# Seamless Duplex Stainless Steel Pipe Fittings SCH10S SCH40S SCH80S SCH160S

## **Basic Information**

Place of Origin: ChinaBrand Name: DEYE

Certification: ISO9001: 2015
 Model Number: PF-EL-S-01
 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: Seamless duplex stainless steel pipe fittings,

SCH10S duplex stainless steel pipe fittings,

SCH40S stainless buttweld caps



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### **Product Description**

<u>Stainless steel Caps</u>: 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. with pipe thickness SCH5SM 10SM 20SM 40SM 80S, 160S. XXS.

## **Products Information/Specification:**

| Products<br>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<br>Thickne<br>ss | From low thickness to higher thickness<br>SCH5S,SCH10s,SCH20S,SCH30,STD,SCH40S,SCH60,XS,SCH80S,SCH100,SCH120,,S<br>CH160S,XXS, DIN, SGP JIS thickness |
|                       | ASTMA312, ASTM AWP40, ASME, A234WPB A420, ANSI B16.9/B16.28/B16.25  |
| Standar               | JIS B2311-1997/2312, JIS B2311/B2312, DIN 2605-1/2617/2615,   |
| d                     | GB 12459-99,EN Standard etc.  |
|                       | 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  |
| Material              | 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 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).
- 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)
- 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 but weld fittings are more common in stainless steel due to cost advantage. Sch 10S, SCH40S SS fittings are also more common in stainless steel but 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  | Outside | Normina  | Norminal Wall Thickness |          |          |        |       |       |          |        |       |       |          |          |          |        |          |
|-------|---------|----------|-------------------------|----------|----------|--------|-------|-------|----------|--------|-------|-------|----------|----------|----------|--------|----------|
| Size  | Dimeter | Sch5s    | Sch10S                  | Sch20    | Sch30    | Sch40s | STD   | Sch40 | Sch60    | Sch80s | xs    | Sch80 | Sch100   | Schl20   | Schl40   | Sch160 | xxs      |
| 1/8   | 10. 3   | <u> </u> | 1. 24                   | $\vdash$ | <u> </u> | 1. 73  | 1. 73 | 1. 73 | _        | 2. 41  | 2. 41 | 2. 41 | _        | <u> </u> | _        |        | $\vdash$ |
| 1/4   | 13. 7   | F        | 1. 65                   | F        | F        | 2. 24  | 2. 24 | 2. 24 | F        | 3. 02  | 3. 02 | 3. 02 | F        | F        | F        | F      | F        |
| 3/8   | 17. 1   | F        | 1. 65                   | F        | F        | 2. 31  | 2. 31 | 2. 31 | F        | 3. 20  | 3. 20 | 3. 20 | F        | -        | -        | F      | -        |
| 1/2   | 21.3    | 1.65     | 2. 11                   | <u> </u> |          | 2. 77  | 2. 77 | 2. 77 | $\vdash$ | 3. 73  | 3. 73 | 3. 73 | _        | <u> </u> | _        | 4. 78  | 7. 47    |
| 3/4   | 26. 7   | 1.65     | 2. 11                   | $\vdash$ | <u> </u> | 2. 87  | 2. 87 | 2. 87 | _        | 3. 91  | 3. 91 | 3. 91 | $\vdash$ | _        | _        | 5. 56  | 7. 82    |
| 1     | 33.4    | 1. 65    | 2. 77                   | F        | F        | 3. 38  | 3. 38 | 3. 38 | F        | 4. 55  | 4. 55 | 4. 55 | F        | -        | -        | 6. 35  | 9. 09    |
| 1 1/4 | 42. 2   | 1.65     | 2. 77                   | F        | F        | 3. 56  | 3. 56 | 3. 56 | F        | 4. 85  | 4. 85 | 4. 85 | F        | F        | -        | 6. 35  | 9. 70    |
| 1 1/2 | 48. 3   | 1.65     | 2. 77                   |          | <u> </u> | 3. 68  | 3. 68 | 3. 68 | _        | 5. 08  | 5. 08 | 5. 08 | $\vdash$ | _        | _        | 7. 14  | 10. 15   |
| 2     | 60. 3   | 1. 65    | 2. 77                   | $\vdash$ | <u> </u> | 3. 91  | 3. 91 | 3. 91 | _        | 5. 54  | 5. 54 | 5. 54 | $\vdash$ | <u> </u> | _        | 8. 74  | 11. 07   |
| 2 1/2 | 73. 0   | 2. 11    | 3. 05                   | E        | F        | 5. 16  | 5. 16 | 5. 16 | F        | 7. 01  | 7. 01 | 7.01  | F        | F        | F        | 9. 53  | 14. 02   |
| 3     | 88. 9   | 2. 11    | 3. 05                   | F        | F        | 5. 49  | 5. 49 | 5. 49 | F        | 7. 62  | 7. 62 | 7. 62 | F        | F        | <u> </u> | 11. 13 | 15. 24   |
| 3 1/2 | 101.6   | 2. 11    | 3. 05                   |          |          | 5. 74  | 5. 74 | 5. 74 |          | 8. 08  | 8. 08 | 8. 08 |          |          |          |        |          |

