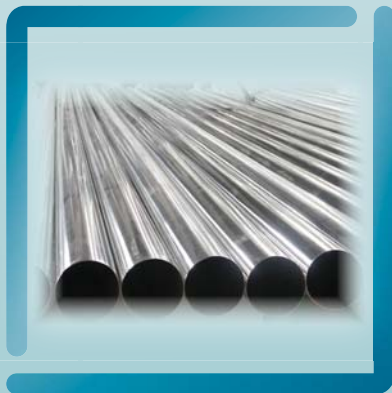




TRGOMETAL d.o.o.



PRODAJNI KATALOG

## O nama

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“**Trgometal**” **d.o.o.** Beograd osnovan je 1990. godine, kao jedno od prvih registrovanih privatnih preduzeća u oblasti trgovine čeličnim instalacionim materijalom.

Držeći se preduzetničkog načina razmišljanja i ponašanja, od osnivanja pa do danas, dajemo potpunu podršku svim našim klijentima, vodeći računa o potpunom zadovoljenju njihovih potreba.

Danas, Trgometal posluje preko dva skladišta, jednog u Beogradu i novog savremenog distributivnog centra u Šimanovcima, čija se ukupna radna površina prostire na 6000 m<sup>2</sup>, opremljenog kranovima i svom pratećom opremom koje omogućava pružanja usluga najvišeg kvaliteta.

## About us

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“Trgometal doo Beograd founded in 1990. , as one of the first registered private enterprises in trade with steel installation material.

Adhering to the entrepreneurial way of thinking and behavior, from founding to today, we give full support to all our clients, taking care of full satisfaction of their needs.

Today, Trgometal operates through two warehouses, one in Belgrade and a new modern distribution center in Simanovci, whose total working area covers 6000 m<sup>2</sup>, equipped with cranes and all equipment that enables it to serve the highest quality.



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# 1. Čelične bešavne cevi / Seamless steel pipes

## 1.1. Oblik i mere bešavnih cevi koje se isporučuju su u skladu sa sledećim standardima / The shape and dimensions of seamless pipes, which are delivered in accordance with the following standards :

SRPS EN 10220:2002

ISO 4200:1991

DIN 2448:1629

ASME B36.10M:2000

ASTM A 53:2004; ASTM A 106:2004

ČSN 42 5715:1981

GOST 8732:1978

## 1.2. Tehnički uslovi za isporuku bešavnih cevi od nelegiranih čelika su u skladu sa sledećim standardima / Technical delivery conditions for seamless tubes of unalloyed steel in accordance with the following standards:

SRPS EN 10216-1:2002 + A1:2004

DIN 1629:1984; DIN 1630:1984; DIN 17121:1984

ASTM A 53:2004 + ASME SA 53:2001

ČSN 42 0250:1998; ČSN 42 0165:1990

GOST 8713:1974

## 1.3. Tehnički uslovi za isporuku kotlovskih bešavnih cevi su u skladu sa sledećim standardima / Technical delivery conditions for seamless boiler tubes in accordance with the following standards:

SRPS EN 10216-2:2002 + A1:2004

DIN 17175:1979

ASTM A 106:2004 + ASME SA 106:2001; ASTM A 530:2004 + ASME SA 530M:2001

ČSN 42 0215:1989

GOST 8713:1974

## 1.4. Kvalitet čelika bešavnih cevi je sledeći / Quality of steel for seamless steel pipes is as follows:

SRPS EN 10208-1, 2:1997, 1996..... L210GA; L235GA; L245GA; L290GA; L360GA; L245NB; L290NB; L360NB

SRPS EN 10210-1, 2:1994, 1997..... S235JRH; S275JOH; S275J2H; S355JOH; S355J2H; S275NH; S355NH

SRPS EN 10216-1, 2, 3:2002 + A1:2004..... P195TR1; P195TR2; P235TR1; P235TR2; P265TR2; P195GH; P235GH; P265GH; X20CrMoV11-1; X10CrMoVNb9-1; 16Mo3; 10CrMo9-10; 13CrMo4-5

SRPS EN 10297-1:2003..... E235; E275; E315; E355; P355N; P355NH; E275K2; E355K2 11

DIN 1629:1984..... St 37.0; St 44.0; St 52.0

DIN 1630:1984..... St 37.4; St 44.4; St 52.4

DIN 17121:1984..... RSt 37-2; St 37-3; St 44-2; St 44-3; St 52-3

DIN 17175:1979..... St 35.8; St 45.8; 15Mo3; 10CrMo9-10; 13CrMo4-4; 14MoV63; X10CrMoVNb9-1; X20CrMoV12-1

ASTM A 53:2004; ASTM A 106:2004..... A; B

ASTM A 333:2004..... Gr. 1; Gr. 6

ASTM A 192:2002..... A

ASTM A 210:2002..... A1

ČSN 42 0250:1988..... 353.0; 11 353.1; 11 453.0; 11 453.1; 11 532.0; 11 532.1; 11 550.0; 11 550.1; 11 650.0; 11 650.1

ČSN 42 0251:1989..... 12 021.1; 12 022.1

ČSN 42 0165:1990..... 11 369.1; 11 503.1

GOST 8731:1974..... 10; 20; St2; St4

## 1.5. Spoljašnja i unutrašnja zaštita cevi se posebno ugovara / External and internal pipe protection upon the agreement.

**POSEBNI ZAHTEVI KUPACA KOJI SE ODOSE NA BEŠAVNE CEVI, A KOJI NISU OBUHVAĆENI NAVEDENIM STANDARDIMA SE TAKOĐE MOGU ISPUNITI / CUSTOMER'S REQUIREMENTS RELATED TO SEAMLESS PIPES, WHICH ARE NOT COVERED BY THE STANDARDS ALSO CAN BE MET.**

Spoljni prečnik Outer diameter	Debljina zida / Wall thickness [mm]															Težina / Weight [kg/m]														
	[mm]	[inch]	2	2.3	2.6	2.9	3.2	3.6	4	4.5	5	5.6	6.3	7.1	8	8.8	10	11	12.5	14.2	16	17.5	20	22.2	25	28	30	40		
13.5	1/4	0.57	0.64	0.7																										
17.2	3/8	0.75	0.85	0.94	1.02	1.1	1.21																							
18		0.79	0.89	0.99	1.08	1.17	1.28	1.38	1.5																					
20		0.89	1	1.12	1.22	1.33	1.46	1.58	1.72	1.85	1.99																			
21.3	1/2	0.95	1.08	1.2	1.32	1.43	1.57	1.71	1.86	2.01	2.17																			
25		1.13	1.29	1.44	1.58	1.72	1.9	2.07	2.28	2.47	2.68																			
26.9	3/4	1.23	1.40	1.56	1.72	1.87	2.07	2.26	2.49	2.7	2.94	3.2																		
31.8	1		1.67	1.87	2.07	2.26	2.5	2.74	3.03	3.3	3.62	3.96	4.32	4.7																
33.7			1.78	1.99	2.2	2.41	2.67	2.93	3.24	3.54	3.88	4.26	4.66	5.07																
38				2.27	2.51	2.75	3.05	3.35	3.72	4.07	4.47	4.93	5.41	5.92																
42.4	1 1/4			2.55	2.82	2.98	3.26	3.63	4	4.44	4.87	5.37	5.94	6.55	7.2	7.75	8.51													
44.5	1 1/2			2.69	2.98	3.1	3.44	3.77	4.21	4.64	5.16	5.67	6.27	6.94	7.69	8.48	9.16	10.11												
48.3				2.93	3.25	3.3	3.65	4.01	4.47	4.93	5.49	6.04	6.68	7.41	8.21	9.08	9.81	10.85												
51					3.1	3.44	3.77	4.21	4.64	5.16	5.67	6.27	6.94	7.69	8.48	9.16	10.11													
54																														
57																														
60.3	2																													
63.5																														
70																														
73																														
76.1	2 1/2																													
82.5																														
88.9	3																													
101.6																														
108																														
114.3	4																													
127																														
133																														
139.7	5																													
152.4																														
159																														
168.3	6																													
177.8																														
193.7																														
219.1																														
244.5																														
273																														
323.9																														
355.6																														



## Bešavne cevi / Seamless pipes API Spec 5L (edicija / edition 42:2000)

Dimenzije / Dimensions	Dimenzije / Dimensions NPS (ASTM)	Spoljni prečnik / Outer diameter		Debljina zida / Wall thickness			Schedule No. (ekvivalent / equivalent ASTM)	Težina / Weight	
		[inch]	[mm]	[inch]	[mm]	[mm] (ASTM)		[lb/ft]	[kg/m]
1/2	1/2	0.84	21.3	0.109	2.8	2.77	40	0.85	1.28
				0.147	3.7	3.73	80	1.09	1.61
3/4	3/4	1.05	26.7	0.113	2.9	2.87	40	1.13	1.7
				0.154	3.9	3.91	80	1.48	2.19
1	1	1.315	33.4	0.133	3.4	3.38	40	1.68	2.52
				0.179	4.5	4.55	80	2.17	3.21
1 1/4	1 1/4	1.66	42.2	0.14	3.6	3.56	40	2.27	3.43
				0.191	4.9	4.85	80	3	4.51
1 1/2	1 1/2	1.9	48.3	0.145	3.7	3.68	40	2.72	4.07
				0.2	5.1	5.08	80	3.63	5.43
2 3/8	2	2.375	60.3	0.125	3.2	3.18	...	3.01	4.51
				0.141	3.6	3.58	...	3.37	5.03
				0.154	3.9	3.91	40	3.66	5.42
				0.172	4.4	4.37	...	4.05	6.07
				0.188	4.8	4.78	...	4.4	6.57
				0.218	5.5	5.54	80	5.03	7.43
				0.250	6.4	6.35	...	5.68	8.51
				0.281	7.1	7.14	...	6/29	9.31
2 7/8	2 1/2	2.875	73	0.125	3.2	3.18	...	3.67	5.51
				0.141	3.6	3.58	...	4.12	6.16
				0.156	4	3.96	...	4.53	6.81
				0.172	4.4	4.37	...	4.97	7.44
				0.188	4.8	4.78	...	5.4	8.07
				0.203	5.2	5.16	40	5.8	8.69
				0.216	5.5	5.49	...	6.14	9.16
				0.25	6.4	6.35	...	7.02	10.51
3 1/2	3	3.5	88.9	0.125	3.2	3.18	...	4.51	6.76
				0.141	3.6	3.58	...	5.06	7.57
				0.156	4	3.96	...	5.58	8.37
				0.172	4.4	4.37	...	6.12	9.17
				0.188	4.8	4.78	...	6.66	9.95
				0.126	5.5	5.49	40	7.58	11.31
				0.25	6.4	6.35	...	8.69	13.02
				0.281	7.1	7.14	...	9.67	14.32
4	3 1/2	4	101.6	0.3	7.6	7.62	80	10.26	15.24
				0.141	3.6	3.58	...	5.82	8.7
				0.156	4	3.96	...	6.41	9.63
				0.172	4.4	4.37	...	7.04	10.55
				0.188	4.8	4.78	...	7.66	11.46
				0.226	5.7	5.74	40	9.12	13.48
				0.25	6.4	6.35	...	10.02	15.02
				0.281	7.1	7.14	...	11.17	16.55
				0.318	8.1	8.08	80	12.52	18.68



Dimenzije / Dimensions		Spoljni prečnik / Outer diameter		Debljina zida / Wall thickness			Schedule No. (ekvivalent / equivalent ASTM)	Težina / Weight	
[inch]	[inch]	[inch]	[mm]	[inch]	[mm]	[mm] (ASTM)		[lb/ft]	[kg/m]
4 1/2	4	4.5	114.3	0.141	3.6	3.58	...	6.57	9.83
				0.156	4	3.96	...	7.24	10.88
				0.172	4.4	4.37	...	7.96	11.92
				0.188	4.8	4.78	...	8.67	12.96
				0.203	5.2	5.16	...	9.32	13.99
				0.219	5.6	5.56	...	10.02	15.01
				0.237	6	6.02	40	108	16.02
				0.25	6.4	6.35	...	11.36	17.03
				0.281	7.1	7.14	...	12.67	18.77
				0.312	7.9	7.92	...	13.97	20.73
				0.337	8.6	8.56	80	15	22.42
				0.438	11.1	11.13	120	19.02	28.25
5 9/16	5	5.563	141.3	0.156	4	3.96	...	9.02	13.54
				0.188	4.8	4.78	...	10.8	16.16
				0.219	5.6	5.56	...	12.51	18.74
				0.258	6.6	6.55	40	14.63	21.92
				0.281	7.1	7.14	...	15.87	23.5
				0.312	7.9	7.92	...	17.51	25.99
				0.344	8.7	8.74	...	19.19	28.45
				0.375	9.5	9.52	80	20.8	30.88
				0.5	12	12.7	120	27.06	40.28
5 5/8	6	6.63	168.3	0.188	4.8	4.78	...	12.94	19.35
				0.203	5.2	5.16	...	13.94	20.91
				0.219	5.6	5.56	...	15	22.47
				0.25	6.4	6.35	...	17.04	25.55
				0.28	7.1	7.11	40	18.99	28.22
				0.312	7.9	7.92	...	21.06	31.25
				0.344	8.7	8.74	...	23.1	34.24
				0.375	9.5	9.53	...	25.05	37.2
				0.432	11	10.97	80	28.6	42.67
				0.5	12.7	12.7	...	32.74	48.73
				0.562	14.3	14.27	120	36.43	54.31
				0.625	15.9	-	...	40.09	59.76
0.719	18.3	18.26	160	45.39	67.69				
8/58	8	8.63	219.1	0.25	6.4	6.35	20	22.38	33.57
				0.277	7	7.04	30	24.72	36.61
				0.312	7.9	7.92	...	27.73	41.14
				0.322	8.2	8.18	40	28.58	42.65
				0.344	8.7	8.74	...	30.45	45.14
				0.375	9.5	9.53	...	33.07	49.1
				0.438	11.1	11.13	...	38.33	56.94
				0.5	12.7	12.7	80	43.43	64.64
				0.562	14.3	14.27	...	48.44	72.22
				0.625	15.9	-	...	53.45	79.67
				0.719	18.3	18.26	120	60.77	90.62
10 3/4	10	10.75	273	0.25	6.4	6.35	20	28.06	42.09
				0.279	7.1	7.09	...	31.23	46.57
				0.307	7.8	7.8	30	34.27	51.03
				0.344	8.7	8.74	...	38.27	56.72
				0.365	9.3	9.27	40	40.52	60.5
				0.438	11.1	11.13	...	48.28	71.72
				0.5	12.7	12.7	60	54.79	81.55
				0.562	14.3	-	...	61.21	91.26
				0.625	15.9	-	...	67.65	100.85
0.719	18.3	18.26	100	77.1	114.99				



## Bešavne cevi / Seamless pipes ASTM A 53:2004; ASTM A 106:2004; ASTM A 333:2004

Dimenzije / Dimensions NPS	Spoljni prečnik / Outer diameter		Debljina zida / Wall thickness		Težina / Weight		Klasa / Class	Schedule No.
	[inch]	[mm]	[inch]	[mm]	[lb/ft]	[kg/m]		
1/2	0.84	21.3	0.109	2.77	0.85	1.27	STD	40
			0.147	3.73	1.09	1.62	XS	80
3/4	1.05	26.7	0.113	2.87	1.13	1.69	STD	40
			0.154	3.91	1.48	2.2	XS	80
1	1.315	33.4	0.133	3.38	1.68	2.5	STD	40
			0.179	4.55	2.17	3.24	XS	80
1 1/4	1.66	42.2	0.14	3.56	2.27	3.39	STD	40
			0.191	4.85	3	4.47	XS	80
1 1/2	1.9	48.3	0.145	3.68	2.72	4.05	STD	40
			0.2	5.08	3.63	5.41	XS	80
2	2.375	60.3	0.154	3.91	3.66	5.44	STD	40
			0.218	5.54	5.03	7.48	XS	80
2 1/2	2.875	73	0.203	5.16	5.8	8.63	STD	40
			0.276	7.01	7.67	11.41	XS	80
3	3.5	88.9	0.125	3.18	4.51	6.72	...	...
			0.156	3.96	5.58	8.29	...	...
			0.188	4.78	6.66	9.92	...	...
			0.216	5.49	7.58	11.29	STD	40
			0.25	6.35	8.69	12.93	...	...
			0.281	7.14	9.67	14.4	...	...
			0.3	7.62	10.26	15.27	XS	80
			0.438	11.13	14.34	21.35	...	160
3 1/2	4	101.6	0.125	3.18	5.18	7.72	...	...
			0.156	3.96	6.41	9.53	...	...
			0.188	4.78	7.66	11.41	...	...
			0.226	5.74	9.12	13.57	STD	40
			0.25	6.35	10.02	14.92	...	...
			0.281	7.14	11.17	16.63	...	...
			0.318	8.08	12.52	18.63	XS	80
4	4.5	114.3	0.156	3.96	7.24	10.78	...	...
			0.188	4.78	8.67	12.91	...	...
			0.219	5.56	10.02	14.91	...	...
			0.237	6.02	10.8	16.07	STD	40
			0.25	6.35	11.36	16.9	...	...
			0.281	7.14	12.67	18.87	...	...
			0.312	7.92	13.97	20.78	...	...
			0.337	8.56	15	22.32	XS	80
			0.438	11.13	19.02	28.32	...	120





