

SIEKMANN

special. elbow. production.



seamless elbows

Abmessungen

AD 14,0 - 219,1 mm

Wand 2,0 - 50 mm

Dimensions

OD 1/2" - 8"

Wall Std - XXS



Siekmann GmbH & Co. KG

- 3 Seamless elbows
- 4 Materials carbon steel
- 5 Materials high alloy & stainless steel
- 6 Center to center
- 7 Radii 2D,3D,5D
- 8 Short info Duplex & 1.48..
- 9 Impressions
- 10 Contacts



We are your producer for special elbows!

We have been specialized in the production of special elbows for decades. Newly developed production methods, experienced staff and continuous checks at all stages of production guarantee that our products meet the highest quality standards.

Seamless elbows

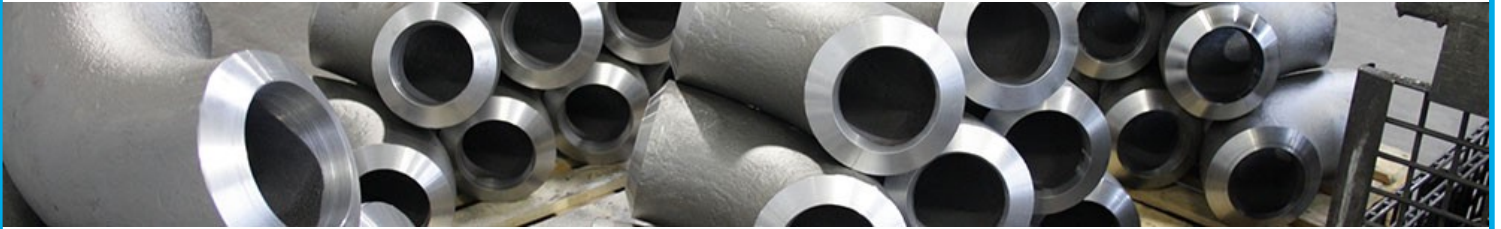
- Thick-walled elbows
- Small series production
- Special dimensions
- Large choice of materials - Carbon steel / stainless steel
- Short delivery times
- Elbows with close tolerances
- Non-standard dimensions

We have set ourselves the task of delivering the highest quality elbows quickly and reliably. With our wide selection of tools we can produce almost any size of elbow – particularly in the thick-walled range - between 14 mm and 219.1 mm in diameter.

Our product range includes seamless elbows with thick walls, special materials, special center to center distances, elbows with extended tangents as well as various angles (180°, 130°, 43°, 24°, etc.).



Outside Diameter:	14,0mm -219,1mm
Wall thickness:	from 1 mm to 50 mm, depending on the outside diameter
Angle:	from 7° to 180°, depending on the outside diameter
Types of elbow:	2D, 3D, 5D, long radius, short radius - 2D, 3D, 5D, long radius, short radius - see Center to center distance for further options
Standard specification:	EN10253 Typ A and B, DIN 2605 Part 1 and 2, ASME B16.9, production according to customer specification.
Welding bevel:	according to EN10253, EN9692-1, DIN2559, ASME B16.25, according to technical drawing



Carbon steel & high alloy steel

Over the years we have become expert at forming elbows from carbon steel, high-alloy steel and also stainless steel. We can make elbows from the materials listed below.