| 4  | 114.3   | 2. 11    | 3. 05    |        | _      | 6. 02 | 6.02  | 6. 02    | <u> </u> | 8. 56  | 8. 56  | 8. 56    | <u> </u> | 11. 13 |        | 13. 49 | 17. 12 |
|----|---------|----------|----------|--------|--------|-------|-------|----------|----------|--------|--------|----------|----------|--------|--------|--------|--------|
| 5  | 141.3   | 2. 77    | 3. 40    | -      |        | 6. 55 | 6. 55 | 6. 55    | -        | 9. 53  | 9. 53  | 9. 53    | -        | 12. 70 | -      | 15. 88 | 19. 05 |
| 6  | 168. 3  | 2. 77    | 3. 40    | -      | _      | 7. 11 | 7. 11 | 7. 11    |          | 10. 97 | 10. 97 | 10. 97   | l-       | 14. 27 | -      | 18. 26 | 21.95  |
| 8  | 219. 1  | 2. 77    | 3. 76    | 6. 35  | 7. 04  | 8. 18 | 8. 18 | 8. 18    | 10. 31   | 12. 70 | 12. 70 | 12. 70   | 15. 09   | 18. 26 | 20. 62 | 23. 01 | 22.23  |
| 10 | 273. 1  | 3. 40    | 4. 19    | 6. 35  | 7. 80  | 9. 27 | 9. 27 | 9.27     | 12. 70   | 12. 70 | 12. 70 | 15. 09   | 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 | 10. 31   | 14. 27   | 12. 70 | 12. 70 | 17. 48   | 21. 44   | 25. 40 | 28. 58 | 33. 32 | 25. 40 |
| 14 | 355. 6  | 3. 96    | 4. 78    | 7. 92  | 9. 53  | -     | 9. 53 | 11. 13   | 15. 09   | _      | 12. 70 | 19. 05   | 23. 83   | 27. 79 | 31. 75 | 35. 71 | F      |
| 16 | 406. 4  | 4. 19    | 4. 78    | 7. 92  | 9. 53  | _     | 9. 53 | 12. 70   | 16. 66   | _      | 12. 70 | 21. 44   | 26. 19   | 30. 96 | 36. 53 | 40. 49 |        |
| 18 | 457. 2  | 4. 19    | 4. 78    | 7. 92  | 11. 13 | _     | 9. 53 | 14. 27   | 19. 05   | _      | 12. 70 | 23. 83   | 29. 36   | 34. 96 | 39. 67 | 45. 24 |        |
| 20 | 508. 0  | 4. 78    | 5. 54    | 9. 53  | 12. 70 | F     | 9. 53 | 15. 09   | 20. 62   |        | 12. 70 | 26. 19   | 32. 54   | 38. 10 | 44. 45 | 50. 01 | F      |
| 22 | 558. 8  | 4. 78    | 5. 54    | 9. 53  | 12. 70 | F     | 9. 53 | F        | 22. 23   |        | 12. 70 | 28. 58   | 34. 93   | 41. 28 | 47. 63 | 53. 98 | F      |
| 24 | 609. 6  | 5. 54    | 6. 35    | 9. 53  | 14. 27 | _     | 9. 53 | 17. 48   | 24. 61   | _      | 12. 70 | 30. 96   | 38. 89   | 46. 02 | 52. 37 | 59. 54 |        |
| 26 | 660.4   | <u> </u> | _        | 12. 70 | _      | _     | 9. 53 | <u> </u> | _        | _      | 12. 70 | <u> </u> | _        | _      | _      | _      |        |
| 28 | 711.2   | F        | F        | 12. 70 | 15. 88 | F     | 9. 53 | F        | F        | _      | 12. 70 | -        | F        | _      | F      | _      | F      |
| 30 | 762. 0  | 6. 35    | 7. 92    | 12. 70 | 15. 88 | F     | 9. 53 | F        | F        | _      | 12. 70 | -        | F        | _      | F      | _      | F      |
| 32 | 812. 8  | $\vdash$ | $\vdash$ | 12. 70 | 15. 88 |       | 9. 53 | 17. 48   | _        |        | 12. 70 | $\vdash$ | _        | _      |        |        |        |
| 34 | 863. 6  | $\vdash$ | _        | 12. 70 | 15. 88 | _     | 9. 53 | 17. 48   | _        |        | 12. 70 | _        | _        | _      |        |        |        |
| 36 | 914. 4  | F        | F        | 12. 70 | 15. 88 | F     | 9. 53 | 17. 48   | F        | _      | 12. 70 | -        | F        | _      | l-     | _      | F      |
| 38 | 965.2   | F        | F        | F      | _      | -     | 9. 53 | F        | -        | _      | 12. 70 | -        | F        | _      | -      | _      | F      |
| 40 | 1016. 0 |          |          |        |        |       | 9. 53 |          |          |        | 12. 70 |          |          |        |        |        |        |
| 42 | 1066. 8 |          |          |        |        |       | 9. 53 |          |          |        | 12. 70 |          |          |        |        |        |        |
| 44 | 1117. 6 | F        | F        | F      |        |       | 9. 53 | F        | E        |        | 12. 70 | F        | F        | _      | F      |        | F      |
| 46 | 1168.4  | F        | F        | F      |        | -     | 9. 53 | F        | F        |        | 12. 70 | -        | F        | _      | -      |        | F      |
| 48 | 1219. 2 | F        | F        | F      | F      | F     | 9. 53 | F        | F        | F      | 12. 70 | F        | F        | F      | F      | F      | F      |