Dimenzije / Dimensions NPS	Spoljni prečnik / Outer diameter		Debljina zida / Wall thickness		Težina / Weight		Klasa / Class	Schedule No.
	[inch]	[inch]	[mm]	[inch]	[mm]	[lb/ft]		
5	5.563	141.3	0.156	3.96	9.02	13.41	...	...
			0.188	4.78	10.8	16.09	...	...
			0.219	5.56	12.51	18.61	...	...
			0.258	6.55	14.63	21.77	STD	40
			0.281	7.14	15.87	23.62	...	...
			0.312	7.92	17.51	26.05	...	...
			0.344	8.74	19.19	28.57	...	...
			0.375	9.52	20.8	30.94	XS	80
			0.5	12.7	27.04	40.28	...	120
6	6.625	168.3	0.188	4.78	12.94	19.27	...	...
			0.219	5.56	15	22.31	...	...
			0.25	6.35	17.04	25.36	...	...
			0.28	7.11	18.99	28.26	STD	40
			0.312	7.92	21.06	31.32	...	...
			0.344	8.74	23.1	34.39	...	...
			0.375	9.52	25.05	37.28	...	...
			0.432	10.97	28.6	42.56	XS	80
			0.5	12.7	32.74	48.73	...	...
			0.562	14.27	36.43	54.2	...	120
8	8.625	219.1	0.25	6.35	22.38	33.31	...	20
			0.277	7.04	24.72	36.81	...	30
			0.312	7.92	27.73	41.24	...	...
			0.322	8.18	28.58	42.55	STD	40
			0.344	8.74	30.45	45.34	...	...
			0.375	9.52	33.07	49.2	...	...
			0.406	10.31	35.67	53.08	...	60
			0.438	11.13	38.33	57.08	...	...
			0.5	12.7	43.43	64.64	XS	80
			0.562	15.09	51	75.92	...	100
10	1.75	273.1	0.25	6.35	28.06	42.09	...	20
			0.279	7.09	31.23	46.49	...	...
			0.307	7.8	34.27	51.01	...	30
			0.344	8.74	28.27	56.96	...	...
			0.365	9.27	40.52	60.29	STD	40
			0.438	11.13	48.28	71.87	...	...
			0.5	12.7	54.79	81.52	XS	60
			0.534	15.09	64.49	95.97	...	80
			0.719	18.26	77.1	114.7	...	100



## 2. Čelične podužno varene šavne cevi / Longitudinally welded steel pipes

**2.1. Oblik i mere podužno varenih šavnih cevi koje se isporučuju su u skladu sa sledećim standardima / The shape and dimensions of longitudinally welded steel pipes, which are delivered in accordance with the following standards :**

SRPS EN 10220:2002

DIN 2458:1981

**2.2. Tehnički uslovi za isporuku podužno varenih šavnih cevi su u skladu sa sledećim standardima / Technical delivery conditions for longitudinally welded steel pipes in accordance with the following standards:**

SRPS EN 10217-1:2002; SRPS EN 10217-2:2002

DIN 1615:1984; DIN 1626:1984

**2.3. Kvalitet čelika podužno varenih šavnih cevi koje se isporučuju je sledeći / Quality of steel for longitudinally welded steel pipes is as follows:**

SRPS EN.....P235TR1; P265TR1; P235GHTC1; P265GHTC1; S235JRG2;  
S235JRH; itd/etc.

DIN.....St 37.0; St 44; St 35.8/l; St 45.8/l; RSt 37.2; St 52.3; itd /etc.

Spoljni prečnik / Outer diameter		Debljina zida / Wall thickness [mm]											
		2	2.3	2.6	2.9	3.2	3.6	4	4.5	5	5.6	6.3	7.1
[mm]	[inch]	Normalna debljina zida / Normal wall thickness [mm]											
17.2	3/8	0.75	0.85	0.94	1.02								
21.3	1/2	0.95	1.08	1.2	1.32	1.43	1.57	1.71	1.86				
26.9	3/4		1.4	1.56	1.72	1.87	2.07	2.6	2.49	2.7			
33.7	1			1.99	2.2	2.41	2.67	2.93	3.24	3.54			
42.4	1 1/4			2.55	2.82	3.09	3.44	3.79	4.21	4.61			
48.3	1 1/2			2.93	3.25	3.56	3.97	4.37	4.86	5.34			
60.3	2				4.11	4.51	5.03	5.55	6.19	6.82			
76.1	2 1/2				5.24	5.75	6.44	7.11	7.95	8.77			
88.9	3					6.75	7.57	8.38	9.37	10.35	11.5		
108							9.27	10.26	11.49	12.7	14.14	15.8	
114.3	4						9.83	10.88	12.19	13.48	15.01	16.78	18.77
133								12.73	14.26	15.78	17.59	16.69	22.04
139.7	5							13.39	15	16.61	18.52	20.73	23.22
159								15.28	17.15	18.99	21.19	23.73	26.6
168.3	6							16.2	18.2	20.10	22.5	25.2	28.2
219.1	8								23.9	26.7	29.7	33.1	37.1
273	10									33.3	37.2	41.5	46.6

**POSEBNI ZAHTEVI KUPACA KOJI SE ODOSE NA PODUŽNO VARENE ŠAVNE CEVI, A KOJI NISU OBUHVACENI NAVEDENIM STANDARDIMA SE TAKOĐE MOGU ISPUNITI / CUSTOMER'S REQUIREMENTS RELATED TO LONGITUDINALLY WELDED STEEL PIPES, WHICH ARE NOT COVERED BY THE STANDARDS ALSO CAN BE MET.**



### 3. Čelične spiralno varene šavne cevi / Spirally welded steel pipes

3.1. Oblik i mere spiralno varenih šavnih cevi koje se isporučuju su u skladu sa sledećim standardima / The shape and dimensions of spirally welded steel pipes, which are delivered in accordance with the following standards :

SRPS EN 10220:2002  
DIN 2458:1981

3.2. Tehnički uslovi za isporuku spiralno varenih šavnih cevi su u skladu sa sledećim standardima / Technical delivery conditions for spirally welded steel pipes in accordance with the following standards:

SRPS EN 10217-1:2002; SRPS EN 10217-2:2002  
DIN 1615:1984; DIN 1626:1984

3.3. Kvalitet čelika spiralno varenih šavnih cevi koje se isporučuju je sledeći / Quality of steel for spirally welded steel pipes is as follows:

SRPS EN.....P235TR1; P265TR1; P235GHTC1; P265GHTC1; S235JRG2;  
S235JRH; itd/etc.

DIN.....St 37.0; St 44; St 35.8/l; St 45.8/l; RSt 37.2; St 52.3; itd /etc.

Spoljni prečnik / Outer diameter		Debljina zida / Wall thickness [mm]								
		5	5.4	5.6	6.3	7.1	8	8.8	10	11
[mm]		Težina / Weight [kg/m]								
323.9		39.3	42.4	44	49.3	55.5	62.3			
355.6		43.2	46.6	48.3	54.3	61	68.4			
406.4		49.5	53.4	55.4	62.2	69.9	78.6	86.3	97.8	121
457		55.7	60.1	62.3	70	78.8	88.6	97.3	110	137
508		62	66.9	69.4	77.9	87.7	98.6	108	123	153
(559)			73.7	76.4	85.9	94.6	109	119	135	149
610					93.8	106	119	130	148	16
(660)						114	129	141	160	176
711						123	139	152	173	190
762							149	163	185	204
813								175	198	218
813									198	218
813										247

Spoljni prečnik / Outer diameter		Debljina zida / Wall thickness [inch/mm]								
		0.219/5.6	0.25/6.4	0.281/7.1	0.312/7.9	0.344/8.7	0.375/9.5	0.406/10.3	0.438/11.1	0.469/11.9
[mm]	[inch]	Težina / Weight [lb/ft / kg/m]								
12 3/4	323.9	29.31/43.96	33.38/50.11	37.42/55.47	41.56/61.56					
14	355.6	32.23/48.33	36.71/55.11	41.17/61.02	45.61/67.74					
16	406.4	36.91/55.35	42.05/63.13	47.17/69.19	52.27/77.63	50.17/85.32	54.57/92.96	67.62/100.63	72.8/108.2	
18	457	41.59/62.34	47.39/71.12	53.18/78.77	58.94/87.49	64.87/96.18	70.59/104.84	76.29/113.53	82.15/122.05	
20	508	46.27/69.38	52.73/79.16	59.18/87.7	65.6/97.43	72.21/107.12	78.6/116.78	84.96/123.41	91.51/136.01	97.83/145.58
22	559		58.07/87.21	65.18/96.63	72.27/107.36	79.56/118.06	86.61/128.73	93.63/139.37	100.86/149.97	107.85/160.55
24	610		63.41/95.26	71.18/105.56	78.93/117.3	86.91/129	94.62/140.68	102.31/152.32	110.22/163.93	117.86/175.4
26	660			77.18/114.31	85.6/127.04	94.26/139.73	102.63/152.39	110.98/165.02	119.57/177.62	127.88/190.19
28	711			83.19/123.24	92.26/136.97	101.61/150.67	110.64/164.34	119.65/177.98	128.93/191.58	137.9/205.15
30	762				98.93/147.37	108.95/162.31	118.65/176.76	128.32/191.17	138.29/206.01	147.92/220.36
32	813					116.3/173.26	126.66/188.69	136.99/204.09	147.64/219.95	157.94/235.29

POSEBNI ZAHTEVI KUPACA KOJI SE ODOSE NA SPIRALNO VARENE ŠAVNE CEVI, A KOJI NISU OBUHVACENI NAVEDENIM STANDARDIMA SE TAKOĐE MOGU ISPUNITI / CUSTOMER'S REQUIREMENTS RELATED TO SPIRALLY WELDED STEEL PIPES, WHICH ARE NOT COVERED BY THE STANDARDS ALSO CAN BE MET.



## 4. Pocinkovane galvanizovane cevi / Galvanized pipes

**4.1. Oblik i mere galvanizovanih cevi koje se isporučuju su u skladu sa sledećim standardima / The shape and dimensions of galvanized pipes, which are delivered in accordance with the following standards :**

SRPS EN 10220:2002

DIN 2439:1981; DIN 2440:1981; DIN 2441:1981

**4.2. Tehnički uslovi za isporuku galvanizovanih cevi su u skladu sa sledećim standardima / Technical delivery conditions for galvanized pipes in accordance with the following standards:**

SRPS EN 10217-1:2002

DIN 1626:1984

**4.3. Kvalitet čelika galvanizovanih cevi koje se isporučuju je sledeći / Quality of steel for galvanized pipes is as follows:**

SRPS EN 10025-1:1993.....S235JRG2

DIN 17100:1984.....RSt 37.2

**4.4. Galvanizovanje cevi je u skladu sa DIN 2444:1984, uz debljinu nanosa cca 56  $\mu\text{m}$ , odnosno min. 400 g/m<sup>2</sup> / Galvanization of pipes in accordance with DIN 2444:1984, with thickness approximately 56  $\mu\text{m}$  and min. 400 g/m<sup>2</sup>.**

Spoljni prečnik / Outer diameter		Debljina zida / Wall thickness	Težina / Weight		
[inch]	[mm]		DIN 2439	DIN 2440	DIN 2441
		[mm]	[kg/m <sup>2</sup> ]		
		2.35	1.09		
1/2	21.3	2.65		1.22	
		3.25			1.45
		2.35	1.4		
3/4	26.9	2.65		1.58	
		3.25			1.9
		2.95	2.25		
1	33.7	3.25		2.44	
		4.05			2.97
		2.95	2.87		
1 1/4	42.4	3.25		3.14	
		4.05			3.34
		2.35	3.31		
1 1/2	48.3	3.25		3.61	
		4.05			4.43
		3.25	4.57		
2	60.3	3.65		5.1	
		4.05			5.63
		3.25	5.85		
2 1/2	76.1	3.65		6.51	
		4.05			7.9
		3.65	7.72		
3	88.9	4.05		8.45	
		4.55			9.38
		4.05	11.02		
4	114.3	4.55		12.1	
		5.05			13.61

**POSEBNI ZAHTEVI KUPACA KOJI SE ODOSE NA GALVANIZOVANE CEVI, A KOJI NISU OBUHVAĆENI NAVEDENIM STANDARDIMA SE TAKOĐE MOGU ISPUNITI / CUSTOMER'S REQUIREMENTS RELATED TO GALVANIZED PIPES, WHICH ARE NOT COVERED BY THE STANDARDS ALSO CAN BE MET.**



## 5. Čelične kvadratne i pravougaone šavne cevi / Square and rectangular welded steel pipes

**5.1. Oblik i mere kvadratnih i pravougaonih šavnih cevi koje se isporučuju su u skladu sa sledećim standardima / The shape and dimensions of square and rectangular welded pipes, which are delivered in accordance with the following standards :**

SRPS EN 10219:2002

**5.2. Kvalitet čelika kvadratnih i pravougaonih šavnih cevi koje se isporučuju je sledeći / Quality of steel for square and rectangular welded pipes is as follows:**

SRPS EN.....S235JRG2; S235JRH; S275JR; S355J2G3; itd/etc.

DIN.....St 37.2; St 44.2; RSt 37.2; St 52.3; itd/etc.

### Kvadratne cevi / Square pipes

A x B	Debljina zida / Wall thickness [mm]									
	1	1.25	1.5	1.8	2	2.5	3	4	5	5.5
	Težina / Weight [kg/m]									
13 x 13	0.37	0.45	0.54	0.63						
14 x 14		0.5	0.61							
15 x 15		0.53	0.65							
16 x 16		0.58	0.72	0.85						
18 x 18		0.67	0.79	0.94						
20 x 20		0.73	0.87	1.03	1.13	1.39				
22 x 22			0.98	1.16	1.26					
25 x 25		0.94	1.12	1.33	1.47	1.8				
30 x 30		1.13	1.35	1.61	1.77	2.19	2.59			
35 x 35		1.33	1.59	1.89	2.09	2.59	3.07	3.99		
40 x 40			1.83	2.18	2.42	2.99	3.55	4.63		
45 x 45					2.72	3.37	4.01	5.25		
50 x 50			2.29	2.74	3.03	3.76	4.47	5.87		
60 x 60					3.65	4.54	5.41	7.11	8.76	9.57
70 x 70					4.26	5.32	6.35	8.37	10.34	11.31
80 x 80						6.11	7.29	9.62	11.9	13.03
90 x 90							8.21	10.35	13.43	14.71
100 x 100						7.67	9.17	12.13	15.03	16.47



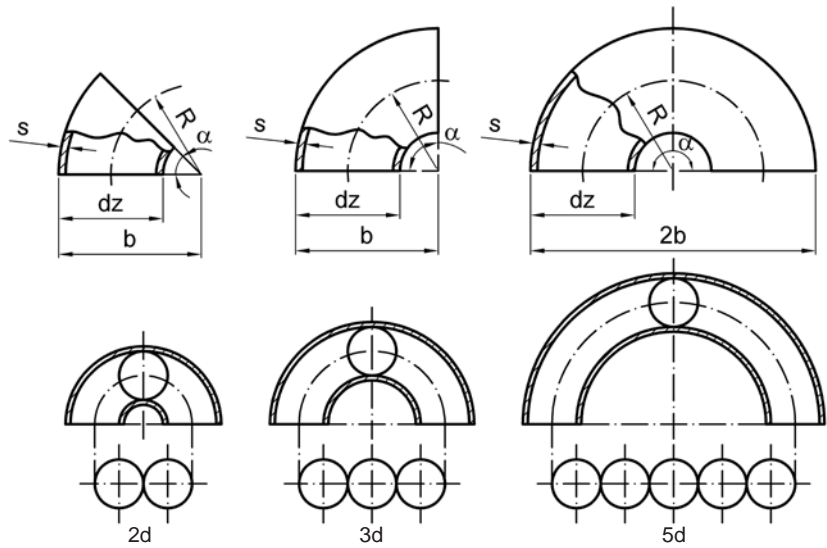
## Pravougaone cevi / Rectangular pipes

A x B	Debljina zida / Wall thickness [mm]								
	1.25	1.5	1.8	2	2.5	3	4	5	5.5
Težina / Weight [kg/m]									
25 x 15	0.73	0.87	1.03	1.13					
30 x 15		0.98							
30 x 20	0.94	1.12	1.33	1.47	1.8				
40 x 20	1.13	1.35	1.61	1.77	2.19	2.59			
40 x 30	1.33	1.59	1.89	2.09	2.59	3.07	3.99		
50 x 20	1.33	1.59	1.89	2.09	2.59	3.07	3.99		
50 x 30		1.83	2.18	2.42	2.99	3.55	4.63		
50 x 40				2.72	3.37	4.01	5.25		
60 x 30				2.72	3.37	4.01	5.25		
60 x 34					3.54	4.24			
60 x 40				3.03	3.76	4.47	5.87		
70 x 30				3.03	3.76	4.47	5.87		
70 x 50				3.65	4.54	5.41	7.11	8.76	9.57
72 x 60				3.97	4.93	5.88	7.74		
80 x 40				3.65	4.54	5.41	7.11	8.76	9.57
80 x 50				3.97	4.93	5.88	7.74	9.55	10.44
80 x 60				4.28	5.32	6.35	8.35	10.34	11.31
90 x 30				3.65	4.54	5.41	7.11		
90 x 50				4.28	5.32			10.34	11.31
90 x 60					5.72	6.28	9	11.12	12.16
90 x 70				4.91	6.11	7.29	9.62	11.9	13.03
100 x 40				4.28	5.32	6.35	8.37	10.34	11.31
100 x 50					5.72	6.28	9	11.12	12.16
100 x 60				4.91	6.11	7.29	9.62	11.9	13.03
100 x 80						8.21	10.85	13.43	14.71
106 x 53					6.11	7.29	9.62		
120 x 40					6.11	7.29	9.62	11.9	13.03
120 x 60						8.21	10.85	13.43	14.71
120 x 80					7.67	9.17	12.13	15.03	16.47

