



## ANSI SCH10S SS304 Stainless Steel Pipe Fittings For Chemical Plant

Our Product Introduction

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### Basic Information

- Place of Origin: China
- Brand Name: DEYE
- Certification: ISO9001: 2015
- Model Number: PF-CAP-S-04
- Minimum Order Quantity: 10pcs
- Price: USD 2-100 dollars for SS36L Reducers
- Packaging Details: Ply-Wooden Cases, Pallets , cartons
- Delivery Time: 10 work days
- Supply Ability: 25 tons for one month



### Product Specification

- Material: SS316/SS316L, SS304/SS304L, SS321, UNS31803, UNS32750
- Connection: Butt Welded BW
- Thickness: Sch5s, Sch10s, Sch40s, Sch80s, Sch160s, Xs, Xxs
- Surface: Pickling, Polish
- Highlight: **SS304 Stainless Steel Pipe Fittings,  
SCH10S Stainless Steel Pipe Fittings,  
ANSI stainless steel butt weld caps**



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## Product Description

### ANSI SCH10S SS304 Stainless Steel Pipe Fittings for chemical plant

Round Cap Sch5S, 10S, 40S, 80S , Seamless Welded 304/L 316/L Stainless Steel  
Conforming to ASTM A403,ANSI B16.9, ANSI B16.28 and MSS SP-43  
BS EN 10204 3.1 Certificates available on request  
Suitable applications: Hot and Cold Water, Oil, Gas and other medium

#### Products Information/Specification:

Products Name	Butt-Welding Stainless steel seamless and welded Pipe Fitting with standard ANSI B16.9
Types	Caps,Con. Reducers, Ecc. redcuers, LR Elbows, SR Elbow, 180deg Returns, Bends, Reducing Eblow, Straight Tee, Equal Tee, Y Tee, Stub Ends,
Size	1/2"-72" DN15-DN1800
Wall Thickness	From low thickness to higher thickness SCH5S,SCH10s,SCH20S,SCH30,STD, SCH40S,SCH60,XS,SCH80S,SCH100,SCH120,SCH160S,XXS, DIN, SGP JIS thickness
Standard	ASTMA312, ASTM AWP40, ASME, A234WPB A420, ANSI B16.9/B16.28/B16.25 JIS B2311-1997/2312, JIS B2311/B2312, DIN 2605-1/2617/2615, GB 12459-99,EN Standard etc.
Material	Stainless Steel304, 304L, 304H, 316, 316L, 316H, 310, SS321, SS321H, 347, 347H, 904L Duplex SS 2507, DSS2205, UNS31803 UNS32750 1.4301,1.4306, 1.4401, 1.4435, 1.4406, 1.4404, 1.4462, 1.4410, 1.4501 Carbon Steel A234 WPB, WP5, WP9,WP11, WP22, A420WPL6, A420WPL8 ST37.0,ST35.8,ST37.2,ST35.4/8,ST42,ST45,ST52,ST52.4 STP G38,STP G42,STPT42,STB42,STS42,STPT49,STS49
Surface	Sandblast , acid pickling, Polished

#### Features /Characteristics

Steel Pipe Cap is also called Steel Plug, it usually welded to the pipe end to close the pipeline, so the function is the same as the pipe plug. Ranges from material types, there are: Carbon steel pipe cap, Stainless steel cap, Alloy steel cap

- \* Buttweld fittings are pipe fittings used to change the pathway of a pipeline (elbows), reduce/increase the pipe bore size (reducers), branch (tees, cross) or blind a pipeline (butt weld cap)
- Buttweld fittings are available in multiple shapes (elbows, tees, reducers, crosses, caps, stub ends), material grades (carbon, high-yield carbon, low-alloy, stainless, duplex, and nickel alloys), and dimensions (2 to 24 inches in seamless or welded, 26"-72" in welded).
- The key specifications for buttweld fittings are the ASME B16.9 (carbon and alloy fittings) and the MSS SP 43 (that integrates ASME B16.9 for stainless steel, duplex, and nickel alloy BW fittings).
- butt weld pipe fittings are sold as SCH105S, SCH10S, SCH20S, SCH40S, STD, SCH40, SCH80S, SCH80, SCH160S, XXS
- Welded butt weld fittings are more common in stainless steel due to cost advantage. Sch 10S, SCH40S SS fittings are also more common in stainless steel butt weld fittings.
- Common material for butt weld fittings are A234 WPB, High Yield Carbon Steel, Stainless Steel 304 and 316 and Nickel Alloys.
- Welded pipe fittings in carbon steel and stainless steel are the joining components that make possible the assembly of valves, pipes and equipment onto the piping system.