Steel No.	EN	Material Grade	DIN	Material Grade	ASTMA	Material Grade
1.0305	10216-2	P235GHTC1	17175	St 35.8 I	ASTM A 234	WPA
1.0305	10216-2	P235GHTC2	17175	St 35.8 III	ASTM A 234	WPA
1.0405	10216-2	P265GH	17175	St 45.8	ASTM A 234	WPB
					ASTM A 234	WPC
1.5415	10216-2	16Mo3	17175	15Mo3		
1.5423		16Mo3			ASTM A 234	WP1
1.7335	10216-2	13CrMo4-5	17175	13CrMo44	ASTM A 234	WP 12
					ASTM A 234	WP11
1.6368	10216-2	15NiCuMoNb5-6-4				WP36
1.7362	10216-2	X11CrMo5	17176	12CrMo195	ASTM A 234	WP 5
1.7380	10216-2	10CrMo9-10	17175	10CrMo910	ASTM A 234	WP 22
1.7386	10216-2	X11CrMo9-1	17176	X12CrMo9-1	ASTM A 234	WP9
1.4922	10216-2	X20CrMOV11-1	17175	X20CrMOV12-1		
1.4903	10216-2	X10CrMoVNB9-1	17175	X10CrMoVNB9-1	ASTM A 234	WP91
1.4901	10216-2	X10CrWMoVNB9-2			ASTM A 234	WP92
1.7378	10216-2	7CrMoVTiB10-10				
1.0451	10216-4	P215NL	17173	TTST35N/V		
					ASTM A 420	WPL6
1.5637	10222-3	12Ni14	17173	10Ni14	ASTM A 420	WPL 3
1.0421			DIN 1629	St 52.0 S		
1.0576	10210-1	S355J2H				
1.0562	10216-3	P355N	DIN 17179	WSTE355		
1.0565	10216-3	P355NH	DIN 17179	WSTE355		
1.0566	10216-3	P355NL1	DIN 17179	TSTE355		
1.1106	10216-3	P355NL2	DIN 17179	TSTE355		
1.0484	10208-2	L290NB	DIN 17172	STE 290.7	API 5LX	X42
1.0582	10208-2	L360NB	DIN 17172	STE 360.7	API 5LX	X52
					MSS-SP75	WPHY52
					MSS-SP75	WPHY60

All information are purely indicativ and not binding.

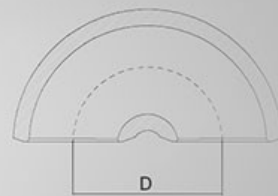


Stainless steel & high alloy steel

Detailed information of Duplex and 1.48.. you will find at page 8.

Steel No.	EN	Material Grade	DIN Werksbezeichnung	Material Grade	ASTMA	Material Grade
1.4301	10216-5	X5CrNi18-10	17458	X5CrNi1810	ASTM A 403	WP304
1.4301	10216-5	X5CrNi18-10	17458	X5CrNi1810	ASTM A 403	WP304 H
1.4306	10216-5	X2CrNi19-11	17458	X2CrNi1911	ASTM A 403	WP304L
1.4401	10216-5	X5CrNiMo17-12-2	17458	X5CrNiMo17122	ASTM A 403	WP316
1.4404	10216-5	X2CrNiMo17-12-2	17458	X2CrNiMo17132	ASTM A 403	WP316L
1.4435	10216-5	X2CrNiMo18-14-3	17458	X2CrNiMo18143	ASTM A 403	(WP316 L)
1.4436	10216-5	X3CrNiMo17-13-3	17458	X5CrNiMo17133	ASTM A 403	WP316
1.4439	10216-5	X2CrNiMoN17-13-5				S31726
1.4539	10216-5	X1NiCrMoCu25-20-5				N08904
1.4501	10216-5	X2XrNiMoCuWN25-7-4				S32760
1.4541	10216-5	X6CrNiTi18-10	17458	X6CrNiTi1810	ASTM A 403	WP321
1.4550	10216-5	X6CrNiNb18-10	17458	X6CrNiNb1810	ASTM A 403	WP347
					ASTM A 403	WP347H
1.4571	10216-5	X6CrNiMoTi17-12-2	17458	X6CrNiMoTi17122	ASTM A 403	WP316TI
1.4841	10888	X15CrNiSi2520				S31000
1.4841	10888	X15CrNiSi2520				WP310
1.4878	SEW 470	X12CrNiTi189			ASTM A 403	WP321
1.4462	10216-5	X2CrNiMoN22-5-3	Duplex			S31803
1.4466	10216-5	X1CrNiMoN25-22-2	Super Duplex			S31050
1.4362	10216-5	X2CrNiN23-4	Lean-Duplex			S31500
1.4876	SEW 470					Alloy 800H
1.4952		X6CrNiNb25-20				DMV310N
1.4835		X9CrNiSiN21-11-2	253 MA		ASTM A 403	UNS S30815
1.4877	10216-5	X5NiCrCeNb32 28	WP 32/27			
1.4910	10269	X3CrNiMoN17-13-3	17240			