**POSEBNI ZAHTEVI KUPACA KOJI SE ODOSE NA KVADRATNE I PRAVOUGAONE ŠAVNE CEVI, A KOJI NISU OBUHVAĆENI NAVEDENIM STANDARDIMA SE TAKOĐE MOGU ISPUNITI / CUSTOMER'S REQUIREMENTS RELATED TO SQUARE AND RECTANGULAR WELDED PIPES, WHICH ARE NOT COVERED BY THE STANDARDS ALSO CAN BE MET.**

## 6. Bešavni cevni lukovi / Seamless elbows

Standard / Norm : DIN 2605-1  
 Materijal / Material : St 37.0; St 35.8  
 ili po zahtevu klijenta /  
 or at client's request



Nazivni otvor / Nominal size	Spoljni prečnik / Outer diameter	Debljina zida / Wall thickness	Tip / Type			Nazivni otvor / Nominal size	Spoljni prečnik / Outer diameter	Debljina zida / Wall thickness	Tip / Type		
			2d	3d	5d				2d	3d	5d
DN	dz	s	Masa za / Mass for 90°			DN	dz	s	Masa za / Mass for 90°		
[mm]			[kg]			[mm]			[kg]		
15	21.3	2	R=17.5	R=28	R=42.5	32	38	2.6	R=32.5	R=45	R=82.5
			b=28	b=38	b=53				b=52	b=64	b=101
			0.03	0.04	0.07				0.12	0.16	0.3
		2.3	0.03	0.05	0.07			2.9	0.13	0.18	0.33
		2.6	0.04	0.05	0.08			3.2	0.14	0.2	0.36
		2.9	0.04	0.06	0.09			3.6	0.16	0.22	0.4
20	26.9	2.3	R=25	R=29	R=57.5		42.4	2.6	R=32	R=48	R=92.5
			b=39	b=43	b=71				b=53	b=69	b=114
			0.06	0.06	0.13				0.15	0.19	0.37
		2.6	0.06	0.07	0.14			2.9	0.17	0.21	0.41
		2.9	0.06	0.08	0.16			3.2	0.18	0.23	0.45
		3.2	0.07	0.09	0.17			3.6	0.21	0.26	0.5
		3.6	0.07	0.1	0.19	4	0.23	0.29	0.55		
		4	0.08	0.1	0.21	4.5	0.25	0.32	0.6		
25	33.7	2.6	R=25	R=38	R=72.5	40	2.6	R=40	R=51	R=97.5	
			b=42	b=56	b=90			b=62	b=73	b=130	
			0.1	0.12	0.23			0.17	0.22	0.41	
		2.9	0.11	0.13	0.25		2.9	0.19	0.24	0.46	
		3.2	0.12	0.15	0.28		3.2	0.21	0.26	0.5	
		3.6	0.13	0.16	0.31		3.6	0.23	0.29	0.56	
		4	0.14	0.18	0.34		4	0.25	0.32	0.61	
		4.5	0.14	0.2	0.37		44.5	2.6	R=38	R=57	R=107.5
		5	0.15	0.21	0.41				b=62	b=81	b=132
									0.2	0.26	0.5
48.3	48.3	2.9	0.22	0.29	0.55			2.9	0.22	0.29	0.55
		3.2	0.24	0.32	0.6			3.2	0.24	0.32	0.6
		3.6	0.27	0.36	0.67	3.6	0.27	0.36	0.67		
		4	0.29	0.39	0.74	4	0.29	0.39	0.74		
		4.5	0.33	0.44	0.82	4.5	0.33	0.44	0.82		
5	0.37	0.48	0.9	5	0.37	0.48	0.9				



Nazivni otvor / Nominal size	Spoljni prečnik / Outer diameter	Debljina zida / Wall thickness	Tip / Type			Nazivni otvor / Nominal size	Spoljni prečnik / Outer diameter	Debljina zida / Wall thickness	Tip / Type		
			2d	3d	5d				2d	3d	5d
DN	dz	s	Masa za / Mass for 90°			DN	dz	s	Masa za / Mass for 90°		
[mm]			[kg]			[mm]			[kg]		
50	57	2.9	R=52.5	R=72	R=127.5	100	108	3.6	R=100	R=142.5	R=252.5
			b=81	b=100	b=156				b=154	b=196	b=306
			0.32	0.44	0.78				1.46	2.08	3.68
		3.2	0.35	0.48	0.85			4	1.61	2.3	4.07
		3.6	0.39	0.54	0.95			4.5	1.81	2.57	4.56
		4	0.43	0.59	1.05			5	2	2.85	5.04
		4.5	0.48	0.66	1.17			5.6	2.22	3.17	5.61
		5	0.53	0.73	1.29			6.3	2.48	3.54	6.27
		5.6	0.59	0.81	1.42			7.1	2.78	3.96	7.01
	6.3	0.65	0.89	1.58	8		3.1	4.42	7.83		
	60.3	2.9	R=51	R=76	R=135		114.3	3.6	R=102	R=152	R=270
			b=81	b=106	b=165				b=159	b=210	b=327
			0.36	0.49	0.87				1.62	2.36	4.17
		3.2	0.39	0.54	0.96			4	1.8	2.61	4.62
		3.6	0.44	0.6	1.07			4.5	2.01	2.92	5.17
		4	0.48	0.67	1.17			5	2.23	3.23	5.72
		4.5	0.54	0.74	1.32			5.6	2.48	3.6	6.37
		5	0.59	0.82	1.45			6.3	2.77	4.02	7.12
5.6		0.66	0.9	1.6	7.1	3.1		4.5	7.96		
6.3	0.73	1	1.78	8	3.46	5.03	8.9				
7.1	0.78	1.11	1.9	10	4.24	6.16	10.9				
65	76.1	2.9	R=63	R=95	R=175	125	133	4	R=125	R=181	R=321.5
			b=102	b=133	b=213				b=192	b=247	b=379
			0.58	0.78	1.44				2.5	3.62	6.25
		3.2	0.64	0.86	1.58			4.5	2.8	4.06	7
		3.6	0.71	0.96	1.77			5	3.1	4.49	7.75
		4	0.78	1.06	1.96			5.6	3.46	5	8.64
		4.5	0.88	1.19	2.19			6.3	3.87	5.6	9.66
		5	0.97	1.31	2.41			7.1	4.33	6.27	10.8
		5.6	1.07	1.46	2.68			8	4.84	7.01	12.1
		6.3	1.19	1.62	2.98			4	R=127	R=190	R=330
		7.1	1.33	1.81	3.32				b=197	b=260	b=400
		8	1.48	2.01	3.7				2.79	4.01	6.94
80	88.9	3.2	R=76	R=114	R=205	139.7	4.5	R=150	R=216	R=375	
			b=121	b=159	b=250			b=230	b=294	b=454	
			0.88	1.22	2.18			4.04	5.82	10.1	
		3.6	0.96	1.36	2.44		5	4.48	6.45	11.2	
		4	1.09	1.51	2.7		5.6	4.99	7.19	12.5	
		4.5	1.22	1.69	3.02		6.3	5.59	8.05	14	
		5	1.34	1.86	3.33		7.1	6.27	9.03	15.7	
		5.6	1.49	2.07	3.71		8	7.02	10.1	17.6	
		6.3	1.67	2.31	4.13		8.8	7.68	11.1	19.2	
		7.1	1.86	2.58	4.61		10	8.66	12.5	21.7	
8	2.07	2.87	5.14	14	-	18	-				
10	2.52	3.5	6.27								
150	159	4.5	R=150	R=216	R=375	150	159	4.5	R=150	R=216	R=375
			b=230	b=294	b=454				b=230	b=294	b=454
			4.04	5.82	10.1				4.04	5.82	10.1
		5	4.48	6.45	11.2			5	4.48	6.45	11.2
		5.6	4.99	7.19	12.5			5.6	4.99	7.19	12.5
		6.3	5.59	8.05	14			6.3	5.59	8.05	14
		7.1	6.27	9.03	15.7			7.1	6.27	9.03	15.7
		8	7.02	10.1	17.6			8	7.02	10.1	17.6
		8.8	7.68	11.1	19.2			8.8	7.68	11.1	19.2
		10	8.66	12.5	21.7			10	8.66	12.5	21.7
		14	-	18	-			14	-	18	-





Nazivni otvor / Nominal size	Spoljni prečnik / Outer diameter	Debljina zida / Wall thickness	Tip / Type			Nazivni otvor / Nominal size	Spoljni prečnik / Outer diameter	Debljina zida / Wall thick- ness	Tip / Type			
			2d	3d	5d				2d	3d	5d	
DN	dz	s	Masa za / Mass for 90°			DN	dz	s	Masa za / Mass for 90°			
[mm]			[kg]			[mm]			[kg]			
150	168.3	4.5	R=152	R=229	R=390	400	406.4	8	R=406	R=610	R=970	
			b=237	b=313	b=474				b=610	b=813	b=1173	
			4.43	6.53	11.1				50.1	75.3	120	
		5	4.9	7.23	12.3			8.8	55.1	82.6	132	
		5.6	5.47	8.07	13.8			10	62.4	9.6	149	
		6.3	6.13	9.04	15.4			11	68.5	103	163	
		7.1	6.87	10.1	17.3			12.5	77.5	116	185	
		8	7.7	11.4	19.4			14.2	87.7	131	209	
		8.8	8.43	12.4	21.2			8	R=457	R=686	R=1122	
		10	9.51	14	23.9				b=688	b=914	b=1351	
				63.3	95.5	156						
200	219.1	6.3	R=203	R=305	R=510	450	457	8.8	69.5	105	171	
			b=313	b=415	b=620				10	78.8	119	194
			10.9	15.8	26.5				11	86.5	130	213
		7.1	12.3	17.8	29.7			12.5	98	148	242	
		8	13.7	20	33.4			14.2	111	167	274	
		8.8	15.1	21.9	36.6			8	R=508	R=762	R=1245	
		10	17	24.7	41.3				b=762	b=1016	b=1499	
		11	18.6	27	45.2				78.2	118	193	
		12.5	21	30.5	51			8.8	85.9	130	212	
		16	26.4	38.4	66			10	97.4	147	240	
250	273	6.3	R=254	R=381	R=650	500	508	11	107	161	264	
			b=391	b=516	b=767				12.5	121	183	299
			16.5	24.8	42.3				14.2	137	207	338
		7.1	18.6	27.9	47.5			10	R=610	R=914	R=1525	
		8	20.9	31.3	53.4				b=915	b=1219	b=1830	
		8.8	22.9	34.3	58.5				142	209	348	
		10	25.9	38.8	66.2			11	156	230	383	
		11	28.4	42.5	72.6			12.5	178	260	434	
		12.5	32	48.1	82			14.2	200	295	491	
		300	323.9	7.1	R=305			R=457	R=775	600	610	16
b=467	b=619				b=937	17.5	245	361	602			
26.6	39.8				67.5	10	R=711	R=1067	R=1778			
8	29.9			44.7	75.9		b=1067	b=1422	b=2133			
8.8	32.8			49.1	83.3		190	285	475			
10	37.1			55.6	94.2	11	209	313	521			
11	40.7			60.9	103	12.5	237	355	592			
12.5	46			68.9	117	14.2	268	403	671			
350	355.6	8	R=356	R=533	R=850	700	711	16	302	452	754	
			b=533	b=711	b=1028							
			38.2	57.5	91.6							
		8.8	42	63.1	101							
		10	47.5	71.4	114							
		11	52.1	78.3	125							
		12.5	59	88.6	141							
14.2	66.7	100	160									

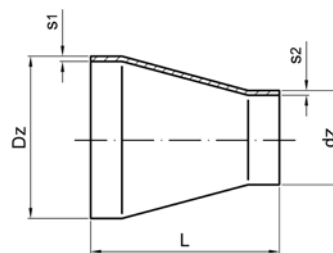
CEVNI LUKOVI MOGU BITI ISPORUČENI PREMA ŽELJENOM STANDARDU, RADIJUSU I KVALITETU /  
ELBOWS CAN BE DELIVERED BY DESIRED STANDARD, RADIUS AND QUALITY.

## 7. Koncentrične redukcije / Reducers

Standard / Norm : DIN 2616

Materijal / Material : St 37.0; St 35.8

ili po zahtevu klijenta / or at client's request



Dimenzije / Dimension					Tolerancije / Tolerance		
Spoljni prečnik / Outer diameter		Debljina / Thick-ness	Spoljni prečnik / Outer diameter		Debljina / Thick-ness	Dužina / Length	Debljina / Thickness
Dz		s1	dz		s2	L	dz
[inch]	[mm]	[mm]	[inch]	[mm]	[mm]	[mm]	
3/4	26.9	2.3	1/2	21.3	2	38	ne manje od 87.5% debljine / not less than 87.5% of the thickness
1	33.7	2.6	1/2	21.3	2	50	
			3/4	26.9	2.3		
1 1/4	42.4	2.6	1/2	21.3	2	50	
			3/4	26.9	2.3		
			1	33.7	2.6		
1 1/2	48.3	2.6	3/4	26.9	2.3	64	
			1	33.7	2.6		
			1 1/4	42.4	2.6		
2	60.3	2.9	3/4	26.9	2.3	76	
			1	33.7	2.6		
			1 1/4	42.4	2.6		
			1 1/2	48.3	2.6		
2 1/2	76.1	2.9	1	33.7	2.6	90	
			1 1/4	42.4	2.6		
			1 1/2	48.3	2.6		
			2	60.3	2.9		
3	78.9	3.2	1 1/4	42.4	2.6	90	
			1 1/2	48.3	2.6		
			2	60.3	2.9		
			2 1/2	76.1	2.9		
4	108	3.6	1 1/2	48.3	2.6	100	
			2	60.3	2.9		
			2 1/2	76.1	2.9		
			3	88.9	3.2		
5	133	4	2	60.3	2.9	127	
			2 1/2	76.1	2.9		
			3	88.9	3.2		
			4	114.3	3.6		
6	159	4.5	2 1/2	76.1	2.9	140	
			3	88.9	3.2		
			4	114.3	3.6		
			5	139.7	4		
8	219.1	6.3	4	114.3	3.6	152	
			5	139.7	4		
			6	168.3	4.5		
10	273	6.3	4	114.3	3.6	178	
			5	139.7	4		
			6	168.3	4.5		
			8	219.1	6.3		



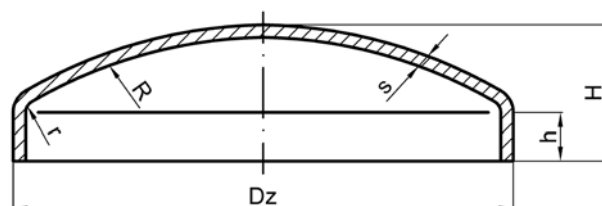
Dimenzije / Dimension						Tolerancije / Tolerance			
Spoljni prečnik / Outer diameter		Debljina / Thick-ness	Spoljni prečnik / Outer diameter		Debljina / Thick-ness	Dužina / Length	Dužina / Length	Debljina / Thickness	
Dz		s1	dz		s2	L	L	s	
[inch]	[mm]	[mm]	[inch]	[mm]	[mm]	[mm]	dz		
12	323.9	7.1	6	168.3	4.5	203	+/- 5	ne manje od 87.5% debljine / not less than 87.5% of the thickness	
			8	219.1	6.3				
			10	273	6.3				
14	355	8	6	168.3	4.5	330			
			8	219.1	6.3				
			10	267	6.3				
			10	273	6.3				
			12	323.9	7.1				
16	406.4	8.8	5 3/4	159	4.5	330			
			6	168.3	4.5				
			8	219.1	6.3				
			10	267	6.3				
			10	273	6.3				
			12	323.9	7.1				
18	457	10	8	219.1	6.3	355			
			10	267	6.3				
			10	273	6.3				
			12	323.9	7.1				
			14	355.6	8				
			14	368	8				
20	508	11	8	219.1	6.3	381			
			10	267	6.3				
			10	273	6.3				
			12	323.9	7.1				
			14	355.6	8	525			
			14	368	8				
			16	406	8.8				
			16	419	10				
22	610	11.5	8	219.1	6.3	508			
			10	267	6.3				
			10	273	6.3				
			12	323.9	7.1				
			14	355.6	8				625
			14	368	8				
			16	406	8.8				
			16	419	10				
22	610	11.5	12	323.9	7.1	350			
			14	355.6	8				
			14	368	8	490			
			16	406	8.8				
			16	419	10	675			
			18	457	10				
			20	508	11				
			20	521	11.5				

