



1.5D 3D 5D 6D 8D 10D Carbon Steel Pipe Fittings Black Return Bends With SCH40 SCH80

Our Product Introduction

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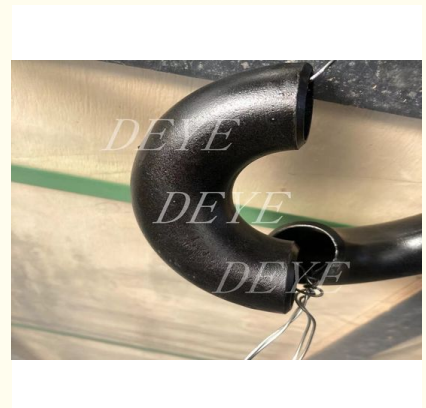
Basic Information

- Place of Origin: CHINA
- Brand Name: DEYE
- Certification: ISO9001:2015 PED
- Model Number: PF-BE-C01
- Minimum Order Quantity: 10PCS
- Price: USD0.58-USD100 for seamless fittings
- Packaging Details: Ply-wooden cases, pallets, cartons
- Delivery Time: 5-8 days for stock items
- Payment Terms: L/C, T/T, D/P

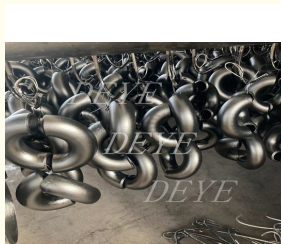


Product Specification

- Standard: ASME ANSI DIN GOST
- Material: A234WPB, WP11, WP22, WPC, P9, P11, A420WPL6
- Thickness: SGP, STD, SCH20, SCH30, SCH40, SCH60, SCH80, SCH160, XS, XXS
- Size: 1/2"-72"
- Connection: Butt Welded BW
- Surface: Black Painting, Vanish Painting, Anti-rust Oil, Sandblastic
- Highlight: 10D Carbon Steel Pipe Fittings, 8D Carbon Steel Pipe Fittings, 3D carbon steel fittings



More Images



Product Description

1.5D 3D 5D 6D 8D 10D Carbon Steel Pipe Fittings Black Return Bends with SCH40 SCH80

3D or 5D Pipe Fittings are always use for pipeline connection, the difference is the radius. it can be divide to 3D,5D,6D,7D,10D etc.

3D pipe bending is a pipe bend that the bend radius is 3 times the pipe outside diameter. The RADIUS of a 5D pipe bend is actually what is 5 times the nominal diameter. So if you had a 10" diameter pipe, the radius of the centerline of the bend would be 50 inches.

Larger numbers have smoother curves. Smoother curves are often used for applications with higher pressure, abrasion or corrosion.

Product Information/Product Description/Basis Information/Specification

Product Name	ANSI B16.9 Butt-Welding Carbon Steel Pipe Fitting
Types	LR 90deg Elbows, SR 90deg Elbow, 45deg LR elbow, 22.5LR Elbow, 80deg Returns, Bends, Reducing Elbow, straight Tee, Equal Tee, Con. Reducers, Ecc. reducers, Y tees, caps, Stub Ends, Long and short lap joint stub ends
Size	1/2"-72" Seamless Elbow (1/2" 24"), ERW / Welded / Fabricated Elbow (1/2" 72")
Wall Thickness	SCH10,SCH20,SCH30,STD,SCH40,SCH60,XS,SCH80,SCH100,SCH120,SCH140,SCH160,XXS, DIN, SGP JIS thickness
Mat. Standard	ASTMA234,ASTM A420,ASTM A312, ANSI B16.9/B16.28/B16.25,ASME B16.9, JIS B2311-1997/2312, JIS B2311/B2312, DIN 2605-1/2617/2615, GB 12459-99,EN Standard etc.
Material Grade	Carbon Steel : A234 WPB, WP5, WP6, WP9,WP11,WP12, WP22, A420WPL6, WPL8, WP91 12CrMo, 15Cr5Mo, 1Cr5Mo, 12Cr1MoV , WPHY 42, WPHY 46, WPHY 52, WPHY 60, WPHY 65 & WPHY 70 ST37.0,ST35.8,ST37.2,ST35.4/8,ST42,ST45,ST52,ST52.4 STP G38,STP G42,STPT42,STB42,STS42,STPT49,STS49 Stainless Steel304, 304L, 304H. 316, 316L, 316H, 321, 347, 347H, Duplex SS 2507, DSS2205, UNS31803 UNS32750 1.4301,1.4306, 1.4401, 1.4435, 1.4406, 1.4404, 1.4462, 1.4410, 1.4501
Surface	Black painting, varnish paint, anti rust oil, hot galvanized, cold galvanized, 3PE,etc.
Transport Package	Plastic film,wooden cases ,wooden pallet,or as per customers' requests