Wir sind sehr daran interessiert, immer wieder neue Materialien zu verarbeiten. Sprechen Sie uns gerne dazu an.

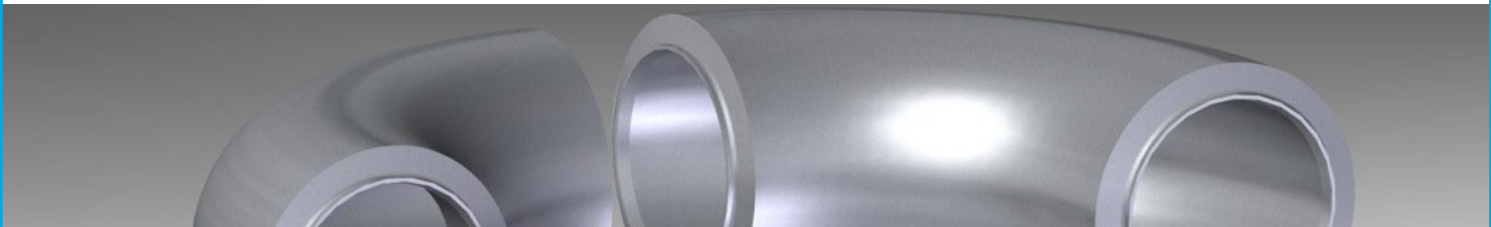


Center to center

We have already produced all the elbows with the center to center distances shown in the table below. Please contact us if you need other center to center distances.