## 8. Konveksne kape / Caps

Standard / Norm : DIN 28011

Materijal / Material : St 37.0; St 35.8

ili po zahtevu klijenta / or at client's request



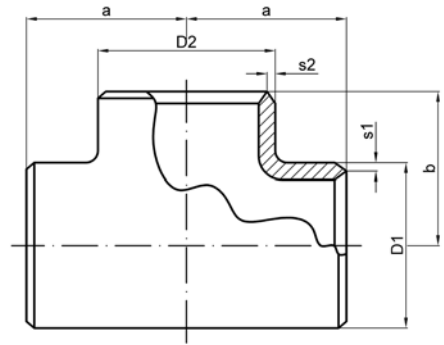
Spoljni prečnik / Outer diameter	Debljina / Thickness	Visina / Height	Visina stranice / Height	Duži radius / Long radius	Kraći radius / Short radius
Dz	s	H	h	R	r
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
21.3	2	12	4	21	4
26.9	2	14	5	27	4
33.7	2.3	17	5	34	4
42.4	2.6	20	5	43	4
48.3	2.6	21	6	48	4
60.3	2.9	25	7	60	6
70	2.9	28	8	70	6
76.1	2.9	30	9	76	6
88.9	3.2	33	11	89	8
101.6	3.6	34	11	102	8
108	3.6	35	11	108	8
114.3	3.6	36	12	114	8
133	4	39	12	133	10
139.7	4	41	12	140	12
159	4.5	51	15	159	15
168.3	4.5	56	16	168	15
193.7	5.4	57	17	194	20
219.1	6.3	57	17	220	20
244.5	6.3	60	17	240	25
273	6.3	70	18	270	38
323.9	7.1	87	35	324	32
355.6	8	89	40	355	35
368	8	95	40	368	37
406.4	8.8	99	45	406	41
419	8.8	105	45	419	42
457.2	10	110	50	460	46
508	10	120	50	508	51

## 9. T komadi / Tees

Standard / Norm : DIN 2615 - 1

Materijal / Material : St 35.8

ili po zahtevu klijenta / or at client's request



Nominalni prečnik / Nominal diameter	Spoljni prečnik / Outer diameter	Debljina / Thickness			Nominalni prečnik / Nominal diameter	Spoljni prečnik / Outer diameter	Debljina / Thickness Masa / Mass					Visina / Height		
		s1					DN2	D2	s2					a
[mm]	[mm]	3	4	5	[mm]	[mm]	3	[kg]	4	[kg]	5	[kg]	[mm]	[mm]
15	21.3	2	3.2	4	15	21.3	2	0.09	3.2	0.12	4	0.15	25	25
		2	3.2		10	17.2	1.8	0.09	2.9	0.12				
20	26.9	2.	3.2	4	20	26.9	2.3	0.05	3.2	0.2	4	0.22	29	29
		2.3	3.2	4	15	21.3	2	0.15	3.2	0.2	4	0.22		
		2.3	3.2		10	17.2	1.8	0.15	2.9	0.2				
25	33.7	2.6	3.2	4	25	33.7	2.6	0.26	3.2	0.3	4	0.38	38	38
		2.6	3.2	4	20	26.9	2.3	0.26	3.2	0.3	4	0.38		
		2.6	3.2	4	15	21.3	2	0.26	3.2	0.3	4	0.38		
32	42.4	2.6	3.6	4	32	42.4	2.6	0.42	3.6	0.57	4	0.64	48	48
		2.6	3.6	4	25	33.7	2.6	0.42	3.2	0.57	4	0.64		
		2.6	3.6	4	20	26.9	2.3	0.42	3.2	0.57	4	0.64		
		2.6	3.6	4	15	21.3	2	0.42	3.2	0.57	4	0.64		
40	48.3	2.6	4	5	40	48.3	2.6	0.59	4	0.85	5	1.05	57	57
		2.6	4	5	32	42.4	2.6	0.59	3.6	0.85	4	1.05		
		2.6	4	5	25	33.7	2.6	0.59	3.2	0.85	4	1.05		
		2.6	4	5	20	26.9	2.3	0.59	3.2	0.85	4	1.05		
50	60.3	2.9	4.5	5.6	50	60.3	2.9	0.83	4.5	1.25	5.6	1.05	64	64
		2.9	4.5	5.6	40	48.3	2.6	0.79	4	1.25	5	1.05		60
		2.9	4.5	5.6	32	42.4	2.6	0.76	3.6	1.2	4	1.45		57
		2.9	4.5	5.6	25	33.7	2.6	0.72	3.2	1.2	4	1.4		51
		2.9	4.5	5.6	20	26.9	2.3	0.72	3.2	1.2	4	1.4		44
65	76.1	2.9	5	7.1	65	76.1	2.9	1.29	5	2	7.1	2.85	76	76
		2.9	5	7.1	50	60.3	2.9	1.2	4.5	1.9	5.6	2.7		70
		2.9	5	7.1	40	48.3	2.6	1.16	4	1.85	5	2.65		67
		2.9	5	7.1	32	42.4	2.6	1.12	3.6	1.85	4	2.65		64
		2.9	5	7.1	25	33.7	2.6	1.1	3.2	1.8	4	2.6		57
80	88.9	3.2	5.6	8	80	88.9	3.2	1.85	5.6	3.1	8	4.2	86	86
		3.2	5.6	8	65	76.1	2.9	1.85	5	3.1	7.1	4.2		83
		3.2	5.6	8	50	60.3	2.9	1.8	4.5	2.9	5.6	4		76
		3.2	5.6	8	40	48.3	2.6	1.7	4	2.8	5	4		73
		3.2	5.6	8	32	42.4	2.6	1.7	3.6	2.8	4	3.9		70
100	114.3	3.6	6.3	8.8	100	114.3	3.6	3.1	6.3	5.3	8.8	7.2	105	105
		3.6	6.3	8.8	80	88.9	3.2	3	5.6	5.1	8	6.9		98
		3.6	6.3	8.8	65	76.1	2.9	2.9	5	5	7.1	6.8		95
		3.6	6.3	8.8	50	60.3	2.9	2.9	4.5	4.85	5.6	6.6		89
		3.6	6.3	8.8	40	48.3	2.6	2.8	4	4.8	5	6.5		86



Nominalni prečnik / Nominal diameter	Spoljni prečnik / Outer diameter	Debljina / Thickness			Nominalni prečnik / Nominal diameter	Spoljni prečnik / Outer diameter	Debljina / Thickness Masa / Mass						Visina / Height	
		s1					DN2	D2	3		4		5	
[mm]	[mm]	3	4	5	[mm]	[mm]	3	[kg]	4	[kg]	5	[kg]	[mm]	[mm]
125	139.7	4	6.3	10	125	139.7	4	4.8	6.3	7.4	10	11.5	124	124
		4	6.3	10	100	114.3	3.6	4.7	6.3	7.2	8.8	11.3		117
		4	6.3	10	80	88.9	3.2	4.6	5.6	7	8	11		111
		4	6.3	10	65	76.1	2.9	4.6	5	6.8	7.1	10.9		108
		4	6.3	10	50	60.3	2.9	4.5	4.5	6.8	5.6	10.9		105
150	168.3	4.5	7.1	11	150	168.3	4.5	7	7.1	11	11	16.8	143	143
		4.5	7.1	11	125	139.7	4	6.9	6.3	10.8	10	16.6		137
		4.5	7.1	11	100	114.3	3.6	6.7	6.3	10.7	8.8	16.3		130
		4.5	7.1	11	80	88.9	3.2	6.6	5.6	10.4	8	16		124
		4.5	7.1	11	65	76.1	2.9	6.5	5	10.2	7.1	15.8		121
200	219.1	6.3	8	12.5	200	219.1	6.3	14.9	8	19.1	12.5	29.8	178	178
		6.3	8	12.5	150	168.3	4.5	14.4	7.1	18.4	11	28.8		168
		6.3	8	12.5	125	139.7	4	13.6	6.3	17.4	10	27.6		162
		6.3	8	12.5	100	114.3	3.6	13.6	6.3	17.4	8.8	27.6		156
		6.3	8	12.5	80	88.9	3.2	13.6	5.6	17.4	8	27.6		152
250	273	6.3	8.8	14.2	250	273	6.3	22	8.8	31	14.2	51	216	216
		6.3	8.8	14.2	200	219.1	6.3	20.3	8	30.5	12.5	51		203
		6.3	8.8	14.2	150	168.3	4.5	20.3	7.1	30.5	11	50.5		194
		6.3	8.8	14.2	125	139.7	4	19.3	6.3	30	10	50.5		191
		6.3	8.8	14.2	100	114.3	3.6	19	6.3	30	8.8	50		184
300	323.9	7.1	10	16	300	323.9	7.1	35	10	49.4	16	92	254	254
		7.1	10	16	250	273	6.3	34.1	8.8	47.5	14.2	92		241
		7.1	10	16	200	219.1	6.3	34.1	8	47.5	12.5	92		229
		7.1	10	16	150	168.3	4.5	34.1	7.1	46.5	11	92		219
		7.1	10	16	125	139.7	4	34	6.3	46	10	92		216
350	355.6	8	11	17.5	350	355.6	8	60	11	86	17.5	130	279	279
		8	11	17.5	300	323.9	7.1	60	10	86	16	130		270
		8	11	17.5	250	273	6.3	60	8.8	86	14.2	130		257
		8	11	17.5	200	219.1	6.3	54	8	76	12.5	116		248
		8	11	17.5	150	168.3	4.5	54	7.1	76	11	116		238
400	406.4	8.8	12.5	20	400	406.4	8.8	82	12.5	118	20	182	305	305
		8.8	12.5	20	350	355.6	8	82	11	118	17.5	182		305
		8.8	12.5	20	300	323.9	7.1	82	10	118	16	182		295
		8.8	12.5	20	250	273	6.3	82	8.8	118	14.2	182		283
		8.8	12.5	20	200	219.1	6.3	74	8	106	12.5	132		273
500	508	11	16	25	500	508	11	160	16	245	25	348	381	381
		11	16	25	400	406.4	8.8	160	14.2	425	22.2	348		368
		11	16	25	350	355.6	8	160	12.5	195	20	306		351
		11	16	25	300	323.9	7.1	160	11	195	17.5	306		356
		11	16	25	250	273	6.3	160	10	195	16	306		346

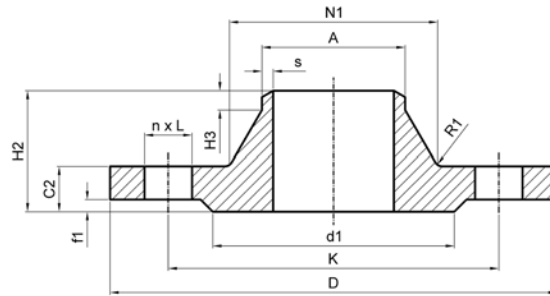
# 10. Prirubnice sa grlom / Welding neck flanges

## 10.1. EN standard / EN norm

Standard / Norm : SRPS EN 1092-1:2001

Materijal / Material : SRPS EN S235JR

ili po zahtevu klijenta / or at client's request



Nazivni pritisak / Pressure nominal PN6															
Nazivni otvor / Nominal size (DN)	Prirubnica / Flange												Masa / Weight	Vijci / Screws	
	A	D	K	L	H2	C2	N1	H3	R1	s	d1	f1		Broj / Number (n)	Navoj / Thread
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg]		
10	13.5*	75	50	11	28	12	22	6	4	1.8	35	2	0.34	4	M10
	17.2						26						0.34		
15	20.0*	80	55	11	30	12	28	6	4	2	40	2	0.39	4	M10
	21.3						30						0.39		
20	25.0*	90	65	11	32	14	35	6	4	2.3	50	2	0.59	4	M10
	26.9						38						0.60		
25	30.0*	100	75	11	35	14	40	6	4	2.6	60	2	0.69	4	M10
	33.7						42						0.67		
32	38.0*	120	90	14	35	14	50	6	6	2.6	70	2	1.06	4	M12
	42.4						55						0.94		
40	44.5*	130	100	14	38	14	58	7	6	2.6	80	2	1.20	4	M12
	48.3						62						1.18		
50	57.0*	140	110	14	38	14	70	8	6	2.9	90	2	1.35	4	M12
	60.3						74						1.34		
65	76.1	160	130	14	38	14	88	9	6	2.9	110	2	1.68	4	M12
80	88.9	190	150	18	42	16	102	10	8	3.2	128	2	2.71	4	M16
100	108.0*	210	170	18	45	16	122	10	8	3.6	148	2	3.30	4	M16
	114.3						130						3.21		
125	133.0*	240	200	18	48	18	148	10	8	4	178	2	4.49	8	M16
	139.7						155						4.50		
150	159.0*	265	225	18	48	18	172	12	10	4.5	202	2	5.18	8	M16
	168.3						184						5.50		
200	219.1	320	280	18	55	20	236	15	10	6.3	258	2	8.31	8	M16
250	273	375	335	18	60	22	290	15	12	6.3	312	2	11.5	12	M16
300	323.9	440	395	22	62	22	342	15	12	7.1	365	2	15	12	M20
350	355.6	490	445	22	62	22	385	15	12	7.1	415	2	19.5	12	M20
400	406.4	540	495	22	65	22	438	15	12	7.1	465	2	22	16	M20
450	457	595	550	22	65	22	492	15	12	7.1	520	2	25	16	M20
500	508	645	600	22	68	24	538	15	12	7.1	570	2	29.5	20	M20
600	610	755	705	26	70	24	640	16	12	7.1	670	2	43	20	M24
700	711	860	810	26	70	24	740	16	12	7.1	775	2	43.5	24	M24
800	813	875	920	30	70	24	842	16	12	7.1	880	2	52	24	M27
900	914	1075	1020	30	70	26	942	16	12	7.1	980	2	61.5	24	M27
1000	1016	1175	1120	30	70	26	1045	16	16	7.1	1080	2	67	28	M27
1200	1219	1405	1340	33	90	28	1248	20	16	8	1295	2	105.5	32	M30
1400	1422	1630	1560	36	90	32	1452	20	16	8	1510	2	149	36	M33
1600	1626	1830	1760	36	90	34	1655	20	16	9	1710	2	181.5	40	M33
1800	1829	2045	1970	39	100	36	1855	20	16	10	1920	2	235	44	M36
2000	2032	2265	2180	42	110	38	2058	25	16	11	2125	2	302	48	M39

\* prečnici cevi nisu propisani standardom EN 1092-1:2001 - mogu da se poruče po specijalnom zahtevu klijenta



Nazivni pritisak / Pressure nominal PN10															
Nazivni otvor / Nominal size (DN)	Prirubnica / Flange											Masa / Weight [kg]	Vijci / Screws		
	A	D	K	L	H2	C2	N1	H3	R1	s	d1		fl	Broj / Number (n)	Navoj / Thread
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	
200	219.1	340	295	22	62	24	234	16	10	6.3	268	2	11.5	8	M20
250	273	395	350	22	68	26	292	16	12	6.3	320	2	15.5	12	M20
300	323.9	445	400	22	68	26	342	16	12	7.1	370	2	18	12	M20
350	355.6	505	460	22	68	26	385	16	12	7.1	430	2	24.5	16	M20
400	406.4	565	515	26	72	26	440	16	12	7.1	482	2	29.5	16	M24
450	457	615	565	26	72	28	488	16	12	7.1	532	2	34	20	M24
500	508	670	620	26	75	28	542	16	12	7.1	585	2	39.5	20	M24
600	610	780	725	30	80	28	642	18	12	7.1	685	2	56	20	M27
700	711	895	840	30	80	30	746	18	12	8	800	2	65	24	M27
800	813	1015	950	33	90	32	850	18	12	8	905	2	87	24	M30
900	914	1115	1050	33	95	34	950	20	12	10	1005	2	106	28	M30
1000	1016	1230	1160	36	95	34	1052	20	16	10	1110	2	123	28	M33
1200	1219	1455	1380	39	115	38	1256	25	16	11	1330	2	184	32	M36
1400	1422	1675	1590	42	120	42	1460	25	16	12	1535	2	252	36	M39
1600	1626	1915	1820	48	130	46	1666	25	16	14	1760	2	363	40	M45
1800	1829	2115	2020	48	140	50	1868	30	16	15	1960	2	445.5	44	M45
2000	2032	2325	2230	48	150	54	2072	30	16	16	2170	2	558	48	M45
Nazivni pritisak / Pressure nominal PN16															
Nazivni otvor / Nominal size (DN)	Prirubnica / Flange											Masa / Weight [kg]	Vijci / Screws		
	A	D	K	L	H2	C2	N1	H3	R1	s	d1		fl	Broj / Number (n)	Navoj / Thread
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	
50	57.0*	165	125	18	45	18	72	8	5	2.9	102	2	2.53	4	M16
	60.3						74						2.47		
65	76.1	185	145	18	45	18	92	10	6	2.9	122	2	3.06	8	M16
80	88.9	200	160	18	50	20	105	10	6	3.2	138	2	3.7	8	M16
100	108.0*	220	180	18	52	20	125	12	8	3.6	158	2	4.62	8	M16
	114.3						131						4.54		
125	133.0*	250	210	18	55	22	150	12	8	4	188	2	6.3	8	M16
	139.7						156						5.9		
150	159.0*	285	240	22	55	22	175	12	10	4.5	212	2	7.75	8	M20
	168.3						184						7.36		
200	219.1	340	295	22	62	24	235	16	10	6.3	268	2	11	12	M20
250	273	405	355	26	70	26	292	16	12	6.3	320	2	16.5	12	M24
300	323.9	460	410	26	78	28	344	16	12	7.1	378	2	22	12	M24
350	355.6	520	470	26	82	30	390	16	12	8	438	2	32	16	M24
400	406.4	580	525	30	85	32	445	16	12	8	490	2	40	16	M27
450	457	640	585	30	87	40	490	16	12	8	550	2	54.5	20	M27
500	508	715	650	33	90	44	548	16	12	8	610	2	74	20	M30
600	610	840	770	36	95	54	652	18	12	8.8	725	2	116.5	20	M33
700	711	910	840	36	100	36	755	18	12	8.8	795	2	87	24	M33
800	813	1025	950	39	105	38	855	20	12	10	900	2	111	24	M36
900	914	1125	1050	39	110	40	955	20	12	10	1000	2	129	28	M36
1000	1016	1255	1170	42	120	42	1058	22	16	10	1115	2	169	28	M39
1200	1219	1485	1390	48	130	48	1262	30	16	12.5	1330	2	251	32	M45
1400	1422	1685	1590	48	145	52	1465	30	16	14.2	1530	2	329	36	M45
1600	1626	1930	1820	56	160	58	1668	35	16	16	1750	2	476	40	M52
1800	1829	2130	2020	56	170	62	1870	35	16	17.5	1950	2	582	44	M52
2000	2032	2345	2230	62	180	66	2072	40	16	20	2150	2	720	48	M56