## **Dimensions of Reducers**



| Nominal Pipe Size<br>(NPS) | Outside Diameter at<br>Bevel | Length, E<br>[Note (1)] | Limiting Wall Thickness for Length, E | Length,E <sub>1</sub><br>[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

 $media \ (such \ as \ acid, \ alkali, \ salt, \ etc.) \ corrosion \ is \ called \ acid \ resistant \ steel. For the \ Stainless \ Steel \ pipe fittings, \ the \ most \ common \ used \ material \ is \ SS304/304L, \ SS316/316L, \ DUPLEX \ SAF2507, \ SAF2205$ 

# **Production Process**

1. Raw material Receiving and Cutting



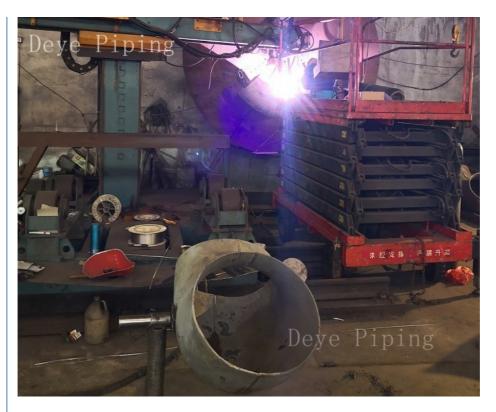
2. Material Identification



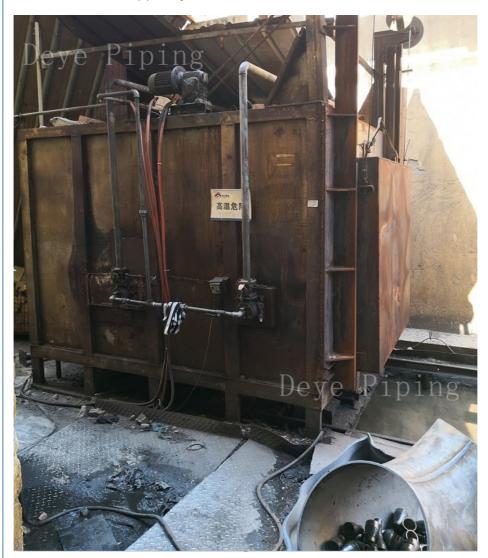
3. Elbows, Tees ,reducers, Caps, stub ends, kinds of pipefittings shape forming



4. Material wedling process (welded elbows)



5. Heat Treatment for SS pipefittings



6. Shot Blast and cleaning



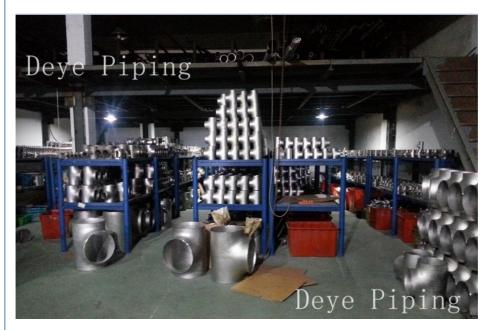
7. Surface checking



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 buttweld 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, Espeically 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: Buttweld 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 buttweld 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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