Outside diameter	Center to center
14,0	D = 40
16,0	D = 32
18,0	D = 42
20,0	D = 32 - 50 - 53
21,3	D = 35 - 39 - 55 - 56 - 76 - 85 - 87 - 300
22,0	D = 76 - 90 - 220
25,0	D = 42 - 50 - 55 - 68 - 88 - 90 - 106 - 120 - 180
26,9	D = 48 - 50 - 51 - 57,5 - 58 - 60 - 64 - 68 - 76 - 78 - 80 - 85 - 95 - 100 - 105 - 115 - 117 - 135 - 140 - 170 - 200 - 380
28,0	D = 57 - 65 - 67 - 70 - 84 - 96
30,0	D = 50 - 58 - 67 - 68 - 70 - 75 - 90 - 100 - 110 - 125 - 136
31,8	D = 48 - 50 - 55 - 60 - 65 - 70 - 71 - 73 - 76 - 78 - 80 - 90 - 100 - 110 - 120 - 127 - 135 - 160 - 200 - 210 - 225
32,0	D = 50 - 56 - 65
33,7	D = 45 - 50 - 53 - 56 - 60 - 63 - 70 - 75 - 76 - 79 - 80 - 90 - 100 - 120 - 145 - 250 - 270 - 480
35,0	D = 90 - 90 - 93 - 120 - 150 - 200
38,0	D = 50 - 54 - 55 - 59 - 60 - 64 - 65 - 70 - 75 - 75,5 - 76 - 77 - 79 - 80 - 81 - 85 - 90 - 91 - 93 - 95 - 96 - 100 - 102,6 - 110 - 114 - 115 - 118 - 120 - 130 - 133 - 140 - 150 - 160 - 165 - 166 - 170 - 186 - 198 - 226 - 290 - 380
40,0	D = 95 - 103 - 370
42,4	D = 60 - 64 - 75 - 77 - 85 - 92 - 96 - 98 - 100 - 114 - 126 - 130 - 140 - 145 - 150 - 160 - 185 - 187 - 370
44,5	D = 68 - 70 - 80 - 84,5 - 90 - 100 - 102 - 105 - 107 - 110 - 111 - 115 - 140 - 141 - 160 - 195 - 199 - 272
48,3	D = 76 - 78 - 80 - 85 - 91 - 100 - 102 - 114 - 120 - 150 - 152,4 - 160 - 170 - 200 - 215 - 219 - 225 - 230 - 270 - 498
51,0	D = 65 - 76 - 90 - 93 - 95 - 102 - 105 - 110 - 114 - 122 - 127 - 130 - 135 - 139,7 - 152,4 - 160 - 185 - 230 - 245
54,0	D = 100 - 145
57,0	D = 85 - 105 - 107 - 115 - 132 - 144 - 150 - 155 - 168 - 170 - 180 - 185 - 205 - 208 - 255
60,3	D = 97,5 - 102 - 110 - 114,3 - 120 - 150 - 152 - 155 - 157 - 168 - 180 - 190 - 200 - 203 - 215 - 218 - 234 - 244 - 270 - 280 - 480 - 500 - 700 - 800
63,5	D = 93 - 110 - 115 - 118 - 128 - 155 - 165 - 230 - 285 - 420
70,0	D = 110 - 125 - 130 - 150 - 161 - 184 - 188 - 190 - 255 - 323 - 330
75,0	D = 190
76,1	D = 126 - 140 - 154 - 175 - 194 - 190 - 210 - 274 - 280 - 281 - 300 - 350
80,0	D = 157 - 218 - 320
82,5	D = 127 - 155 - 158 - 160 - 215 - 229 - 380
85,0	D = 233
88,9	D = 115 - 116 - 152 - 156 - 165 - 175 - 228 - 325 - 330 - 370 - 410
100,0	D = 266
101,6	D = 152 - 178 - 190 - 194 - 267 - 300 - 360 - 380 - 475
102,0	D = 252 - 500
106,0	D = 289
108,0	D = 200 - 203 - 285 - 400 - 500 - 505
114,3	D = 204 - 210 - 232 - 270 - 304 - 440 - 540
121,0	D = 225 - 340 - 350 - 564
127,0	D = 215 - 235 - 277 - 350 - 470 - 600
133,0	D = 250 - 362 - 500 - 625
139,7	D = 254 - 265 - 380 - 500 - 540 - 660
152,0	D = 285 - 430
159,0	D = 300 - 432
168,3	D = 304 - 458
177,8	D = 500
193,7	D = 540
219,1	D = 406 - 610

All information are purely indicativ and not binding.



List of radii

Comparison between DIN 2605 and EN 10253-2/4 (Figures in red show the difference to the DIN)