Nazivni pritisak / Pressure nominal <b>PN25</b>																
Nazivni otvor / Nominal size (DN)	Prirubnica / Flange												Masa / Weight	Vijci / Screws		
	A	D	K	L	H2	C2	N1	H3	R1	s	d1	f1		Broj / Number (n)	Navoj / Thread	
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg]		
200	219.1	360	310	26	80	30	244	16	10	6.3	278	2	17	12	M24	
250	273	425	370	30	88	32	298	18	12	7.1	335	2	24	12	M27	
300	323.9	485	430	30	92	34	352	18	12	8	395	2	31	16	M27	
350	355.6	555	490	33	100	38	398	20	12	8	450	2	48	16	M30	
400	406.4	620	550	36	110	40	452	20	12	8.8	505	2	63	16	M33	
450	457	670	600	36	110	46	500	20	12	8.8	555	2	75.5	20	M33	
500	508	730	660	36	125	48	558	20	12	10	615	2	96.5	20	M33	
600	610	845	770	39	125	58	660	20	12	11	720	2	138.6	20	M36	
700	711	960	875	42	125	46	760	20	12	12.5	820	2	143.5	24	M39	
800	813	1085	990	48	135	50	864	22	12	14.2	930	2	193.5	24	M45	
900	914	1185	1090	48	145	54	968	24	12	16	1030	2	237	28	M45	
1000	1016	1320	1210	56	155	58	1070	24	16	17.5	1140	2	310.5	28	M52	

Nazivni pritisak / Pressure nominal <b>PN40</b>																
Nazivni otvor / Nominal size (DN)	Prirubnica / Flange												Masa / Weight	Vijci / Screws		
	A	D	K	L	H2	C2	N1	H3	R1	s	d1	f1		Broj / Number (n)	Navoj / Thread	
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg]		
10	13.5*	90	60	14	35	16	25	6	4	1.8	40	2	0.67	4	M12	
	17.2						28						0.66			
15	20.0*	95	65	14	38	16	30	6	4	2	45	2	0.76	4	M12	
	21.3						32						0.75			
20	25.0*	105	75	14	40	18	38	6	4	2.3	58	2	1.07	4	M12	
	26.9						40						1.06			
25	30.0*	115	85	14	40	18	42	6	4	2.6	68	2	1.6	4	M12	
	33.7						46						1.29			
32	38.0*	140	100	18	42	18	52	6	6	2.6	78	2	1.89	4	M16	
	42.4						56						1.86			
40	44.5*	150	110	18	45	18	60	7	6	2.6	88	2	2.33	4	M16	
	48.3						64						2.25			
50	57.0*	165	125	18	48	20	72	8	6	2.9	102	2	2.82	4	M16	
	60.3						75						2.79			
65	76.1	185	145	18	52	22	90	10	6	2.9	122	2	3.74	8	M16	
80	88.9	200	160	18	58	24	105	12	8	3.2	138	2	4.75	8	M16	
100	108.0*	235	190	22	65	24	128	12	8	3.6	162	2	6.52	8	M20	
	114.3						134						6.44			
125	133.0*	270	220	26	68	26	155	12	8	4	188	2	9	8	M24	
	139.7						162						8.88			
150	159.0*	300	250	26	75	28	182	12	10	4.5	218	2	11.85	8	M24	
	168.3						192						11.45			
200	219.1	375	320	30	88	34	244	16	10	6.3	285	2	21	12	M27	
250	273	450	385	33	105	38	306	18	12	7.1	345	2	34	12	M30	
300	323.9	515	450	33	115	42	362	18	12	8	410	2	47.5	16	M30	
350	355.6	580	510	36	125	46	408	20	12	8.8	465	2	69	16	M33	
400	406.4	660	585	39	135	50	482	20	12	11	535	2	98	16	M36	
450	457	685	610	39	135	57	500	20	12	12.5	560	2	105.08	20	M36	
500	508	755	670	42	140	57	562	20	12	14.2	615	2	130.5	20	M39	
600	610	890	795	48	150	72	666	20	12	16	735	2	211.5	20	M45	

\* prečnici cevi nisu propisani standardom EN 1092-1:2001 - mogu da se poruče po specijalnom zahtevu klijenta



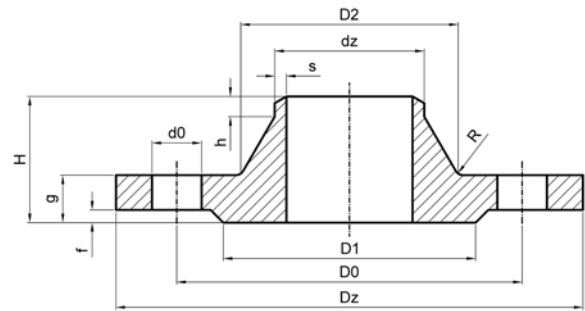
## 10.2. DIN standard / DIN norm

Standard / Norm : DIN 2361; DIN 2362;

DIN 2363; DIN 2364; DIN 2365

Materijal / Material : St 37.2; C 22.8

ili po zahtevu klijenta / or at client's request



DIN 2631 Nazivni pritisak / Pressure nominal PN6																	
Nazivni otvor / Nominal size (DN)	Prirubnica / Flange												Masa / Weight [kg]	Vijci / Screws			
	dz	Dz	D0	d0	H	g	D2	h	R	s*	D1	f		Broj / Number (n)	Navoj / Thread		
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg]		
10	14.0	75	50	11	28	12	22	6	4	1.8	35	2	0.34	4	M10		
	17.2						26						0.34				
15	20.0	80	55	11	30	12	28	6	4	2	40	2	0.39	4	M10		
	21.3						30						0.39				
20	25.0	90	65	11	32	14	35	6	4	2.3	50	2	0.59	4	M10		
	26.9						38						0.60				
25	30.0	100	75	11	35	14	40	6	4	2.6	60	2	0.69	4	M10		
	33.7						42						0.67				
32	38.0	120	90	14	35	14	50	6	6	2.6	70	2	1.06	4	M12		
	42.4						55						0.94				
40	44.5	130	100	14	38	14	58	7	6	2.6	80	3	1.20	4	M12		
	48.3						62						1.18				
50	57.0	140	110	14	38	14	70	8	6	2.9	90	3	1.35	4	M12		
	60.3						74						1.34				
65	76.1	160	130	14	38	14	88	9	6	2.9	110	3	1.68	4	M12		
80	88.9	190	150	18	42	16	102	10	8	3.2	128	3	2.71	4	M16		
100	108.0	210	170	18	45	16	122	10	8	3.6	148	3	3.30	4	M16		
	114.3						130						3.21				
125	133.0	240	200	18	48	18	148	10	8	4	178	3	4.49	8	M16		
	139.7						155						4.31				
150	159.0	265	225	18	48	18	172	12	10	4.5	202	3	5.18	8	M16		
	168.3						184						4.94				
175	193.7	295	255	18	52	20	210	12	10	6.3	232	3	6.82	8	M16		
200	219.1	320	280	18	55	20	236	15	10	6.3	258	3	8.31	8	M16		
250	273	375	335	18	60	22	290	15	12	6.3	312	3	10.88	12	M16		
300	323.9	440	395	22	62	22	342	15	12	7.1	365	4	14.1	12	M20		
350	355.6	490	445	22	62	22	385	15	12	7.1	415	4	18.85	12	M20		
400	406.4	540	495	22	65	22	438	15	12	7.1	465	4	22.03	16	M20		
450	457	595	550	22	65	22	492	15	12	7.1	520	4	24.64	16	M20		
500	508	645	600	22	68	24	538	15	12	7.1	570	4	29.75	20	M20		
600	610	755	705	26	70	24	640	16	12	11	670	5	37.06	20	M24		



DIN 2632		Nazivni pritisak / Pressure nominal PN10														
Nazivni otvor / Nominal size (DN)	Prirubnica / Flange												Masa / Weight	Vijci / Screws		
	dz	Dz	D0	d0	H	g	D2	h	R	s*	D1	f		Broj / Number (n)	Navoj / Thread	
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg]		
200	219.1	340	295	22	62	24	235	16	10	5.9	268	3	11.3	8	M20	
250	273	395	350	22	68	26	292	16	12	6.3	320	3	14.7	12	M20	
300	323.9	445	400	22	68	26	344	16	12	7.1	370	4	17.4	12	M20	
350	355.6	505	460	22	68	26	385	16	12	7.1	430	4	23.6	16	M20	
400	406.4	565	515	26	72	26	440	16	12	7.1	482	4	28.6	16	M24	
500	508	670	620	26	75	28	542	16	12	7.1	585	4	38.1	20	M24	
600	610	780	725	30	80	30	642	18	12	7.1	685	5	44.6	20	M27	

\* Za prečnike DN 10 - DN 175 važe iste vrednosti kao kod DIN 2633 (PN 16) / for diameters DN 10 - DN 175 apply the same values as in DIN 2633 (PN 16)

DIN 2633		Nazivni pritisak / Pressure nominal PN16														
Nazivni otvor / Nominal size (DN)	Prirubnica / Flange												Masa / Weight	Vijci / Screws		
	dz	Dz	D0	d0	H	g	D2	h	R	s*	D1	f		Broj / Number (n)	Navoj / Thread	
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg]		
10	14.0	90	60	14	35	14	25	6	4	1.8	40	2	0.58	4	M12	
	17.2						28						0.58			
15	20.0	95	65	14	35	14	30	6	4	2	45	2	0.65	4	M12	
	21.3						32						0.65			
20	25.0	105	75	14	38	16	38	6	4	2.3	58	2	0.95	4	M12	
	26.9						40						0.95			
25	30.0	115	85	14	38	16	42	6	4	2.6	68	2	1.14	4	M12	
	33.7						45						1.12			
32	38.0	140	100	18	40	16	52	6	6	2.6	78	2	1.69	4	M16	
	42.4						56						1.65			
40	44.5	150	110	18	42	16	60	7	6	2.6	88	3	1.86	4	M16	
	48.3						64						1.8			
50	57.0	165	125	18	45	18	72	8	6	2.9	102	3	2.53	4	M16	
	60.3						75						2.47			
65	76.1	185	145	18	45	18	90	10	6	2.9	122	3	3.06	4	M16	
80	88.9	200	160	18	50	20	105	10	8	3.2	138	3	3.7	8	M16	
100	108.0	220	180	18	52	20	125	12	8	3.6	158	3	4.62	8	M16	
	114.3						131						4.54			
125	133.0	250	210	18	55	22	150	12	8	4	188	3	6.3	8	M16	
	139.7						156						5.9			
150	159.0	285	240	22	55	22	175	12	10	4.5	212	3	7.75	8	M20	
	168.3						184						7.36			
175	193.7	315	270	22	60	24	210	12	10	5.4	242	3	9.85	8	M20	
200	219.1	340	295	22	62	24	235	16	10	5.9	268	3	11	12	M20	
250	273	405	355	26	70	26	292	16	12	6.3	320	3	15.8	12	M24	
300	323.9	460	410	26	78	28	344	16	12	7.1	378	4	22	12	M24	
350	355.6	520	470	26	82	30	390	16	12	8	438	4	31.2	16	M24	
400	406.4	580	525	30	85	32	445	16	12	8	490	4	39.3	16	M27	
500	508	715	650	33	90	34	548	16	12	8	610	4	61	20	M30	
600	610	840	770	36	95	36	652	18	12	8.8	725	5	75.4	20	M33	
700	711	910	840	36	100	36	755	18	12	8.8	795	5	77	24	M33	
800	813	1025	950	39	105	38	855	20	12	10	900	5	101	24	M36	
900	914	1125	1050	39	110	40	955	20	12	10	1000	5	122	28	M36	
1000	1016	1255	1170	42	120	42	1058	22	16	10	1115	5	162	28	M39	
1200	1220	1485	1390	48	130	48	1262	30	16	12.5	1330	5	243	32	M45	
1400	1420	1685	1590	48	145	52	1465	30	16	14.2	1530	5	323	36	M45	



DIN 2634 Nazivni pritisak / Pressure nominal PN25															
Nazivni otvor / Nominal size (DN)	Prirubnica / Flange												Masa / Weight	Vijci / Screws	
	dz	Dz	D0	d0	H	g	D2	h	R	s*	D1	f		Broj / Number (n)	Navoj / Thread
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg]		
175	193.7	330	280	26	75	28	218	15	10	5.6	248	3	13.4	12	M2454
200	219.1	360	310	26	80	30	244	16	10	6.3	278	3	17	12	M24
250	273	425	370	30	88	32	298	18	12	7.1	335	3	24.4	12	M27
300	323.9	485	430	30	92	34	352	18	12	8	395	4	31.2	16	M27
350	355.6	555	490	33	100	38	398	20	12	8	450	4	47.2	16	M30
400	406.4	620	550	36	110	40	452	20	12	8.8	505	4	61.7	16	M33
500	508	730	660	36	125	44	558	20	12	10	615	4	89.6	20	M33
600	610	845	770	39	125	46	660	20	12	11	720	5	104	20	M36
700	711	960	875	42	125	46	760	20	12	12.5	820	5	136	24	M39
800	813	1085	990	48	135	50	865	22	12	14.2	930	5	186	24	M45
900	914	1185	1090	48	145	54	968	24	12	16	1030	5	236	28	M45
1000	1016	1320	1210	56	155	58	1070	24	16	17.5	1140	5	307	28	M52

\* Za prečnike DN 10 - DN 175 važe iste vrednosti kao kod DIN 2635 (PN 40) / for diameters DN 10 - DN 175 apply the same values as in DIN 2635 (PN 40)

DIN 2635 Nazivni pritisak / Pressure nominal PN40															
Nazivni otvor / Nominal size (DN)	Prirubnica / Flange												Masa / Weight	Vijci / Screws	
	dz	Dz	D0	d0	H	g	D2	h	R	s*	D1	f		Broj / Number (n)	Navoj / Thread
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg]		
10	14.0	90	60	14	35	16	25	6	4	1.8	40	2	0.67	4	M12
	17.2						28						0.66		
15	20.0	95	65	14	38	16	30	6	4	2	45	2	0.76	4	M12
	21.3						32						0.75		
20	25.0	105	75	14	40	18	38	6	4	2.3	58	2	1.07	4	M12
	26.9						40						1.06		
25	30.0	115	85	14	40	18	42	6	4	2.6	68	2	1.3	4	M12
	33.7						46						1.29		
32	38.0	140	100	18	42	18	52	6	6	2.6	78	2	1.89	4	M16
	42.4						56						1.86		
40	44.5	150	110	18	45	18	60	7	6	2.6	88	3	2.33	4	M16
	48.3						64						2.25		
50	57.0	165	125	18	48	20	72	8	6	2.9	102	3	2.82	4	M16
	60.3						75						2.79		
65	76.1	185	145	18	52	22	90	10	6	2.9	122	3	3.74	8	M16
80	88.9	200	160	18	58	24	105	12	8	3.2	138	3	4.75	8	M16
100	108.0	235	190	22	65	24	128	12	8	3.6	162	3	6.52	8	M20
	114.3						134						6.44		
125	133.0	270	220	26	68	26	155	12	8	4	188	3	9.07	8	M24
	139.7						162						8.88		
150	159.0	300	250	26	75	28	182	12	10	4.5	218	3	11.85	8	M24
	168.3						192						11.45		
175	193.7	350	295	30	82	32	218	15	10	5.6	260	3	18.2	12	M27
200	219.1	375	320	30	88	34	244	16	10	6.3	285	3	21.5	12	M27
250	273	450	385	33	105	38	306	18	12	7.1	345	3	34.9	12	M30
300	323.9	515	450	33	115	42	362	18	12	8	410	4	49.7	16	M30
350	355.6	580	510	36	125	46	408	20	12	8.8	465	4	68.1	16	M33
400	406.4	660	585	39	135	50	462	20	12	11	535	4	96.5	16	M36
500	508	755	670	42	140	52	562	20	12	14.2	615	4	117	20	M39