Features /Characteristics

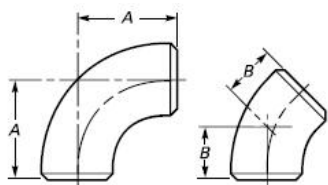
1. Most of the pipe fittings are used for welding, in order to improve the welding quality, the ends are beveled, with a certain angle and a certain edge. This requirement is also relatively strict, the thickness of the edge, the angle and the deviation range,Standard of ANSI B16.9/DIN2501 regulations has specific it clearly. The surface quality and mechanical properties are basically the same as the pipe. For the convenience of welding, the steel grade of the pipe fittings and the pipes to be connected is the same.

2. All pipe fittings must undergo surface treatment, and the oxide scales on the inner and outer surfaces are sprayed off by shot blasting, and then coated with anti-corrosion paint.

Technical Data Sheets

Dimension List

Table 1 Dimensions of Long Radius Elbows

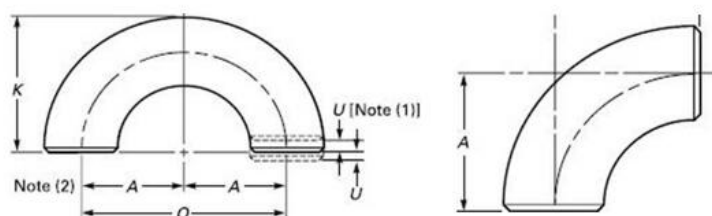


Normal Pipe Size (NPS)	Outside Diameter at Bevel	90-deg Elbows, A	45-deg Elbows, B
1/2	21.3	38	16
3/4	26.7	38	19
1	33.4	38	22
1 1/4	42.2	48	25
1 1/2	48.3	57	29
2	60.3	76	35
2 1/2	73.0	95	44
3	88.9	114	51

3 1/2	101.6	133	57
4	114.3	152	64
5	141.3	190	79
6	168.3	229	95
8	219.1	305	127
10	273.0	381	159
12	323.8	457	190
14	355.6	533	222
16	406.4	610	254
18	457.0	686	286
20	508.0	762	318
22	559.0	838	343
24	610.0	914	381
26	660.0	991	406
28	711.0	1 067	438
30	762.0	1 143	470
32	813.0	1 219	502
34	864.0	1 295	533
36	914.0	1 372	565
38	965.0	1 448	600
40	1 016.0	1 524	632
42	1 067.0	1 600	660
44	1 118.0	1 676	695
46	1 168.0	1 753	727
48	1 219.0	1 829	759

Table 3 Dimensions of Long Radius Returns

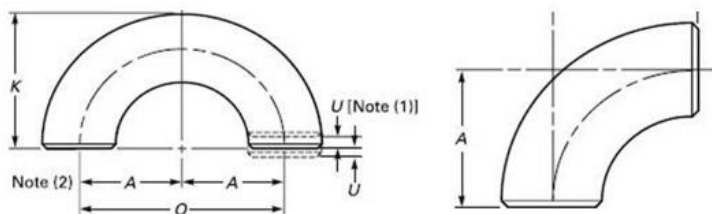
Table 4 Dimensions of Short Radius Elbows



Nominal Pipe Size NPS	Outside Diameter at Bevel	Center-to-Center	Back-to-Face K	Nominal Pipe Size (NPS)	Outside Diameter at Bevel	Center-to-End, A
1/2	21.3	76	48			
3/4	26.7	76	51			
1	33.4	76	56	1	33.4	25
1 1/4	42.2	95	70	1 1/4	42.2	32
1 1/2	48.3	114	83	1 1/2	48.3	38
2	60.3	152	106	2	60.3	51
2 1/2	73.0	190	132	2 1/2	73.0	64
3	88.9	229	159	3	88.9	76
3 1/2	101.6	267	184	3 1/2	101.6	89
4	114.3	305	210	4	114.3	102
5	141.3	381	262	5	141.3	127
6	168.3	457	313	6	168.3	152
8	219.1	610	414	8	219.1	203
10	273.0	762	518	10	273.0	254
12	323.8	914	619	12	323.8	305
14	355.6	1 067	711	14	355.6	356
16	406.4	1 219	813	16	406.4	406
18	457.0	1 372	914	18	457.0	457
20	508.0	1 524	1 016	20	508.0	508
22	559.0	1 676	1 118	22	559.0	559
24	610.0	1 829	1 219	24	610.0	610