#### Technology/ Technical Data Sheets

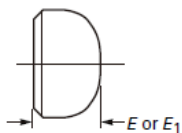
##### Thickness List for pipefittings ANSI B16.9

Unit: mm

Pipe Size	Outside Diameter	Nominal Wall Thickness														
		Sch5S	Sch10S	Sch10	Sch20S	Sch30S	Sch40S	STD	Sch60	Sch80S	XS	Sch100	Sch120	Sch140	Sch160	XXS
1/8	10.3	—	1.24	—	—	—	1.73	1.73	—	2.41	2.41	—	—	—	—	—
1/4	13.7	—	1.65	—	—	—	2.24	2.24	—	3.02	3.02	—	—	—	—	—
3/8	17.1	—	1.65	—	—	—	2.31	2.31	—	3.20	3.20	—	—	—	—	—
1/2	21.3	1.65	2.11	—	—	—	2.77	2.77	—	3.73	3.73	—	—	—	4.78	7.47
3/4	26.7	1.65	2.11	—	—	—	2.87	2.87	—	3.91	3.91	—	—	—	5.56	7.82
1	33.4	1.65	2.77	—	—	—	3.38	3.38	—	4.55	4.55	—	—	—	6.35	9.09
1 1/4	42.2	1.65	2.77	—	—	—	3.56	3.56	—	4.85	4.85	—	—	—	6.35	9.70
1 1/2	48.3	1.65	2.77	—	—	—	3.68	3.68	—	5.08	5.08	—	—	—	7.14	10.15
2	60.3	1.65	2.77	—	—	—	3.91	3.91	—	5.54	5.54	—	—	—	8.74	11.07
2 1/2	73.0	2.11	3.05	—	—	—	5.16	5.16	—	7.01	7.01	—	—	—	9.53	14.02
3	88.9	2.11	3.05	—	—	—	5.49	5.49	—	7.62	7.62	—	—	—	11.13	15.24
3 1/2	101.6	2.11	3.05	—	—	—	5.74	5.74	—	8.08	8.08	—	—	—	—	—
4	114.3	2.11	3.05	—	—	—	6.02	6.02	—	8.56	8.56	—	11.13	—	13.49	17.12

5	141.32	77	3.40	—	—	—	6.55	6.55	—	9.53	9.53	—	12.70	—	15.88	19.05
6	168.32	77	3.40	—	—	—	7.11	7.11	—	10.97	10.97	—	14.27	—	18.26	21.95
8	219.12	77	3.76	—	6.35	7.04	8.18	8.18	10.31	12.70	12.70	15.09	18.26	20.62	23.01	22.23
10	273.13	40	4.19	—	6.35	7.80	9.27	9.27	12.70	12.70	12.70	18.26	21.44	25.40	28.58	25.40
12	323.9	3.96	4.57	—	6.35	8.38	9.53	9.53	14.27	12.70	12.70	21.44	25.40	28.58	33.32	25.40
14	355.63	96	4.78	6.35	7.92	9.53	—	9.53	15.09	—	12.70	23.83	27.79	31.75	35.71	—
16	406.44	19	4.78	6.35	7.92	9.53	—	9.53	16.66	—	12.70	26.19	30.96	36.53	40.49	—
18	457.24	19	4.78	6.35	7.92	11.13	—	9.53	19.05	—	12.70	29.36	34.96	39.67	45.24	—
20	508.04	78	5.54	6.35	9.53	12.70	—	9.53	20.62	—	12.70	32.54	38.10	44.45	50.01	—
22	558.84	78	5.54	6.35	9.53	12.70	—	9.53	22.23	—	12.70	34.93	41.28	47.63	53.98	—
24	609.65	54	6.35	6.35	9.53	14.27	—	9.53	24.61	—	12.70	38.89	46.02	52.37	59.54	—
26	660.4	—	—	7.92	12.70	—	—	9.53	—	—	12.70	—	—	—	—	—
28	711.2	—	—	7.92	12.70	15.88	—	9.53	—	—	12.70	—	—	—	—	—
30	762.06	35	7.92	7.92	12.70	15.88	—	9.53	—	—	12.70	—	—	—	—	—
32	812.8	—	—	7.92	12.70	15.88	—	9.53	—	—	12.70	—	—	—	—	—
34	863.6	—	—	7.92	12.70	15.88	—	9.53	—	—	12.70	—	—	—	—	—
36	914.4	—	—	7.92	12.70	15.88	—	9.53	—	—	12.70	—	—	—	—	—
38	965.2	—	—	—	—	—	—	9.53	—	—	12.70	—	—	—	—	—
40	1016.0	—	—	—	—	—	—	9.53	—	—	12.70	—	—	—	—	—
42	1066.8	—	—	—	—	—	—	9.53	—	—	12.70	—	—	—	—	—
44	1117.6	—	—	—	—	—	—	9.53	—	—	12.70	—	—	—	—	—
46	1168.4	—	—	—	—	—	—	9.53	—	—	12.70	—	—	—	—	—
48	1219.2	—	—	—	—	—	—	9.53	—	—	12.70	—	—	—	—	—