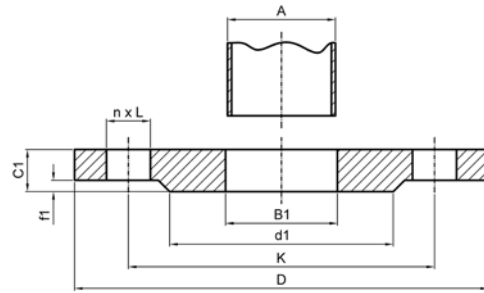
# 11. Prirubnice ravne / Flat flanges

## 11.1. EN Standard / EN norm

Standard / Norm : SRPS EN 1092-1:2001

Materijal / Material : SRPS EN S235JR

ili po zahtevu klijenta / or at client's request



Nazivni pritisak / Pressure nominal <b>PN6</b>											
Nazivni otvor / Nominal size (DN)	Cev / Pipe A	Prirubnica / Flange							Masa / Weight [kg]	Vijci / Screws	
		B1	D	K	d1	fl	C1	L		Broj / Number (n)	Navoj / Thread
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]		
10	13.5*	14	75	50	35	2	12	11	0.32	4	M10
	17.2	18							0.31		
15	20.0*	20.5	80	55	40	2	12	11	0.35	4	M10
	21.3	22							0.35		
20	25.0*	26	90	65	50	2	14	11	0.54	4	M10
	26.9	27.5							0.53		
25	30.0*	32	100	75	60	2	14	11	0.66	4	M10
	33.7	34.5							0.65		
32	38.0*	39	120	90	70	2	16	14	1.09	4	M12
	42.4	43.5							1.05		
40	44.5*	45.5	130	100	80	2	16	14	1.27	4	M12
	48.3	49.5							1.23		
50	57.0*	58	140	110	90	2	16	14	1.39	4	M12
	60.3	61.5							1.35		
65	76.1	77.5	160	130	110	2	16	14	1.7	4	M12
80	88.9	90.5	190	150	128	2	18	18	2.72	4	M16
100	108.0*	109	210	170	148	2	18	18	3.17	4	M16
	114.3	116							3		
125	133.0*	135	240	200	178	2	20	18	4.25	8	M16
	139.7	141.5							4.02		
150	159.0*	161	265	225	202	2	20	18	4.81	8	M16
	168.3	170.5							4.42		
200	219.1	221.5	320	280	258	2	22	18	6.47	8	M16
250	273	276.5	375	335	312	2	24	18	8.43	12	M16
300	323.9	327.5	440	395	365	2	24	22	11.24	12	M20
350	355.6	359.5	490	445	415	2	26	22	16.07	12	M20
400	406.4	411	540	495	465	2	28	22	19	16	M20
450	457	462	595	550	520	2	30	22	23.62	16	M20
500	508	513.5	645	600	570	2	30	22	25.37	20	M20
600	610	616.5	755	705	670	2	32	26	33.46	20	M24
700	711	po zahtevu klijenta / at client's request	860	810	775	2	po zahtevu klijenta / at client's request	26	-	24	M24
800	813		975	920	880	2		30	-	24	M27
900	914		1075	1020	980	2		30	-	24	M27
1000	1016		1175	1120	1080	2		30	-	28	M27
1200	1219		1405	1340	1295	2		33	-	32	M30
1400	1422		1630	1560	1510	2		36	-	36	M33
1600	1626		1830	1760	1710	2		36	-	40	M33
1800	1829		2045	1970	1920	2		39	-	44	M36
2000	2032		2265	2180	2125	2		42	-	48	M39

\* prečnici cevi nisu propisani standardom EN 1092-1:2001 - mogu da se poruče po specijalnom zahtevu klijenta



Nazivni pritisak / Pressure nominal PN10											
Nazivni otvor / Nominal size (DN)	Cev / Pipe	Prirubnica / Flange							Masa / Weight	Vijci / Screws	
	A	B1	D	K	d1	f1	C1	L		Broj / Number (n)	Navoj / Thread
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg]		
200	219.1	221.5	340	295	268	2	24	22	8.78	8	M20
250	273	276.5	395	350	320	2	26	22	11.23	12	M20
300	323.9	327.5	445	400	370	2	26	22	12.93	12	M20
350	355.6	359.5	505	460	430	2	28	22	19.60	16	M20
400	406.4	411	565	515	482	2	32	26	26.57	16	M24
450	457	462	615	565	532	2	36	26	32.55	20	M24
500	508	513.5	670	620	585	2	38	26	39.06	20	M24
600	610	616.5	780	725	685	2	42	30	52.94	20	M27
700	711	po zahtevu klijenta / at client's request	895	840	800	2	po zahtevu klijenta / at client's request	30	-	24	M27
800	813		1015	950	905	2		33	-	24	M30
900	914		1115	1050	1005	2		33	-	28	M30
1000	1016		1230	1160	1110	2		36	-	28	M33
1200	1219		1455	1380	1330	2		39	-	32	M36
1400	1422		1675	1590	1535	2		42	-	36	M39
1600	1626		1915	1820	1760	2		48	-	40	M45
1800	1829		2115	2020	1960	2		48	-	44	M45
2000	2032	2325	2230	2170	2	48	-	48	M45		

Nazivni pritisak / Pressure nominal PN16											
Nazivni otvor / Nominal size (DN)	Cev / Pipe	Prirubnica / Flange							Masa / Weight	Vijci / Screws	
	A	B1	D	K	d1	f1	C1	L		Broj / Number (n)	Navoj / Thread
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg]		
50	57.0*	58	165	125	102	2	19	18	2.45	4	M16
	60.3	61.5							2.40		
65	76.1	77.5	185	145	122	2	20	18	2.95	8	M16
80	88.9	90.5	200	160	138	2	20	18	3.37	8	M16
100	108.0*	109	220	180	158	2	22	18	4.34	8	M16
	114.3	116							4.13		
125	133.0*	135	250	210	188	2	22	18	5.35	8	M16
	139.7	141.5							5.10		
150	159.0*	161	285	240	212	2	24	22	7.21	8	M20
	168.3	170.5							6.74		
200	219.1	221.5	340	295	268	2	26	22	9.26	12	M20
250	273	276.5	405	355	320	2	29	26	13.54	12	M24
300	323.9	327.5	460	410	378	2	32	26	18.23	12	M24
350	355.6	359.5	520	470	438	2	35	26	27.28	16	M24
400	406.4	411	580	525	490	2	38	30	34.84	16	M27
450	457	462	640	585	550	2	42	30	45.01	20	M27
500	508	513.5	715	650	610	2	46	33	62.55	20	M30
600	610	616.5	840	770	725	2	52	36	94.11	20	M33
700	711	po zahtevu klijenta / at client's request	910	840	795	2	po zahtevu klijenta / at client's request	36	-	24	M33
800	813		1025	950	900	2		39	-	24	M36
900	914		1125	1050	1000	2		39	-	28	M36
1000	1016		1255	1170	1115	2		42	-	28	M39
1200	1219		1485	1390	1330	2		48	-	32	M45
1400	1422		1685	1590	1530	2		48	-	36	M45
1600	1626		1930	1820	1750	2		56	-	40	M52
1800	1829		2130	2020	1950	2		56	-	44	M52
2000	2032	2345	2230	2150	2	62	-	48	M56		



Nazivni pritisak / Pressure nominal PN25												
Nazivni otvor / Nominal size (DN)	Cev / Pipe	Prirubnica / Flange							Masa / Weight	Vijci / Screws		
		A	B1	D	K	d1	f1	C1		L	Broj / Number (n)	Navoj / Thread
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg]		
200	219.1	221.5	360	310	278	2	32	26	13.74	12	M24	
250	273	276.5	425	370	335	2	35	30	19.43	12	M27	
300	323.9	327.5	485	430	395	2	38	30	25.80	16	M27	
350	355.6	359.5	555	490	450	2	42	33	40.68	16	M30	
400	406.4	411	620	550	505	2	46	36	53.86	16	M33	
450	457	462	670	600	555	2	50	36	63.14	20	M33	
500	508	513.5	730	660	615	2	56	36	82.37	20	M33	
600	610	616.5	845	770	720	2	68	39	125.15	20	M36	
Nazivni pritisak / Pressure nominal PN40												
Nazivni otvor / Nominal size (DN)	Cev / Pipe	Prirubnica / Flange							Masa / Weight	Vijci / Screws		
		A	B1	D	K	d1	f1	C1		L	Broj / Number (n)	Navoj / Thread
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg]		
10	13.5*	14	90	60	40	2	14	14	0.54	4	M12	
	17.2	18							0.53			
15	20.0*	20.5	95	65	45	2	14	14	0.60	4	M12	
	21.3	22							0.59			
20	25.0*	26	105	75	58	2	16	14	0.86	4	M12	
	26.9	27.5							0.85			
25	30.0*	32	115	85	66	2	16	14	1.03	4	M12	
	33.7	34.5							1.01			
32	38.0*	39	140	100	78	2	18	18	1.71	4	M16	
	42.4	43.5							1.67			
40	44.5*	45.5	150	110	88	2	18	18	1.96	4	M16	
	48.3	49.5							1.91			
50	57.0*	58	165	125	102	2	20	18	2.59	4	M16	
	60.3	61.5							2.54			
65	76.1	77.5	185	145	122	2	22	18	3.27	8	M16	
80	88.9	90.5	200	160	138	2	24	18	4.09	8	M16	
100	108.0*	109	235	190	162	2	26	22	6.01	8	M20	
	114.3	116							5.76			
125	133.0*	135	270	220	188	2	28	26	8.10	8	M24	
	139.7	141.5							7.79			
150	159.0*	161	300	250	218	2	30	26	10.39	8	M24	
	168.3	170.5							9.81			
200	219.1	221.5	375	320	285	2	36	30	17.32	12	M27	
250	273	276.5	450	385	345	2	42	33	28.37	12	M30	
300	323.9	327.5	515	450	410	2	48	33	40.59	16	M30	
350	355.6	359.5	580	510	465	2	54	36	60.81	16	M33	
400	406.4	411	660	585	535	2	60	39	88.06	16	M36	
450	457	462	685	610	560	2	66	39	90.11	20	M36	
500	508	513.5	755	670	615	2	72	42	118.34	20	M39	
600	610	616.5	890	795	735	2	84	48	186.89	20	M45	

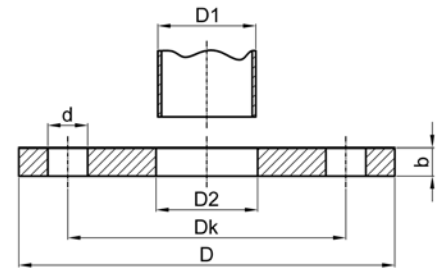
\* prečnici cevi nisu propisani standardom EN 1092-1:2001 - mogu da se poruče po specijalnom zahtevu klijenta

## 11.2. DIN Standard / DIN norm

Standard / Norm : DIN 2576

Materijal / Material : St 37.2

ili po zahtevu klijenta / or at client's request



Nazivni pritisak / Pressure nominal <b>PN10</b>									
Cev / Pipe		Priļubnica / Flange				Masa / Weight	Vijci / Screws		
Nazivni otvor / Nominal size (DN)	D1	D2	D	DK	b		Broj / Number (n)	Navoj / Thread	d
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg]			
10	13.5	14.2	75	50	12	0.612	4	M10	11
	17.2	17.7				0.612			
15	-	21	95	65	14	0.675	4	M12	14
	21.3	22				0.669			
20	-	26	105	75	16	0.749	4	M12	14
	26.9	27.6				0.936			
25	-	31	115	85	16	1.14	4	M12	14
	33.7	34.4				1.11			
32	-	39	140	100	16	1.66	4	M16	18
	42.4	43.1				1.62			
40	-	45.5	150	110	16	1.89	4	M16	18
	48.3	49				1.86			
50	-	58.1	165	125	18	2.51	4	M16	18
	60.3	61.1				2.47			
65	76.1	77.1	185	145	18	3	4	M16	18
80	88.9	90.3	200	160	20	3.79	8	M16	18
100	-	109.6	220	180	20	4.2	8	M16	18
	114.3	115.9				4.03			
125	-	134.8	250	210	22	5.71	8	M16	18
	139.7	141.6				5.46			
150	-	161.1	285	240	22	6.72	8	M20	22
	168.3	170.5				6.57			
200	219.1	221.8	340	295	24	9.31	8	M20	22
250	-	270.2	395	350	26	12.5	12	M20	22
	273	276.2				11.9			
300	323.9	327.6	445	400	26	13.8	12	M20	22
350	355.6	359.7	490	460	28	20.6	16	M20	22
	-	372.2				19			
400	406.4	411	565	515	32	27.9	16	M24	26
	-	423.7				25.9			
450	457	462.5	595	565	38	35.6	20	M24	26
500	508	513.6	670	620	38	41.1	20	M24	26
600	609.6	615.7	780	725	44	56.3	20	M27	30
700	711	716.5	895	840	50	80.4	24	M27	30
800	813	820	1015	950	56	113.2	24	M27	30
900	914	921.5	1115	1050	62	138.3	28	M33	36

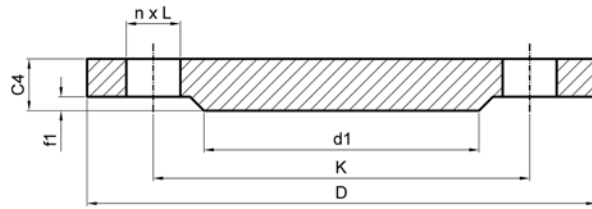


## 12. Prirubnice slepe / Blind flanges

Standard / Norm : SRPS EN 1092-1:2001

Materijal / Material : SRPS EN S235JR

ili po zahtevu klijenta / or at client's request



Nazivni pritisak / Pressure nominal PN6									
Nazivni otvor / Nominal size (DN)	Prirubnica / Flange						Masa / Weight	Vijci / Screws	
	D	K	L	C4	d1	f1		Broj / Number (n)	Navoj / Thread
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg]		
10	75	50	11	12	35	2	0.5	4	M10
15	80	55	11	12	40	2	0.5	4	M10
20	90	65	11	14	50	2	0.5	4	M10
25	100	75	11	14	60	2	1	4	M10
32	120	90	14	14	70	2	1	4	M12
40	130	100	14	14	80	2	1.5	4	M12
50	140	110	14	14	90	2	1.5	4	M12
65	160	130	14	14	110	2	2	4	M12
80	190	150	18	16	128	2	3.5	4	M16
100	210	170	18	16	148	2	4	4	M16
125	240	200	18	18	178	2	6	8	M16
150	265	225	18	18	202	2	7.5	8	M16
200	320	280	18	20	258	2	12.5	8	M16
250	375	335	18	22	312	2	18.5	12	M16
300	440	395	22	22	365	2	25.5	12	M20
350	490	445	22	22	415	2	32	12	M20
400	540	495	22	22	465	2	38.5	16	M20
450	595	550	22	24	520	2	51	16	M20
500	645	600	22	24	570	2	60.03	20	M20
600	755	705	26	30	670	2	103	20	M24
700	860	810	26	40	775	2	178.5	24	M24
800	975	920	30	44	880	2	252	24	M27
900	1075	1020	30	48	980	2	335.5	24	M27
1000	1175	1120	30	52	1080	2	434.5	28	M27
1200	1405	1340	33	60	1295	2	717.5	32	M30
1400	1630	1560	36	68	1510	2	1094	36	M33
1600	1830	1760	36	76	1710	2	1545	40	M33
1800	2045	1970	39	84	1920	2	2131	44	M36
2000	2265	2180	42	92	2125	2	2862	48	M39