Outside diameter	DIN 2S	EN 10253-2 BA 2D	EN 10253-4 BA 2D	DIN 3S	EN 10253-2 BA 3D	EN 10253-4 BA 3D	DIN 4S	DIN 5S	EN 10253-2 BA 5D	EN 10253-4 BA 5D
17,2	-			20,0			-	-		
20,0	16,0			25,0			32,5	42,5		
21,3	17,5	25,0	25,0	28,0	38,0	28,0	35,0	42,5	42,5	45,0
25,0	21,0			27,5			42,5	52,5		
26,9	25,0	25,0	25,0	29,0	38,0	29,0	47,5	57,5	57,5	57,0
30,0	25,0			33,5			50,0	62,5		
31,8	25,0			35,0			55,0	67,5		
33,7	25,0	25,0	28,0	38,0	38,0	38,0	60,0	72,5	72,5	72,0
35,0	30,0			45,0			60,0	75,0		
38,0	32,5			45,0	45,0		65,0	82,5	82,5	
42,4	32,0	32,0	32,0	48,0	48,0	48,0	72,5	92,5	92,5	93,0
44,5	40,0			51,0			80,0	97,5		
48,3	38,0	38,0	38,0	57,0	57,0	57,0	85,0	107,5	109,5	108,0
51,0	45,0			63,5	63,0		92,5	115,0	122,5	
54,0	50,0			72,5			97,5	122,5		
57,0	52,5			72,0	72,0		102,5	127,5	130,0	
60,3	51,0	51,0	51,0	76,0	76,0	76,0	107,5	135,0	137,5	135,0
63,5	57,5			82,5			115,0	142,5		
70,0	65,0			92,0	92,0		127,5	160,0	160,0	
76,1	63,0	63,0	63,0	95,0	95,0	95,0	140,0	175,0	175,0	175,0
82,5	77,5			107,5			152,5	190,0		
88,9	76,0	76,0	76,0	114,0	114,0	114,0	165,0	205,0	207,5	205,0
95,0	87,5			132,5			175,0	220,0		
101,6	95,0			133,5	133,0		190,0	237,5	235,0	
108,0	100,0			142,5	142,5		200,0	252,5	253,0	
114,3	102,0	102,0	102,0	152,0	152,0	152,0	220,0	270,0	270,0	270,0
121,0	112,5			170,0			225,0	282,0		
127,0	117,5			175,0			235,0	300,0		
133,0	125,0			181,0	181,0		250,0	312,5	311,5	
139,7	127,0	127,0	127,0	190,0	190,0	190,0	270,0	330,0	330,0	330,0
146,0	137,5			205,0			245,0	342,5		
152,4	142,5			215,0			287,5	357,5		
159,0	150,0			216,0	216,0		300,0	375,0	375,0	
165,1	155,0			230,0			310,0	390,0		
168,3	152,0	152,0	152,0	229,0	229,0	229,0	310,0	390,0	390,0	390,0
177,0	170,0			250,0			342,5	430,0		
193,7	180,0			270,0	270,0			455,0		
219,1	203,0	203,0	203,0	305,0	305,0	305,0		515,0	515,0	510,0

All information are purely indicativ and not binding.

Duplex steel

Duplex stainless steels have an exceptional mechanical strength and a lesser thermal expansion than austenitic steels. The resistance against corrosion in chloride containing mediums is very good.

Material-No.	Name EN	Name USA	Sandvik- label	Duplex Steels
1.4417	X2CrNiMoSi19.5	S31500	3RE60	
1.4362	X2CrNiN23-4	S32304	SAF 2304	Lean Duplex
1.4462	X2CrNiMoN22-5-3	S31803	SAF 2205	Duplex
1.4462	X2CrNiMoN22-5-3	S32205	SAF 2205	Duplex
1.4460	X3CrNiMoN27-5-2	S32900	10RE51	Duplex
1.4410	X2CrNiMoN25-7-4	S32750	SAF 2507	Superduplex
1.4501	x2CrNiMoCuWN 25-7-4	S32760		Superduplex
			SAF 2707 HD	Hyperduplex
			SAF 3207 HD	Hyperduplex

Heat resisting elbows in 1.48..

Material No.	Shortname		Description	Scale-resistant (air)	Field of application
1.4828	X15CrNiSi20-12	WP309 (S30900)	resistance to scaling high temperature strength high mechanical load capacity	1000° C	power stations apparatus engineering mineral oil and petrochemistry industrial furnace building
1.4835 (1.4893)	X9CrNiSiNCe21-11-2 Avesta 253 MA	253MA	resistance to scaling resistance to corrosion and high temperatures	1100 ° C	power stations industrial furnace construction oil and petrochemistry
1.4841	X15CrNiSi25-21	WP314	resistance to scaling high temperature strength high mechanical load capacity	1150 ° C	power stations apparatus engineering mineral oil and petrochemistry industrial furnace building
1.4845	X8CrNi25-21	WP310S	resistance to scaling high temperature strength high mechanical load capacity	1050° C	heat exchanger
1.4876/H/HAT	X10NiCrAlTi32-21	Alloy 800 Alloy800H Alloy 800HAT	resistance to scaling	1100° C	heat exchanger
1.4877 AC66	X6NiCrNbCe32-27 X5NiCr6Nb3238	S33228 WP32/27	resistance to corrosion and high temperatures	1000° C	gas and steam power station waste pyrolysis and incineration high temperature application
1.4878	X8CrNiTi18-10	TP321 H	resistance to scaling high temperature strength high mechanical load capacity	850° C	power stations apparatus engineering mineral oil and petrochemistry industrial furnace building

All information are purely indicativ and not binding.