#### Dimensions of Reducers



Nominal Pipe Size (NPS)	Outside Diameter at Bevel	Length, E [Note (1)]	Limiting Wall Thickness for Length, E	Length, E <sub>1</sub> [Note (2)]
1/2"	21.3	25	4.57	25
3/4"	26.7	25	3.81	25
1	33.4	38	4.57	38
1-1/4"	42.2	38	4.83	38
1-1/2"	48.3	38	5.08	38
2	60.3	38	5.59	44
2-1/2"	73.0	38	7.11	51
3	88.9	51	7.62	64
3-1/2"	101.6	64	8.13	76
4	114.3	64	8.64	76
5	141.3	76	9.65	89
6	168.3	89	10.92	102
8	219.1	102	12.70	127
10	273.0	127	12.70	152
12	323.8	152	12.70	178
14	355.6	165	12.70	191
16	406.4	178	12.70	203
18	457.0	203	12.70	229
20	508.0	229	12.70	254
22	559.0	254	12.70	254
24	610.0	267	12.70	305
26	660.0	267		
28	711.0	267		
30	762.0	267		

32	813.0	267		
34	864.0	267		
36	914.0	267		
38	965.0	305		
40	1 016.0	305		
42	1 067.0	305		
44	1 118.0	343		
46	1 168.0	343		
48	1 219.0	343		

Stainless steel is the abbreviation for stainless and acid resistant steel. Steel that is resistant to weak corrosive media such as air, steam, water, or has rust resistance is called stainless steel; And the steel grade that is resistant to chemical corrosion media (such as acid, alkali, salt, etc.) corrosion is called acid resistant steel. For the Stainless Steel pipe fittings, the most common used material is SS304/304L, SS316/316L, DUPLEX SAF2507, SAF2205

The most common used material is SS304/304L, SS316/316L, DUPLEX SAF2507, SAF2205, Detail's specification of the material as below.

#### 304/304L (UNS S30400/S30403)

##### Chemical Composition%

C	Cr	Mn	Ni	P	S	Si
≤	--	≤	--	≤	≤	≤
0.035	18.0-20.0	2.00	8.0-13.0	0.045	0.03	1.00

Tensile Strength: ≥ 485 Mpa (70KSI)

Yield Strength: ≥170Mpa (25KSPI)

Elongation ≥ 40%

#### 316/316L (UNS S31600/S31603)

##### Chemical Composition%

C	Cr	Mn	Mo	Ni	P	S	Si
≤	--	≤	--	--	≤	≤	≤
0.035	16.0-18.0	2.00	2.0-3.0	10.0-14.0	0.045	0.03	1.00

Tensile Strength: ≥ 485 Mpa (70KSI)

Yield Strength: ≥170Mpa (25KSPI)

Elongation ≥ 40%

#### SAF2205 (UNS31803)

##### Chemical Composition%

C≤	Si≤	Mn≤	P≤	S≤	Cr	Ni	Mo	Cu	N
0.03	1.0	2.0	0.03	0.02	22-23	4.5-6.5	3.0-3.50	/	0.14-0.2

##### Mechanical Performance

Test Items	Test Temp.	Performance	Standard Data
Tensile Strength	Room Temp.	Yield Strength s≥	450 Mpa
		Tensile Strength h ≥	620 Mpa
		Elongation % >	25
		Reduction of Area=>	/
Impact Value KV(J)	Room Temp.	<b>Lateral</b>	/
Brinell hardness	Room Temp.	≤	290
Rockwell hardness	Room Temp.	≥	/

#### SAF2507(UNS32750)

##### Chemical Composition%

c ≤	Si≤	Mn≤	P≤	S≤	Cr	Ni	Mo	Cu≤	N
0.03	0.8	1.2	0.03	0.015	24-26	6.0-8.0	3.0-5.0	0.5	0.24-0.32

##### Mechanical Performance

Test Items	Test Temp.	Performance	Standard Data
Tensile	Room Temp.	Yield Strength	Ø≤55 Rm≥ 550 Mpa
			Ø >55 Rm≥ 515 Mpa
		Tensile Strength	Ø≤55 R0.002 ≥ 800 Mpa
			Ø >55 R0.002≥ 760 Mpa
		Elongation A% (4D) >	Ø≤55 ≥ 15
			Ø >55 ≥ 15
Brinell hardness HB	Room Temp.	Ø≤5 ≤	310
		Ø >55 ≤	310

