PN10 PN16 Carbon Steel Pipe Fittings LR Elbow With DIN2605

Our Product Introduction

Basic Information

- Place of Origin: CHINA
- Brand Name: DEYE
- Certification: ISO9001:2015 PED
- Model Number: PF-EL-C02
- 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

- Material: A234WPB, WPC, WP11, WP12,WP22, A420WPL6
- Wall Thickness: STD, SCH40, SCH60, SCH80, SCH160, XS, XXS
- Surface: Black Finishing, Vanish Finishing, Anti-Rust Oil
- Standard: ANSI B16.9 MSS SP-25 MSS SP-44 DIN2605
- Highlight: **PN16 Carbon Steel Pipe Fittings**, **PN10 Carbon Steel Pipe Fittings**, **DIN2605 lr elbow**

More Images

Product Description

PN10 PN16 Carbon Steel Pipe Fitting LR Elbow With DIN2605

Description:

DIN2605/DIN2615/DIN2616/DIN2617/DIN2618/DIN86088/DIN86089/DIN86090 Seamless Steel Pipe Fitting Butt-Weld Bw Elbow/Tee/Reducer/Cap/Cross The DIN2605 standard specifies seamless and welded steel elbows and bends that are intended to be butt welded to pipes. Althoughthe wall thicknesses specified correspond to those of the pipes,
these fittings do not permit operation at the same internapressure as the pipe welded on, ie. they have a reduced pressure factor

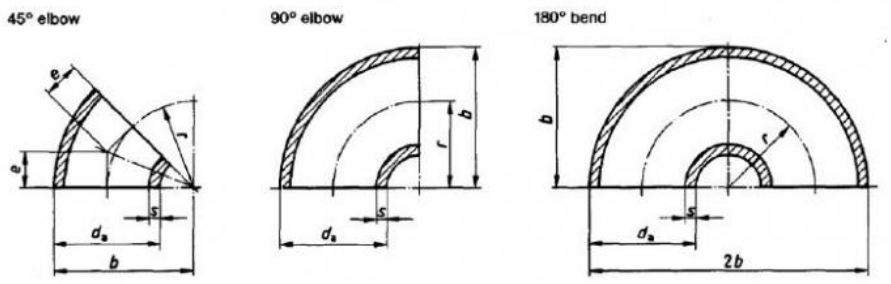
Product Information/Product Description/Basis Information/Specification

Name	45/90/180 Degree Elbow,Equal Tee,Reducing Tee,Concentric Reducer,Eccentric Reducer,End Cap,Bend,Cross	
Elbow's Radius	Long Radius & Short Radius available with 1D,1.5D,2D,2.5D,3D,4D,5D,6D,7D-40D	
Connection	Bevel End,Plain End	
Surface Finish	Anti-Rust Oil,Black Painting,Electrical Zinc Plated,Cold Galvanised,Hot Dipped Galvanised...	
Technology	Seamless,Welded	
Standard	American Standard	ANSI B16.9,ASME B16.28,ASME B16.25,ASME B36.10M,MSS SP-43,MSS SP-75
	European Standard	EN10253-1,EN10253-2
	British Standard	BS1965
	Japan Standard	JIS B2311,JIS 2312,JIS 2313
	Korea Standard	KS B1522, KS B1541,KS B1543
	Germany Standard	DIN2605,DIN2615,DIN2616,DIN2617,DIN2618,DIN86088,DIN86089,DIN86090
	Russia Standard	GOST 17375,GOST 17376,GOST 17378,GOST 17379,GOST 17380,GOST 30753
	ISO Standard	ISO 3419
Size	1/2"-80" // DN15-DN2000 // 15NB-2000NB	
Wall Thickness	SCH5S,SCH10S,SCH10,SCH40S,STD,XS,XXS,SCH20,SCH30,SCH40,SCH60,SCH80,SCH160,XXS	
Materials	Mild/Carbon Steel	A234 WPB/WPC,A105,ST45,E24,16Mn,Q345,P245GH,P235GH,P265GH
	Stainless Steel	A403 WP304,304(L),316(L),321,310S,347H,316Ti,317(L),F904L,1.4301,1.4307,1.4401,1.4571,1.4541
	Duplex Stainless Steel	UNS31803,SAF2205,UNS32205,UNS31500,UNS32750,UNS32760,1.4462,1.4410,1.4501
	Alloy Steel	ASTM A234 WP 1/5/9/11/12/91,A402 WPL 3-WPL 6,C22,Alloy20,A860 WPHY 42-46-52-60-65-70
Packages	Plywood Cases or Plywood Pallets or Boxes	