Table 5 Dimensions of Short Radius 180-deg Returns

Table 6 Dimensions of 3D Elbows



Nominal Pipe Size	Outside Diameter	Center-to-Center	Back-to-Face	Pipe Size	Outside Diameter	90-deg Elbows	45-deg Elbows
(NPS)		0	K	(NPS)	at Bevel	A	B
1	33.4	51	41	3/4	26.7	57	24
1-1/4"	42.2	64	52	1	33.4	76	31
1-1/2"	48.3	76	62	1 1/4	42.2	95	39
2	60.3	102	81	1 1/2	48.3	114	47
2-1/2"	73.0	127	100	2	60.3	152	63
3	88.9	152	121	2 1/2	73.0	190	79
3-1/2"	101.6	178	140	3	88.9	229	95
4	114.3	203	159	3 1/2	101.6	267	111
5	141.3	254	197	4	114.3	305	127
6	168.3	305	237	5	141.3	381	157
8	219.1	406	313	6	168.3	457	189
10	273.0	508	391	8	219.1	610	252
12	323.8	610	467	10	273.0	762	316
14	355.6	711	533	12	323.8	914	378
16	406.4	813	610	14	355.6	1 067	441
18	457.0	914	686	16	406.4	1 219	505
20	508.0	1 016	762	18	457.0	1 372	568
22	559.0	1 118	838	20	508.0	1 524	632
24	610.0	1 219	914	22	559.0	1 676	694
GENERAL NOTES: All dimensions are in millimeters.				24	610.0	1 829	757
				26	660.0	1 981	821
				28	711.0	2 134	883
				30	762.0	2 286	964
				32	813.0	2 438	1 010
				34	864.0	2 591	1 073
				36	914.0	2 743	1 135
				38	965.0	2 896	1 200
				40	1 016.0	3 048	1 264
				42	1 067.0	3 200	1 326
				44	1 118.0	3 353	1 389
				46	1 168.0	3 505	1 453
				48	1 219.0	3 658	1 516

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 industries, etc.

Material Specification

Designation: A 234/A 234M – 05 Standard Specification for Piping Fittings of Wrought Carbon Steel and Alloy Steel for Moderate and High Temperature Service

This specification covers wrought carbon steel and alloy steel fittings of seamless and welded construction covered by the latest revision of ASME B16.9, B16.11, MSS SP-79, and MSS SP-95. These fittings are for use in pressure piping and in pressure vessel fabrication for service at moderate and elevated temperatures. Fittings differing from these ASME and MSS standards shall be furnished in accordance with Supplementary Requirement S58 of Specification A 960.

Chemical Requirements (Composition, %)

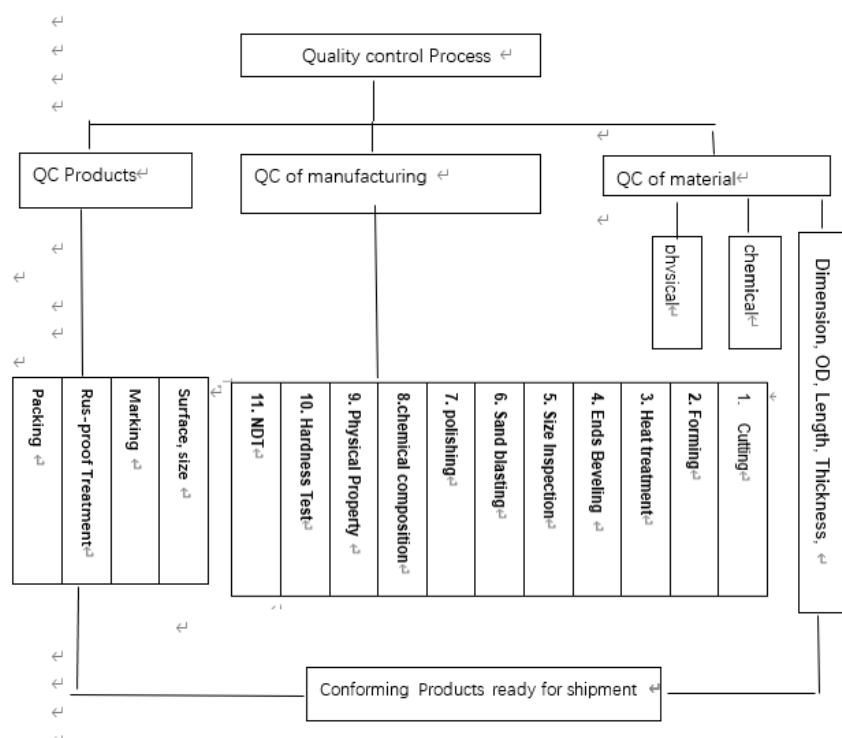
Grade and Material	C	Mn	P	S	Silicon	Chromium	Molybdenum	Nickel	Copper
WPB ^{B,C,D,E,F}	0.30 max	0.29–1.06	0.05	0.058	0.10 min	0.40 max	0.15 max	0.40 max	0.40 max
WPC ^{C,D,E,F}	0.35 max	0.29–1.06	0.05	0.058	0.10 min	0.40 max	0.15 max	0.40 max	0.40 max
WP1	0.28 max	0.30–0.90	0.045	0.045	0.10–0.50	...	0.44–0.65	...	...
WP12 CL1,	0.05–0.20	0.30–0.80	0.045	0.045	0.60 max	0.80–1.25	0.44–0.65	...	...

