

# PIPE FITTINGS

**Repute** Pipe Fittings are precision machined from forgings for elbows, tees and crosses and from bar stock for straight connectors. These are designed to be used for process control and instrumentation connections between pipe sizes and tube sizes.

## Features:

- Size available from 1/16" through 2" in wide variety of thread combinations for easy transition from one thread design to other.
- Quality and reliability for instrumentation applications
- Working pressures calculated in accordance with Power Piping Code ANSI B31.1 and Refiner Piping Code ANSI B31.3.
- Pipe threads utilized are National Pipe Taper (NPT) as a standard and meet the requirements of ANSI B1.20.1.
- Straight bodies machined from applicable ASTM bar stock and shaped bodies are machined from forgings.
- Materials – 316 Stainless Steel, Brass and Steel. (Optional material upon request)
- All exposed threads protected with caps to prevent damage

Each fitting is thoroughly cleaned to eliminate system contamination and improve surface finish to enhance the performance and appearance. Pipe Fittings are manufactured from materials meeting applicable ASTM or ASME specifications, with pipe threads to meet or exceed ANSI/ASME B1.20.1 requirements.

## Material Standards:

Material	Straight Fittings	Shaped Fittings
SS 316	ASTM A 276	ASTM A 182
Brass	ASTM B 453	-
Steel	ASTM A 108	-

## Thread Specifications:

Thread Type	Standard / Specification
NPT	ASME B1.20.1
ISO/BSP Parallel (BSPP)	ISO 228
ISO/BSP Tapered (BSPT)	ISO7/1
Unified (SAE)	ASME B1.1

## Temperature Ratings:

Temperature rating for pipe fittings is limited by the thread sealant and the gasket or O-ring material as applicable. Refer below table for maximum allowable temperature ratings. To know the correct temperature rating consideration must also be given to the type of thread sealant used.

Material	Maximum Temperature °F (°C)
SS 316	1000 (537)
Brass	392 (200)
Steel	375 (190)

## Temperature De-rating Factor:

Temp.	°F	100	200	300	400	500	600	700	800	900	1000	1200
	°C	38	93	149	204	260	316	271	427	482	538	649
Factor	stainless Steel	1.00	1.00	1.00	0.97	0.9	0.85	0.82	0.8	0.78	0.77	0.49
	Brass	1.00	0.78	0.69	0.13	-	-	-	-	-	-	-
	Steel	1.00	0.94	0.91	0.88	-	-	-	-	-	-	-

## Pressure Ratings:

Pressure ratings listed are for temperature up to 37°C (100°F). Pressure rating is calculated at -28 to 37°C (-20 to 100°F) using allowable stress value of 20000 psi for SS316, 10000 psi for Brass, and 20000 psi for Carbon Steel as per ASME B31.3 Process Piping Code. While determining pressure ratings in accordance with B31.1 power piping, multiply below pressure rating values by a factor 0.94 for MOC stainless steel and by 0.85 for MOC Steel. Brass rating values remains unchanged.

NPT Size	Pressure Rating in PSI (Male Threads)	
	SS 316 / Steel	Brass
1/16"	11000	5000
1/8"	10000	4500
1/4"	8000	4000
3/8"	7500	4000
1/2"	7500	4000
3/4"	7000	3500
1"	5000	3000
1 1/4"	5000	3000
1 1/2"	4500	2500
2'	4000	2000

NPT Size	Pressure Rating in PSI (Female Threads)	
	SS 316 / Steel	Brass
1/16"	6800	3500
1/8"	6800	3500
1/4"	6800	3000
3/8"	5500	3000
1/2"	5000	3000
3/4"	4800	2500
1"	4500	2500
1 1/4"	4500	2200
1 1/2"	4000	2200
2'	4000	2000

To ensure a leak-tight seal, the use of a pipe thread sealant is recommended. The most effective and recommended thread sealant is PTFE Tape.

## Installation with PTFE Tape:

PTFE tape should be used only on male tapered pipe threads. The chart below provides information regarding the suggested tape width.

- Clean both male and female tapered threads.
- Wrap tape in the direction of the male tapered thread.
- Two to three wraps are suggested for stainless steel tapered pipe threads.
- Ensure tape does not overhang the first thread, as the tape might shred and enter the fluid system.
- Cut off excess tape and the connection is now ready for use.

Thread Size	Suggested PTFE Tape Width
1/8"	18" or 1/4"
1/4"	1/4"
3/8"	1/4"
1/2"	1/4" or 1/2"
3/4"	1/2"
1"	1/2"

# Ordering / Part Number De-coding:

**A** - **B** - **C** - **D** - **E** **F**

## A: Fitting Family

PF : Pipe Fitting

## B: Material

SS: SS 316

304: SS304

B: Brass

M : Monel 400

HC: Hastelloy C

SD : SAF 2507

## C: Fitting Type

AD: Adaptor

BT: Branch Tee

C: Cap

CR: Cross

FE: Female Elbow

FT: Female Tee

LN: Hex Long Nipple

HC: Hex Coupling

HP: Hex Plug

HRC: Hex Reducing Coupling

ME: Male Elbow

MT: Male Tee

N: Hex Nipple

PN: Pipe Nipple

RA: Reducing Adaptor

RB: Reducing Bush

RN : Hex Reducing Nipple

RSE: Reducing Street Elbow

SE: Street Elbow

ST: Street Tee

## D: Size

1: 1/16"

2: 1/8"

3: 3/16"

4: ¼"

5: 5/16"

6: 3/8"

8: ½"

10: 5/8"

12: ¾"

14: 7/8"

16: 1"

20: 1 1/4"

24: 1 1/2"

32: 2"

## E: Second End Connection Size

(Choose and add the size  
designator from above)

## F: Second End Connection Type

(NPT is standard)

AN: Male AN 37<sup>0</sup>

FAN: Female AN 37<sup>0</sup>

P: Parallel Thread

PT: Tapered Parallel (BSPT)

W: Weld End