Nazivni pritisak / Pressure nominal <b>PN10</b>									
Nazivni otvor / Nominal size (DN)	Prirubnica / Flange						Masa / Weight	Vijci / Screws	
	D	K	L	C4	d1	fl		Broj / Number (n)	Navoj / Thread
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg]		
200	340	295	22	24	268	2	16.5	8	M20
250	395	350	22	26	320	2	24	12	M20
300	445	400	22	26	370	2	31	12	M20
350	505	460	22	26	430	2	39.5	16	M20
400	565	515	26	26	482	2	49.5	16	M24
450	615	565	26	28	532	2	63	20	M24
500	670	620	26	28	585	2	75.5	20	M24
600	780	725	30	34	685	2	124	20	M27
700	895	840	30	38	800	2	182.5	24	M27
800	1015	950	33	42	905	2	260	24	M30
900	1115	1050	33	46	1005	2	344	28	M30
1000	1230	1160	36	52	1110	2	473.5	28	M33
1200	1455	1380	39	60	1330	2	765	32	M36
Nazivni pritisak / Pressure nominal <b>PN16</b>									
Nazivni otvor / Nominal size (DN)	Prirubnica / Flange						Masa / Weight	Vijci / Screws	
	D	K	L	C4	d1	fl		Broj / Number (n)	Navoj / Thread
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg]		
50	165	125	18	18	102	2	2.44	4	M16
65	185	145	18	18	122	2	3.5	8	M16
80	200	160	18	20	138	2	4.5	8	M16
100	220	180	18	20	158	2	5.5	8	M16
125	250	210	18	22	188	2	8	8	M16
150	285	240	22	22	212	2	10.5	8	M20
200	340	295	22	24	268	2	16.5	12	M20
250	405	355	26	26	320	2	25	12	M24
300	460	410	26	28	378	2	35	12	M24
350	520	470	26	30	438	2	48	16	M24
400	580	525	30	32	490	2	63	16	M27
450	640	585	30	40	550	2	96.5	20	M27
500	715	650	33	44	610	2	133	20	M30
600	840	770	36	54	725	2	226.5	20	M33
700	910	840	36	48	795	2	263	24	M33
800	1025	950	39	52	900	2	325	24	M36
900	1125	1050	39	58	1000	2	437.5	28	M36
1000	1255	1170	42	64	1115	2	602	28	M39
1200	1485	1390	48	76	1330	2	999	32	M45



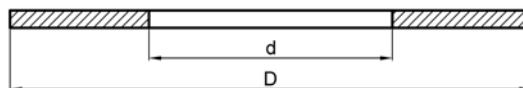
Nazivni pritisak / Pressure nominal <b>PN25</b>									
Nazivni otvor / Nominal size (DN)	Prirubnica / Flange						Masa / Weight	Vijci / Screws	
	D	K	L	C4	d1	f1		Broj / Number (n)	Navoj / Thread
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg]		
200	360	310	26	30	278	2	22.5	12	M24
250	425	370	30	32	335	2	33.5	12	M27
300	485	430	30	34	395	2	46.5	16	M27
350	555	490	33	38	450	2	68	16	M30
400	620	550	36	40	505	2	89.5	16	M33
450	670	600	36	46	555	2	120	20	M33
500	730	660	36	48	615	2	150	20	M33
600	845	770	39	58	720	2	244.5	20	M36

Nazivni pritisak / Pressure nominal <b>PN40</b>									
Nazivni otvor / Nominal size (DN)	Prirubnica / Flange						Masa / Weight	Vijci / Screws	
	D	K	L	C4	d1	f1		Broj / Number (n)	Navoj / Thread
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg]		
10	90	60	14	16	40	2	1	4	M12
15	95	65	14	16	45	2	1	4	M12
20	105	75	14	18	58	2	1	4	M12
25	115	85	14	18	68	2	1.5	4	M12
32	140	100	18	18	78	2	2	4	M16
40	150	110	18	18	88	2	2.5	4	M16
50	165	125	18	20	102	2	3	4	M16
65	185	145	18	22	122	2	4.5	8	M16
80	200	160	18	24	138	2	5.5	8	M16
100	235	190	22	24	162	2	7.5	8	M20
125	270	220	26	26	188	2	11	8	M24
150	300	250	26	28	218	2	14.5	8	M24
200	375	320	30	36	285	2	29	12	M27
250	450	385	33	38	345	2	44.5	12	M30
300	515	450	33	42	410	2	64	16	M30
350	580	510	36	46	465	2	89.5	16	M33
400	660	585	39	50	535	2	127	16	M36
450	685	610	39	57	560	2	154	20	M36
500	755	670	42	57	615	2	188	20	M39
600	890	795	48	72	735	2	331	20	M45

## 13. Zaptivni elementi za priljubničke spojeve / Flange gaskets

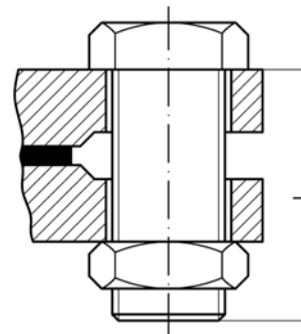
Materijal / Material :  
po zahtevu klijenta / at client's request



PN	Nazivni otvor / Nominal size DN																			
	15	20	25	32	40	50	65	80	100	125	150	175	200	250	300	350	400	500	600	
PN 6	d	20	25	30	38	45	57	76	89	108	133	159	191	216	267	318	368	420	520	620
	D	43	53	63	75	85	95	115	132	152	182	207	237	262	318	373	423	473	578	680
PN 10	d	20	25	30	38	45	57	76	89	108	133	159	191	216	267	318	368	420	520	620
	D	50	60	70	82	92	107	127	142	162	192	218	248	273	330	385	445	497	618	730
PN 16	d	20	25	30	38	45	57	76	89	108	133	159	191	216	267	318	368	420	520	620
	D	50	60	70	82	92	107	127	142	162	192	218	248	273	330	385	445	497	618	730
PN 25	d	20	25	30	38	45	57	76	89	108	133	159	191	216	267	318	368	420	520	...
	D	50	60	70	82	92	107	127	142	168	195	225	255	285	342	402	458	515	620	...
PN 40	d	20	25	30	38	45	57	76	89	108	133	159	191	216	267	318	368	420	520	...
	D	50	60	70	82	92	107	127	142	168	195	225	267	292	353	418	475	542	620	...

## 14. Elementi za spajanje priljubničkih spojeveva / Flange connections

Materijal / Material :  
po zahtevu klijenta / at client's request



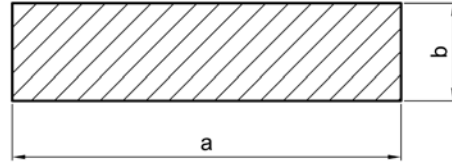
PN	Nazivni otvor / Nominal size DN																			
	15	20	25	32	40	50	65	80	100	125	150	175	200	250	300	350	400	500	600	
PN 6	L	40	45	45	45	45	45	45	60	60	60	60	60	65	70	70	70	70	75	75
	M	M 10	M 10	M 10	M 12	M 12	M 12	M 12	M 12	M 16	M 16	M 16	M 16	M 16	M 16	M 20	M 20	M 20	M 20	M 24
	n	4	4	4	4	4	4	4	4	4	8	8	8	8	12	12	12	16	20	20
PN 10	L	45	50	50	50	50	55	55	60	60	65	65	70	70	75	75	75	80	80	90
	M	M 12	M 12	M 12	M 16	M 16	M 16	M 16	M 16	M 16	M 16	M 20	M 20	M 20	M 20	M 20	M 20	M 24	M 24	M 27
	n	4	4	4	4	4	4	4	8	8	8	8	8	8	12	12	16	16	20	20
PN 16	L	45	50	50	50	50	55	55	60	60	65	65	70	70	80	80	90	90	100	110
	M	M 12	M 12	M 12	M 16	M 16	M 16	M 16	M 16	M 16	M 16	M 20	M 20	M 20	M 24	M 24	M 24	M 27	M 30	M 33
	n	4	4	4	4	4	4	4	8	8	8	8	8	12	12	12	16	16	20	20
PN 25	L	50	50	50	50	55	60	65	70	70	80	90	90	90	100	100	110	120	130	...
	M	M 12	M 12	M 12	M 16	M 16	M 16	M 16	M 16	M 20	M 24	M 24	M 24	M 27	M 27	M 27	M 30	M 33	M 33	...
	n	4	4	4	4	4	4	8	8	8	8	8	12	12	12	16	16	16	20	...
PN 40	L	50	50	50	55	60	60	65	70	70	80	90	100	100	110	120	130	140	150	...
	M	M 12	M 12	M 12	M 16	M 16	M 16	M 16	M 16	M 20	M 24	M 24	M 27	M 27	M 30	M 30	M 33	M 36	M 39	...
	n	4	4	4	4	4	4	8	8	8	8	8	12	12	12	16	16	16	20	...

# 15. Pljosnati toplo valjani čelik / Hot rolled flat steel

Standard / Norm : DIN 1017:1967

Materijal / Material : RSt 37.2; St 37.2

po zahtevu klijenta / at client's request



Širina / Width	Debljina / Thickness b								
	[mm]								
	5	6	7	8	9	10	11	12	13
a	Težina / Weight								
[mm]	[kg / m]								
10	0.39	0.47	...	...	...	...	...	...	...
12	0.47	0.56	...	1.75	...	0.94	...	...	...
14	0.55	0.66	...	0.88	...	1.1	...	...	...
15	0.59	0.71	...	1.94	...	1.18	...	...	...
16	...	0.75	...	1.01	...	1.26	...	...	1.63
18	0.71	0.85	...	1.13	...	1.41	...	1.7	1.84
20	0.78	0.94	1.1	1.26	1.41	1.57	...	1.88	2.04
22	0.86	1.04	1.21	1.38	...	1.73	1.9	2.07	2.25
25	0.98	1.18	1.37	1.57	...	1.96	...	2.36	2.55
28	1.10	1.32	1.54	1.76	...	2.2	...	2.64	2.86
30	1.18	1.41	1.65	1.88	2.12	2.36	...	2.83	3.06
32	1.26	1.51	1.76	2.01	...	2.51	...	3.01	3.27
35	1.37	1.65	1.92	2.2	2.47	2.75	...	3.3	3.57
40	1.57	1.88	2.2	2.51	2.83	3.14	...	3.77	4.08
45	1.77	2.12	2.47	2.83	3.18	3.53	...	4.24	4.59
50	1.96	2.36	2.75	3.14	3.53	3.93	4.32	4.71	5.10
52	2.04	2.45	...	3.27	...	4.08	...	4.9	...
55	2.16	2.59	3.02	3.45	3.89	4.32	4.75	5.18	5.61
60	2.36	2.83	3.3	3.77	4.24	4.71	5.18	5.65	6.12
63	2.47	2.97	3.46	3.96	4.45	4.95	5.44	5.94	6.43
65	2.55	3.06	3.57	4.08	4.59	5.1	5.6	6.12	6.63
70	2.75	3.3	3.85	4.4	4.95	5.5	6.04	6.59	7.14
75	2.94	3.53	4.12	4.71	5.3	5.89	6.48	7.07	7.65
80	3.14	3.77	4.4	5.02	5.65	6.28	6.91	7.54	8.16
90	3.53	4.24	4.95	5.65	6.36	7.07	7.77	8.48	9.18
100	3.93	4.71	5.5	6.28	7.07	7.85	8.64	9.42	10.2
110	4.32	5.18	...	6.91	7.77	8.64	9.5	10.4	11.2
120	4.71	5.65	6.59	7.54	8.48	9.42	10.4	11.3	12.2
125	4.21	5.89	5.87	7.85	8.83	9.81	10.8	11.8	12.8
130	5.1	6.12	...	8.16	9.18	10.2	11.2	12.3	13.3
140	5.5	6.59	...	8.79	9.89	11	12.1	13.2	14.3

## 16. L profili toplo valjani / Equal leg angles

Standard / Norm :

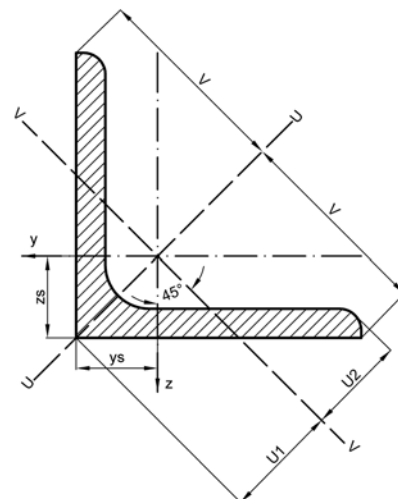
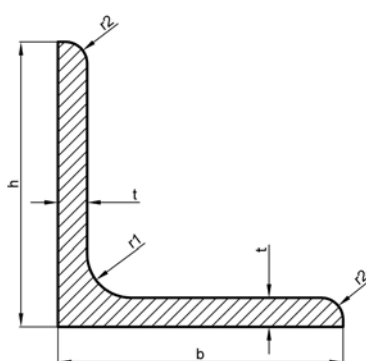
SRPS EN 10056-1:1998

Materijal / Material :

S235JR; S275JR; S355JR

ili po zahtevu klijenta /

or at client's request



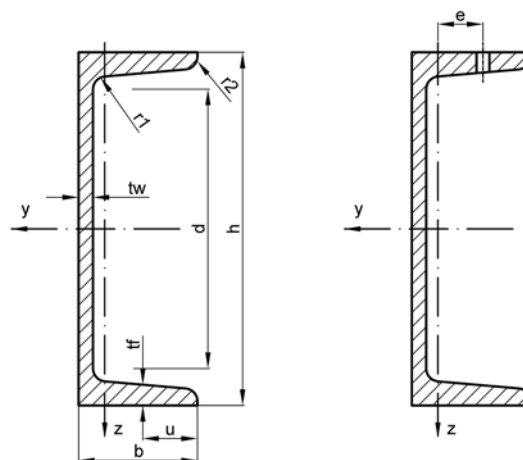
Oznaka / Designation [mm]	Dimenzije / Dimensions										Površina / Surface	
	G	h = b	t	r1	r2	A	zs = ys	v	u1	u2	Al	Ag
	[kg/m]	[mm]	[mm]	[mm]	[mm]	[mm <sup>2</sup> x 10 <sup>2</sup> ]	[mm x 10]	[mm x 10]	[mm x 10]	[mm x 10]	[m <sup>2</sup> /m]	[m <sup>2</sup> /t]
L 20 x 20 x 3	0.879	20	3	3.5	2	1.12	0.596	1.41	0.843	0.7	0.077	87.4
L 25 x 25 x 3	1.11	25	3	3.5	2	1.42	0.721	1.77	1.02	0.877	0.097	86.88
L 25 x 25 x 4	1.45	25	4	3.5	2	1.85	0.761	1.77	1.08	0.892	0.097	66.67
L 30 x 30 x 3	1.36	30	3	5	2.5	1.74	0.835	2.12	1.18	1.05	0.116	84.87
L 30 x 30 x 4	1.78	30	4	5	2.5	2.27	0.878	2.12	1.24	1.06	0.116	65.02
L 35 x 35 x 4	2.09	35	4	5	2.5	2.67	1	2.47	1.42	1.24	0.136	64.82
L 40 x 40 x 4	2.42	40	4	6	3	3.08	1.12	2.83	1.58	1.4	0.155	64.07
L 40 x 40 x 5	2.97	40	5	6	3	3.79	1.16	2.83	1.64	1.41	0.155	52.07
L 45 x 45 x 4	2.74	45	4	7	3.5	3.49	1.23	3.18	1.75	1.57	0.174	63.46
L 45 x 45 x 4.5	3.06	45	4.5	7	3.5	3.9	1.26	3.18	1.78	1.58	0.174	56.83
L 45 x 45 x 5	3.38	45	5	7	3.5	4.3	1.28	3.18	1.81	1.58	0.174	51.51
L 50 x 50 x 4	3.06	50	4	7	3.5	3.89	1.36	3.54	1.92	1.75	0.194	63.49
L 50 x 50 x 5	3.77	50	5	7	3.5	4.8	1.4	3.54	1.99	1.76	0.94	51.46
L 50 x 50 x 6	4.47	50	6	7	3.5	5.69	1.45	3.54	2.04	1.77	0.194	43.41
L 50 x 50 x 7	5.15	50	7	7	3.5	6.56	1.49	3.54	2.1	1.78	0.194	37.66
L 55 x 55 x 5	4.18	55	5	8	4	5.32	1.52	3.89	2.15	1.93	0.213	51.05
L 55 x 55 x 6	4.95	55	6	8	4	6.31	1.56	3.89	2.21	1.94	0.213	43.04
L 60 x 60 x 4	3.7	60	4	8	4	4.71	1.6	4.24	2.26	2.1	0.233	63.07
L 60 x 60 x 5	4.57	60	5	8	4	5.82	1.64	4.24	2.32	2.11	0.233	51.04
L 60 x 60 x 6	5.42	60	6	8	4	6.91	1.69	4.24	2.39	2.11	0.233	42.99
L 60 x 60 x 8	7.09	60	8	8	4	9.03	1.77	4.24	2.5	2.14	0.233	32.89
L 65 x 65 x 6	5.91	65	6	8	4.5	7.53	1.8	4.6	2.55	2.28	0.252	42.7
L 65 x 65 x 7	6.83	65	7	9	4.5	8.7	1.85	4.6	2.61	2.29	0.252	36.95
L 65 x 65 x 8	7.73	65	8	9	4.5	9.85	1.89	4.6	2.67	2.31	0.252	32.64
L 70 x 70 x 6	6.38	70	6	9	4.5	8.13	1.93	4.95	2.73	2.46	0.272	42.68
L 70 x 70 x 7	7.38	70	7	9	4.5	9.4	1.97	4.95	2.79	2.47	0.272	36.91
L 70 x 70 x 8	8.37	70	8	10	5	10.7	2.01	4.95	2.84	2.47	0.272	32.41
L 70 x 70 x 9	9.32	70	9	9	4.5	11.9	2.05	4.95	2.9	2.5	0.272	29.2
L 75 x 75 x 4	4.65	75	4	9	4.5	5.93	1.96	5.3	2.76	2.63	0.292	62.82
L 75 x 75 x 5	5.76	75	5	9	4.5	7.34	2.01	5.3	2.84	2.63	0.292	50.75
L 75 x 75 x 6	6.85	75	6	9	4.5	8.73	2.05	5.3	2.9	2.64	0.292	42.66
L 75 x 75 x 7	7.93	75	7	9	4.5	10.1	2.1	5.3	2.96	2.65	0.292	36.88
L 75 x 75 x 8	8.99	75	8	9	4.5	11.4	2.14	5.3	3.02	2.66	0.292	32.53
L 75 x 75 x 10	11.1	75	10	9	4.5	14.1	2.22	5.3	3.13	2.69	0.292	26.43