WP12 CL2									
WP11 CL1	0.05–0.15	0.30–0.60	0.03	0.03	0.50–1.00	1.00–1.50	0.44–0.65	.....
WP11 CL2	0.05–0.20	0.30–0.80	0.04	0.04	0.50–1.00	1.00–1.50	0.44–0.65	.....
WP11 CL3									
WP22 CL1	0.05–0.15	0.30–0.60	0.04	0.04	0.50 max	1.90–2.60	0.87–1.13	.....
WP22 CL3									
WP5 CL1	0.15 max	0.30–0.60	0.04	0.03	0.50 max	4.0–6.0	0.44–0.65	.....
WP5 CL3									
WP9 CL1	0.15 max	0.30–0.60	0.03	0.03	1.00 max	8.0–10.0	0.90–1.10	.....
WP9 CL3 WPR	0.20 max	0.40–1.06	0.045	0.05	...	...	...	1.60–2.24	0.75–1.25
WP91	0.08–0.12	0.30–0.60	0.02	0.01	0.20–0.50	8.0–9.5	0.85–1.05	0.40 max	...
WP911	0.09–0.13	0.30–0.60	0.02	0.01	0.10–0.50	8.5–9.5	0.90–1.10	0.40 max	...

Mechanical Performance Requirements

	WPC		WP11CL1		WP11 CL3				
Grade and Marking Symbol	WPB	WP11 CL2	WP1	WP22CL1	WPR	WP22 CL3	WP91	WP911	WP12 CL1
		WP12 CL2		WP5 CL1		WP5 CL3			
				WP9 CL1		WP9 CL3			
Tensile strength, range ksi [MPa]	60–85	70–95	55–80	60–85	63–88	75–100	85–110	90–120	60–85
	[415–585]	[485–655]	[380–550]	[415–585]	[435–605]	[520–690]	[585–760]	[620–840]	[415–585]
Yield strength, min, ksi [MPa]	35 [240]	40 [275]	30 [205]	30 [205]	46 [315]	45 [310]	60 [415]	64 [440]	32 [220]
(0.2 % offset or 0.5 % extension-under-load)									

Production Process



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.

Reference Standards

It is not considered practical to identify the specific edition of each standard and specification in the individual references. A product made comply with a prior edition of referenced standards and in all other respects conforming to this standard will be considered complied.

ASME B16.5: Pipe Flanges and Flanged Fittings: NPS 1/2 Through NPS 24 Metric/Inch Standard

ASME B16.25: For Buttwelding Ends

ASME B31: Code for Pressure Piping

ASME B31.3: Process Piping

ASME B36.10M, Welded and Seamless Wrought Steel Pipe

ASME B36.19M, Stainless Steel Pipe

ASME Boiler and Pressure Vessel Code

ASTM A234/A234M-17, Specification for Piping Fittings of Wrought Carbon Steel and Alloy Steel for Moderate and High Temperature Service

ASTM A403/A403M-16, Specification for Wrought Austenitic Stainless Steel Piping Fittings

ASTM A420/A420M-16, Specification for Piping Fittings of Wrought Carbon Steel and Alloy Steel for

Low Temperature Service

ASTM A815/A815M-14e1, Specification for Wrought Ferritic, Ferritic/Austenitic and Martensitic Stainless Steel Piping Fittings

ASTM A960/A960M-16a, Specification for Common Requirements for Wrought Steel Piping Fittings

ASTM E29-13, Practice for Using Significant Digits in Test Data to Determine Conformance With Specifications

ASTM B361-16, ASTM B363-14, ASTM B366/B366M-17: For other material metals. (Aluminum, Titanium, Nickel, and alloy).

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. Manufacturers 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 1/2" 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

DEYE PIPING COMPANY Service

1. Technical support
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5. Test Report each shipment
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10. 24 hours to Feedback your questions



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