Features /Characteristics

Elbows: Such pipe fittings are used to change the direction of the flow. Elbows They are majorly available in two standard types
- 90 and 45 degree angles owing to their high demand in plumbing. The 90-degree elbow is primarily used to connect hoses to water pumps, valves, and deck drains, while the 45 degree elbow is mostly used in water supply facilities, electronic and chemical industrial pipeline networks, food, air-conditioning pipelines, garden production, agriculture, and solar-energy facility.

Technology/ Technical Data Sheet



Type 2: r=1.0D , Type 3: r=1.5D, Type 5: r=2.5D, Type10 r=5.0D, Type 20: r=10.0D

Designation of a type 3 (3) seamless (S) 90 (90) elbow in accordance with this standard (1), where dg is equal to 88,9 mm

and s is equal to 2,3 mm, made from material belonging to material group G as in DIN 2609 (G):

Nominal size DN	Pipe outside diameter, 4[1])	Type	1	Wall thickness, s, for series			5	Maximum pressure factor, as a percentage, for series					r	b	e
				22)	3	4		1	2	3	4	5			
15	21,3	2						53		54	57	59	17,5	28	7
		3	1,6	—	2,0	3,2	4,0	74	—	75	75	76	28,0	38	12
		5						85		85	85	85	42,5	53	18
20	26,9	2						59		60	61	62	25,0	39	10
		3	1,6		2,3	3,2	4.0	67	—	68	68	69	29,0	43	12
		5						86		86	86	86	57,5	71	24
25	33,7	2						52		53	54	55	25,0	42	10
		3	2,0	—	2,6	3,2	4,0	70	—	70	70	71	38,0	56	16
		5						86		86	86	86	72,5	90	30
32	42,4	2						52		52	54	54	32,0	53	13
		3	2,0	—	2,6	3,6	4,0	70	—	70	71	71	48,0	69	20
		5						86		86	87	87	92,5	114	38
40	48,3	2						51		52	53	54	38,0	62	16
		3	2,0	—	2,6	4,0	5,0	72	—	72	73	73	57,0	82	24
		5						87		87	87	87	107,5	132	45
50	60,3	2						56		56	57	58	51	81	21
		3						74		74	75	75	76	106	32
		5	2,0	—	2,9	4,5	5,6	87	—	87	87	87	135	165	56
		10						92		93	93	93	254	284	105
		20						96		96	96	96	508	538	210
65	76,1	2						55		55	56	57	63	102	26
		3						74		74	75	75	95	133	39
		5	2,3	—	2,9	5,0	7,1	87	—	87	87	87	175	213	73
		10						92		92	92	93	318	356	132
		20						96		96	96	96	635	673	263
80	88,9	2						57		57	58	59	76	121	32
		3						75		75	75	76	114	159	47
		5	2,3	—	3,2	5,6	8,0	87	—	87	87	88	205	250	85
		10						93		93	93	93	381	425	158
		20						96		96	96	96	762	806	316
100	114,3	2						60		60	61	61	102	159	42
		3						76		76	76	77	152	210	63
		5	2,6	—	3,6	6,3	8,8	88	—	88	88	88	270	327	112
		10						93		93	93	93	508	565	210

		20						96		96	96	96	1016	1073	421
125	139,7	2						81		61	61	62	127	197	53
		3						77		77	77	77	190	260	79
		5	2.6		4,0	6,3	10,0	88	—	88	88	88	330	400	137
		10						93		93	93	93	635	705	263
		20						97		97	97	97	1270	1340	526
150	168,3	2						60	61	61	61	62	152	237	63
		3						77	77	77	77	77	229	313	95
		5	2,6	4,0	4,5	7,1	11,0	87	87	87	87	88	390	474	162
		10						93	93	93	93	93	762	846	316
		20						97	97	97	97	97	1524	1608	631