Hot forging



Cutting



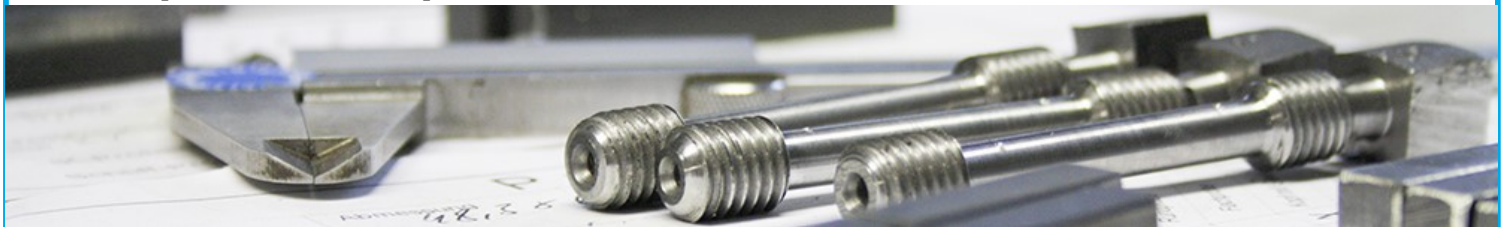
End forming



Surface finish



Final product inspection



Shipment





Contacts



Managment Jürgen Büscher
Tel.: +49 (0)5223 4960 12
Fax.: +49 (0)5223 4960 19
j.buescher@siekmann-rohrbogen.de



Sales (Export) Annette Pohlmann
Tel.: +49 (0)5223 4960 17
Fax.: +49 (0)5223 4960 39
a.pohlmann@siekmann-rohrbogen.de



Sales Christian Briks
Tel.: +49 (0)5223 4960 36
Fax.: +49 (0)5223 4960 19
c.briks@siekmann-rohrbogen.de



Sales Alexej Wiebe
Tel.: +49 (0)5223 4960 32
Fax.: +49 (0)5223 4960 19
a.wiebe@siekmann-rohrbogen.de



Sales (Export) Kira- Nadine Abicht
Tel.: +49 (0)5223 4960 16
Fax.: +49 (0)5223 4960 19
k.abicht@siekmann-rohrbogen.de



Technics Heiko Büscher
Tel.: +49 (0)5223 4960 24
Fax.: +49 (0)5223 4960 19
h.buescher@siekmann-rohrbogen.de



Shipment Karl-Heinz Ukley
Tel.: +49 (0)5223 4960 13
Fax.: +49 (0)5223 4960 19
k.h.ukley@siekmann-rohrbogen.de



Shipment Falko Meier
Tel.: +49 (0)5223 4960 47
Fax.: +49 (0)5223 4960 19
f.meier@siekmann-rohrbogen.de



Certificates Birgit Bulthaup
Tel.: +49 (0)5223 4960 11
Fax.: +49 (0)5223 4960 19
zeugnisse@siekmann-rohrbogen.de



Quality Peter Landes
Department Tel.: +49 (0)5223 4960 18
Fax.: +49 (0)5223 4960 19
p.landes@siekmann-rohrbogen.de



Quality Torsten Hänsel
Department Tel.: +49 (0)5223 4960 18
Fax.: +49 (0)5223 4960 19
t.haensel@siekmann-rohrbogen.de

www.siekmann-rohrbogen.de