 <i>79.22</i>	-	-	-	-	-	-	-	14.27 <i>54.20</i>	-	18.26 <i>67.56</i>	
200	8	219.1	8.18 <i>42.55</i>	12.7 <i>64.64</i>	22.23 <i>107.92</i>	-	6.35 <i>33.31</i>	7.04 <i>36.81</i>	-	-	10.31 <i>53.08</i>	-	15.09 <i>75.92</i>	18.26 <i>90.44</i>	20.62 <i>100.92</i>	23.01 <i>111.27</i>
250	10	273.1	9.27 <i>60.31</i>	12.7 <i>81.55</i>	25.4 <i>155.15</i>	-	6.35 <i>41.77</i>	7.8 <i>51.03</i>	-	-	XS <i>81.55</i>	15.09 <i>96.01</i>	18.26 <i>114.75</i>	21.44 <i>133.06</i>	XXS <i>155.15</i>	28.58 <i>172.33</i>
300	12	323.9	9.53 <i>73.88</i>	12.7 <i>97.46</i>	25.4 <i>186.97</i>	-	6.35 <i>49.73</i>	8.38 <i>65.20</i>	10.31 <i>79.73</i>	14.27 <i>108.96</i>	17.48 <i>132.08</i>	21.44 <i>159.91</i>	25.4 <i>186.97</i>	XXS <i>208.14</i>	28.58 <i>238.76</i>	33.32 <i>238.76</i>
350	14	355.6	9.53 <i>81.33</i>	12.7 <i>107.10</i>	-	6.35 <i>54.59</i>	7.92 <i>67.90</i>	Std.W.T. <i>81.33</i>	11.13 <i>94.55</i>	15.09 <i>126.70</i>	19.05 <i>158.10</i>	23.83 <i>194.96</i>	27.79 <i>224.65</i>	31.75 <i>253.56</i>	35.71 <i>281.70</i>	-
400	16	406.4	9.53 <i>93.27</i>	12.7 <i>123.30</i>	-	6.35 <i>62.64</i>	7.92 <i>77.83</i>	Std.W.T. <i>93.27</i>	12.30 <i>123.30</i>	16.66 <i>160.12</i>	21.44 <i>203.53</i>	26.19 <i>245.56</i>	30.96 <i>286.64</i>	36.53 <i>333.19</i>	40.49 <i>365.35</i>	-
450	18	457	9.53 <i>105.16</i>	12.7 <i>139.15</i>	-	6.35 <i>70.57</i>	7.92 <i>87.71</i>	11.13 <i>122.38</i>	14.27 <i>155.80</i>	19.05 <i>205.74</i>	23.83 <i>254.55</i>	29.36 <i>309.62</i>	34.93 <i>363.56</i>	39.67 <i>408.26</i>	45.24 <i>459.37</i>	-
500	20	508	9.53 <i>117.15</i>	12.7 <i>155.12</i>	-	6.35 <i>78.55</i>	Std.W.T. <i>117.15</i>	XS <i>155.12</i>	15.09 <i>183.42</i>	20.62 <i>247.83</i>	26.19 <i>311.17</i>	32.54 <i>381.53</i>	38.1 <i>441.49</i>	44.45 <i>508.11</i>	50.01 <i>564.81</i>	-
550	22	559	9.53 <i>129.13</i>	12.7 <i>171.09</i>	-	6.35 <i>86.54</i>	Std.W.T. <i>129.13</i>	XS <i>171.09</i>	-	22.23 <i>294.25</i>	28.58 <i>373.83</i>	34.93 <i>451.42</i>	41.28 <i>527.05</i>	47.63 <i>600.63</i>	53.98 <i>672.26</i>	-
600	24	610	9.53 <i>141.12</i>	12.7 <i>187.06</i>	-	6.35 <i>94.53</i>	Std.W.T. <i>141.12</i>	14.27 <i>209.64</i>	17.48 <i>255.41</i>	24.61 <i>355.26</i>	30.96 <i>442.08</i>	38.89 <i>547.71</i>	46.02 <i>640.03</i>	52.37 <i>720.15</i>	59.54 <i>808.22</i>	-
650	26	660	9.53 <i>152.87</i>	12.7 <i>202.72</i>	-	7.92 <i>127.36</i>	XS <i>202.72</i>	-	-	-	-	-	-	-	-	-
700	28	711	9.53 <i>164.85</i>	12.7 <i>218.69</i>	-	7.92 <i>137.32</i>	XS <i>218.69</i>	15.88 <i>271.21</i>	-	-	-	-	-	-	-	-
750	30	762	9.53 <i>176.84</i>	12.7 <i>234.67</i>	-	7.92 <i>147.28</i>	XS <i>234.67</i>	15.88 <i>292.18</i>	-	-	-	-	-	-	-	-
800	32	813	9.53 <i>188.82</i>	12.7 <i>250.64</i>	-	7.92 <i>157.24</i>	XS <i>250.64</i>	15.88 <i>312.15</i>	17.48 <i>342.91</i>	-	-	-	-	-	-	-
850	34	864	9.53 <i>200.31</i>	12.7 <i>266.61</i>	-	7.92 <i>167.20</i>	XS <i>266.61</i>	15.88 <i>332.12</i>	17.48 <i>364.90</i>	-	-	-	-	-	-	-
900	36	914	9.53 <i>212.56</i>	12.7 <i>282.27</i>	-	7.92 <i>176.96</i>	XS <i>282.27</i>	15.88 <i>351.7</i>	19.05 <i>420.42</i>	-	-	-	-	-	-	-
1050	42	1067	9.53 <i>248.52</i>	12.7 <i>330.19</i>	-	-	-	-	-	-	-	-	-	-	-	-

SAME AS STANDARD W.T. (Std. W.T.)

SAME AS EXTRA STRONG W.T. (X.S.)



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