200	219,1	2						62	62	62	63	63	203	313	84
		3						77	78	78	78	78	305	414	126
		5	2,9	4.5	6,3	8,0	12,5	87	87	87	88	88	510	620	211
		10						93	93	93	93	93	1016	1126	421
		20						97	97	97	97	97	2032	2142	842
250	273	2						62	62	63	63		254	391	105
		3						78	78	78	78		381	518	158
		5	2,9	5,0	6.3	8,8	—	88	88	88	88	—	650	787	269
		10						93	93	93	93		1270	1407	526
		20						97	97	97	97		2540	2677	1052
300	323,9	2						63	63	63	63		305	467	126
		3						78	78	78	78		457	619	189
		5	2,9	5,6	7,1	10,0	—	88	88	88	88	—	775	937	321
		10						93	93	93	93		1524	1686	631
		20						97	97	97	97		3048	3210	1263
350	355,6	2						66	66	66	66		356	533	148
		3						79	79	79	80		533	711	221
		5	3,2	5.6	8,0	11,0	—	88	88	88	88	—	850	1028	352
		10						94	94	94	94		1778	1956	737
		20						97	97	97	97		3556	3734	1473
400	406,4	2						66	66	66	66		406	610	168
		3						79	79	80	80		610	813	253
		5	3,2	6,3	8,8	12.5	—	88	88	88	88	—	970	1173	402
		10						94	94	94	94		2032	2235	842
		20						97	97	97	97		4064	4267	1683
450	457	2						66	66	66			457	686	189
		3						79	79	80			686	914	284
		5	4,0	6,3	10	—	—	88	88	88	—	—	1122	1350	465
		10						94	94	94			2286	2515	947
		20						97	97	97			4572	4801	1894
500	508	2						66	66	66			508	762	210
		3						79	79	80			762	1016	316
		5	4,0	6,3	11	—	—	88	88	88	—	—	1245	1500	516
		10						94	94	94			2540	2794	1052
		20						97	97	97			5080	5334	2104
600	610	2						66	66	66			610	914	253
		3						79	79	80			914	1219	379
		5	5,0	6.3	12,5	—	—	88	88	88	—	—	1525	1830	632
		10						94	94	94			3050	3355	1263
		20						97	97	97			6100	6405	2527
700	711	2						62	61	60			711	1066	295
		3						75	73	72			1067	1422	442
		5	5,0	7.1	12,5	—.	—	83	81	81	—	—	1778	2133	737
		10						88	86	85			3555	3911	1473
		20						91	89	88			7110	7466	2945
800	813	2						61	60	60			813	1220	337
		3						74	73	72			1219	1626	505
		5	5,6	8,0	12,5	—	—	82	81	81	—	—	2033	2439	842
		10						87	86	85			4065	4472	1684
		20						90	89	88			8130	8537	3368

1) The pipe outside diameters given have been taken from series 1 in ISO 4200.
2)The wall thicknesses specified for series 2, for nominal sizes up to DN1000, are in accordance with the normal wall thickness series given in DIN 2458.

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

Grade and Marking Symbol	WPB	WPC, WP11 CL2, WP12 CL2	WP1	WP11 CL1, WP22 CL1, WP5 CL1, WP9 CL1	WPR	WP11 CL3, WP22 CL3 WP5 CL3 WP9 CL3	WP91	WP911	WP12 CL1
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

Elbow Marking process and reequipment

ELBOW Shaper Machining

Tee form Process and equipment

Reducer Form process and equipment

Sand blasted process and equipment

Beveling Process

Painting Shop

Package For shipment




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 LowTemperature 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 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, 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: 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

DEYE PIPING COMPANY 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

SHIJIAZHUANG DEYE PIPING INDUSTRY CO., LTD Pipefittings Department)

+8613292824811 sales@deyepiping.com piping-industry.com

No. 368 Youyi St. Shijiazhuang, Hebei, China