##### Production Process



#### 1. Raw material Receiving and Cutting



#### 2. Material Identification



#### 3. Elbows, Tees, reducers, Caps, stub ends, kinds of pipefittings shape forming



#### 4. Material welding process (welded elbows )





5. Heat Treatment for SS pipefittings



6. Shot Blast and cleaning





7. Surface checking



8. After Polished



9. stainless steel Pipefittings Material In Stock



#### **Application/Usage**

Low and middle pressure fluid pipeline, boiler, petroleum and natural gas industry, drilling, chemical industry, electric industry, shipbuilding, fertilizer equipment and pipeline, structure, petrochemical, pharmaceutical industry, etc.

#### **Reference Standards**

##### **ASME B16.9 Specification for Butt Welded Fittings**

ASME B16.9 specification is designed for butt welded fittings applied in industrial construction pipelines. Including elbow, tee, cross, cap, reducer, and etc.

##### **Standard Scope**

The standard includes specifications of NPS 1/2 to NPS 48 (DN15-DN1200) factory-made wrought butt-welded pipe fittings overall dimensions, tolerances ratings, test methods and markings.

##### **Special Fittings**

Special fittings here refer to special sizes, forms and tolerances that agreed between buyer and manufacturer.

##### **Fabricated Fittings**

Fabricated laterals and other fittings by circumferential or intersection welds are considered pipe fabrication could not apply this standard.

Units under ASME B16.9 shall be stated in both SI (Metric) and U.S. Customary units. Designation for size is NPS.



#### FAQ/ Customer Question and Answers

**Q:** Customer asked for butt weld fittings in A105:

**A:** Most common carbon steel butt weld fitting material is A234WPB. It is equivalent to A105 flanges, however there is no such thing as an A105 or A106 butt weld fitting. A106 Gr.B is for pipe grade. The A234WPB fittings are made from A106GR.B pipes. A105 is a material from Bar forged to be High pressure Fittings or Flange

**Q:** Customer requests "Normalized" butt weld fittings:

**A:** This is also a misconception since flanges are available in A105 and A105 N, where N stands for normalized. However, there is no such thing as A234WPBN. Manufactures normalize their butt weld fittings was considered that normalized heat treating process was done, Especially for the elbows and Tees

Customer needing "normalized" butt weld fittings should request WPL6 fittings which are high yield and are normalized as a standard procedure.

**Q:** Customer forgets to mention pipe schedule:

**A:** Butt weld fittings are sold as per pipe size but pipe schedule must be specified to match the ID of the fitting to the ID of the pipe. If no schedule is mentioned, we will assume a standard wall is requested.

**Q:** Customer forgets to mention welded or seamless butt weld fitting:

**A:** Butt weld fittings are available in both welded and seamless configuration. A seamless butt weld carbon steel or stainless steel fitting is made of seamless pipe and is generally more expensive. Seamless pipe fittings are NOT common in sizes bigger than 12". Welded pipe fittings are made of ERW welded carbon steel or stainless steel pipe. They are available in sizes ½" to 72" and are more affordable than seamless fittings.

**Q:** What does Short Radius (SR) or Long Radius (LR) means?

**A:** You will often hear SR45 elbow or LR45 elbow. The 45 or 90 refers to the angle of the bend for butt weld fitting to change the direction of flow.

A long radius elbow (LR 90 Elbow or LR 45 elbow) will have a pipe bend that will be 1.5 times the size of the pipe. So, a 6 inch LR 90 has bending radius that is 1.5 x nominal pipe size.

A short radius elbow (SR45 or SR90) has a pipe bend that is equal to the size of the fitting, so a 6" SR 45 has a bending radius that is 6" nominal pipe size.

**Q:** What is a 3R or 3D elbow pipe fitting?

**A:** First, the terms 3R or 3D are used synonymously. A 3R butt weld elbow has a bending radius that is 3 times the nominal pipe size. A 3R elbow is equal to 3D Elbows

#### Our Service

1. Technical support
2. Raw Material Quality control.
3. Inspection during the production time.
4. Final Test includes Surface, Dimension, PT Test, RT test, ultrasonic Test
5. Test Report each shipment
4. Flexible Delivery terms. EXW FOB CIF CFR DDP DDU
5. Flexible payment Ways: LC. TT. DP
6. Customized Package includes Logo. Cases Dimension.
7. 18 months quality Guarantee time.
9. Free replacement by air if any error founded
10. 24 hours to Feedback your questions

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