Oznaka / Designation [mm]	Dimenzije / Dimensions										Površina / Surface	
	G	h = b	t	r1	r2	A	zs = ys	v	u1	u2	Al	Ag
	[kg/m]	[mm]	[mm]	[mm]	[mm]	[mm <sup>2</sup> x 10 <sup>2</sup> ]	[mm x 10]	[mm x 10]	[mm x 10]	[mm x 10]	[m <sup>2</sup> /m]	[m <sup>2</sup> /t]
L 80 x 80 x 5	6.17	80	5	10	5	7.86	2.12	5.66	3	2.81	0.311	50.49
L 80 x 80 x 6	7.34	80	6	10	5	9.35	2.17	5.66	3.07	2.81	0.311	42.44
L 80 x 80 x 7	8.49	80	7	10	5	10.8	2.21	5.66	3.13	2.82	0.311	36.67
L 80 x 80 x 8	9.63	80	8	10	5	12.3	2.26	5.66	3.19	2.83	0.311	32.34
L 80 x 80 x 10	11.9	80	10	10	5	15.1	2.34	5.66	3.3	2.85	0.311	26.26
L 90 x 90 x 6	8.28	90	6	10	5	10.5	2.42	6.36	3.42	3.16	0.351	42.44
L 90 x 90 x 7	9.61	90	7	11	5.5	12.2	2.45	6.36	3.47	3.16	0.351	36.48
L 90 x 90 x 8	10.9	90	8	11	5.5	13.9	2.5	6.36	3.53	3.17	0.351	32.15
L 90 x 90 x 9	12.2	90	9	11	5.5	15.5	2.54	6.36	3.59	3.18	0.351	28.77
L 90 x 90 x 10	13.4	90	10	11	5.5	17.1	2.58	6.36	3.65	3.19	0.351	26.07
L 90 x 90 x 11	14.7	90	11	11	5.5	18.7	2.62	6.36	.7	3.21	0.351	23.86
L 100 x 100 x 6	9.26	100	6	12	6	11.8	2.64	7.07	3.74	3.51	0.39	42.09
L 100 x 100 x 7	10.7	100	7	12	6	13.7	2.69	7.07	3.81	3.51	0.39	36.33
L 100 x 100 x 8	12.2	100	8	12	6	15.5	2.74	7.07	3.87	3.52	0.39	32
L 100 x 100 x 10	15	100	10	12	6	19.2	2.82	7.07	3.99	3.54	0.39	25.92
L 100 x 100 x 12	17.8	100	12	12	6	22.7	2.9	7.07	4.11	3.57	0.39	21.86
L 110 x 110 x 8	13.4	110	8	12	6	17.1	2.99	7.78	4.22	3.87	0.43	31.98
L 110 x 110 x 10	16.6	110	10	13	6.5	21.2	3.06	7.78	4.33	3.88	0.429	25.79
L 110 x 110 x 12	19.7	110	12	13	6.5	25.1	3.15	7.78	4.45	3.91	0.429	21.73
L 120 x 120 x 8	14.7	120	8	13	6.5	18.7	3.23	8.49	4.56	4.22	0.469	31.87
L 120 x 120 x 10	18.2	120	10	13	6.5	23.2	3.31	8.49	4.69	4.24	0.469	25.76
L 120 x 120 x 11	19.9	120	11	13	6.5	25.4	3.36	8.49	4.75	4.25	0.469	23.54
L 120 x 120 x 12	21.6	120	12	13	6.5	27.5	3.4	8.49	4.8	4.26	0.469	21.69
L 120 x 120 x 13	23.3	120	13	13	6.5	29.7	3.44	8.49	4.86	4.28	0.469	20.12
L 120 x 120 x 15	26.6	120	15	13	6.5	33.9	3.51	8.49	4.97	4.31	0.469	17.6
L 120 x 120 x 16	28.3	120	16	13	6.5	36	3.55	8.49	5.02	4.32	0.469	16.58
L 130 x 130 x 10	19.8	130	10	14	7	25.2	3.55	9.19	5.03	4.58	0.508	25.67
L 130 x 130 x 12	23.5	130	12	14	7	30	3.64	9.19	5.15	4.6	0.508	21.59
L 130 x 130 x 13	25.4	130	13	14	7	32.3	3.68	9.19	5.2	4.62	0.508	20.02
L 130 x 130 x 14	27.2	130	14	14	7	34.7	3.72	9.19	5.26	4.63	0.508	18.68
L 130 x 130 x 16	30.8	130	16	14	7	39.3	3.8	9.19	5.37	4.66	0.508	16.49
L 150 x 150 x 10	23	150	10	16	8	29.3	4.03	10.61	5.71	5.28	0.586	25.51
L 150 x 150 x 12	27.3	150	12	16	8	34.8	4.12	10.61	5.83	5.29	0.586	21.44
L 150 x 150 x 13	29.5	150	13	16	8	37.6	4.17	10.61	5.89	5.3	0.586	19.87
L 150 x 150 x 14	31.6	150	14	16	8	40.3	4.21	10.61	5.95	5.32	0.586	18.53
L 150 x 150 x 15	33.8	150	15	16	8	43	4.25	10.61	6.01	5.33	0.586	17.36
L 150 x 150 x 16	35.9	150	16	16	8	45.7	4.29	10.61	6.06	5.34	0.586	16.34
L 150 x 150 x 18	40.1	150	18	16	8	51	4.37	10.61	6.17	5.37	0.586	14.63
L 150 x 150 x 20	44.2	150	20	16	8	56.3	4.44	10.61	6.28	5.41	0.586	13.27
L 160 x 160 x 14	33.9	160	14	17	8.5	43.2	4.45	11.31	6.29	5.66	0.625	18.46
L 160 x 160 x 15	36.2	160	15	17	8.5	46.1	4.49	11.31	6.35	5.67	0.625	17.3
L 160 x 160 x 16	38.4	160	16	17	8.5	49	4.53	11.31	6.41	5.69	0.625	16.28
L 160 x 160 x 17	40.7	160	17	17	8.5	51.8	4.57	11.31	6.46	5.7	0.625	15.37

## 17. U profili toplo valjani / European standard chanel

Standard / Norm :  
 SRPS EN 10025:2003; SRPS EN 10279:2009  
 Materijal / Material :  
 S235JR; S275JR; S355JR  
 ili po zahtevu klijenta /  
 or at client's request

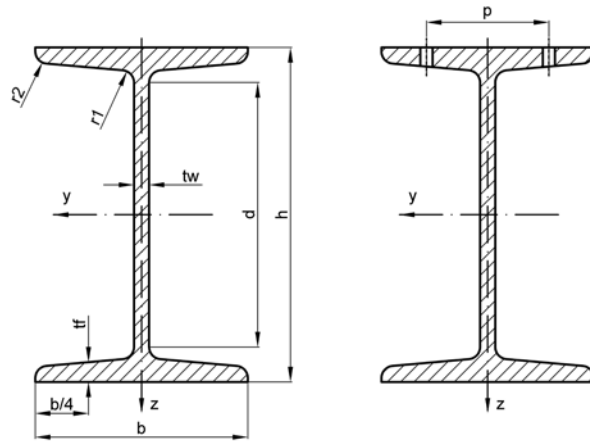


Oznaka / Designation [mm]	Dimenzije / Dimensions												Površina / Surface	
	G	h	b	tw	tr	r1	r2	A	d	Ø	e min	e max	Al	Ag
	[kg/m]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm <sup>2</sup> x 10 <sup>2</sup> ]	[mm]		[mm]	[mm]	[m <sup>2</sup> /m]	[m <sup>2</sup> /t]
UPN 50*	5.59	50	38	5	7	7	3.5	7.12	21	-	-	-	0.232	42.22
UPN 65*	7.09	65	42	5.5	7.5	7.5	4	9.03	34	-	-	-	0.273	39.57
UPN80*	8.64	80	45	6	8	8	4	11	47	-	-	-	0.312	37.1
UPN 100*	10.6	100	50	6	8.5	8.5	4.5	13.5	64	-	-	-	0.372	35.1
UPN 120	13.4	120	55	7	9	9	4.5	17	82	-	-	-	0.434	32.52
UPN 140	16	140	60	7	10	10	5	20.4	98	M 12	33	37	0.489	30.54
UPN 160	18.8	160	65	7.5	10.5	10.5	5.5	24	115	M 12	34	42	0.546	28.98
UPN 180	22	180	70	8	11	11	5.5	28	133	M 16	38	41	0.611	27.8
UPN 200	25.3	200	75	8.5	11.5	11.5	6	32.2	151	M 16	39	46	0.661	26.15
UPN 220	29.4	220	80	9	12.5	12.5	6.5	37.4	167	M 16	40	51	0.718	24.46
UPN 240	33.2	240	85	9.5	13	13	6.5	42.3	184	M 20	46	50	0.775	23.24
UPN 260	37.9	260	90	10	14	14	7	48.3	200	M 22	50	52	0.834	22
UPN 280	41.8	280	95	10	15	15	7.5	53.3	216	M 22	52	57	0.89	21.27
UPN 300	46.2	300	100	10	16	16	8	58.8	232	M 24	55	59	0.95	20.58
UPN 320*	59.5	320	100	14	17.5	17.5	8.8	75.8	246	M 22	58	62	0.982	16.5
UPN 350	60.6	350	100	14	16	16	8	77.3	282	M 22	56	62	1.05	17.25
UPN 380*	63.1	380	102	13.5	16	16	8	80.4	313	M 24	59	60	1.11	17.59
UPN 400*	71.8	400	110	14	18	18	9	91.5	324	M 27	61	62	1.18	16.46



# 18. I profili toplo valjani / European standard beams

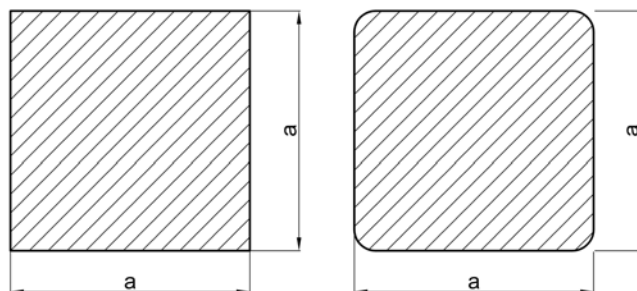
Standard / Norm :  
 SRPS EN 10024:2003; SRPS EN 10279:2009  
 Materijal / Material :  
 S235JR; S275JR; S355JR  
 ili po zahtevu klijenta /  
 or at client's request



Oznaka / Designation [mm]	Dimenzije / Dimensions												Površina / Surface	
	G	h	b	tw	tr	r1	r2	A	d	∅	p min	p max	Al	Ag
	[kg/m]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm <sup>2</sup> x 10 <sup>2</sup> ]	[mm]		[mm]	[mm]	[m <sup>2</sup> /m]	[m <sup>2</sup> /t]
IPN 80*	5.94	80	42	3.9	5.9	3.9	2.3	7.57	59	-	-	-	0.304	51.09
IPN 100*	8.34	100	50	4.5	6.8	4.5	2.7	10.6	75.7	-	-	-	0.370	44.47
IPN 120*	11.1	120	58	5.1	7.7	5.1	3.1	14.2	92.4	-	-	-	0.439	39.38
IPN 140*	14.3	140	66	5.7	8.6	5.7	3.4	18.2	109.1	-	-	-	0.502	34.94
IPN 160*	17.9	160	74	6.3	9.5	6.3	3.8	22.8	125.8	-	-	-	0.575	32.13
IPN 180*	21.9	180	82	6.9	10.4	6.9	4.1	27.9	142.4	-	-	-	0.64	29.22
IPN 200*	26.2	200	90	7.5	11.3	7.5	4.5	33.4	159.1	-	-	-	0.709	27.04
IPN 220*	31.1	220	98	8.1	12.2	8.1	4.9	39.5	175.8	M 10	50	56	0.775	24.99
IPN 240*	36.2	240	106	8.7	13.1	8.7	5.2	46.1	192.5	M 10	54	60	0.844	23.32
IPN 260*	41.9	260	113	9.4	14.1	9.4	5.6	53.3	208.9	M 12	62	62	0.906	21.65
IPN 280*	47.9	280	119	10.1	15.2	10.1	6.1	61	225.1	M 12	68	68	0.966	20.17
IPN 300*	54.2	300	125	10.	16.2	10.8	6.5	69	241.6	M 12	70	74	1.03	19.02
IPN 320*	61	320	131	11.5	17.3	11.5	6.9	77.7	257.9	M 12	70	80	1.09	17.87
IPN 340*	68	340	137	12.2	18.3	12.2	7.3	86.7	274.3	M 12	78	86	1.15	16.9
IPN 360*	76.1	360	143	13	19.5	13	7.8	97	290.2	M 12	78	92	1.2	15.89
IPN 380*	84	380	149	13.7	20.5	13.7	8.2	107	306.7	M 16	84	86	1.27	15.12
IPN 400*	92.4	400	155	14.4	21.6	14.4	8.6	118	322.9	M 16	86	92	1.33	14.36
IPN 450*	115	450	170	16.2	24.3	16.2	9.7	147	363.6	M 16	92	106	1.48	12.83
IPN 500*	141	500	185	18	27	18	10.8	179	404.3	M 20	102	110	1.63	11.6
IPN 550*	166	550	200	19	30	19	11.9	212	445.6	M 22	112	118	1.8	10.8
IPN 600*	199	600	215	21.6	32.4	21.6	13	254	485.8	M 24	126	128	1.92	9.89

## 19. Kvadratne šipke / Square bars

Standard / Norm : SRPS EN 10059:2003  
 Materijal / Material : S235JR; S275JR; S355JR  
 ili po zahtevu klijenta / or at client's request



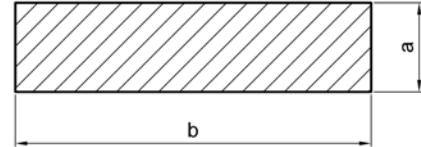
a x a	Zaobljene ivice / Rounded edges		Oštre ivice / Sharp edges	
	Masa / Mass		Masa / Mass	
	[kg/m ]		[kg/m ]	
30 x 30			7.07	
35 x 35			9.62	
45 x 45	15.7		15.9	
50 x 50	19.4		19.6	
60 x 60	23.5		23.7	
65 x 65	27.9		28.3	
70 x 70	32.7			
80 x 80	38			
85 x 85	49.6			
90 x 90	56			
95 x 95	69.9		63.6	
100 x 100	77.5			
110 x 110			78.5	
120 x 120			95	
130 x 130			113	
140 x 140	153		133	
150 x 150	173			
160 x 160	200			

## 20. Uske ravne šipke i ravne šipke / Narrow flat bars and flat bars

Standard / Norm : SRPS EN 10058:2003

Materijal / Material : S235JR; S275JR; S355JR

ili po zahtevu klijenta / or at client's request



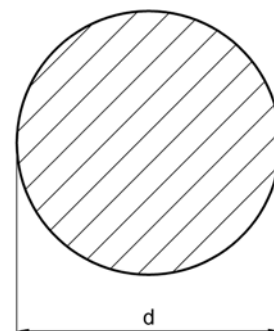
Širina / Width	Masa / Mass [kg/m]																		
	Debljina / Thickness																		
	a																		
b	[mm]																		
[mm]	5	6	7	8	10	12	14	15	16	18	20	25	30	35	40	45	50	60	
uske ravne šipke / narrow flat bars	20	0.785	0.942	1.1	1.26	1.57	1.88	2.2	2.36										
	25	0.981	1.18	1.37	1.57	1.96	2.36	2.75	2.94	3.14	3.53								
	30	1.18	1.41	1.65	1.88	2.36	2.83	3.3	3.53	3.77	4.24	4.71							
	35	1.37	1.65	1.92	2.2	2.75	3.3	3.85	4.12	4.4	4.95	5.5	6.87						
	40	1.57	1.88	2.2	2.51	3.14	3.77	4.4	4.71	5.02	5.65	6.28	7.85	9.42					
	45	1.77	2.12	2.47	2.83	3.53	4.24	4.95	5.3	5.65	6.36	7.07	8.83	10.6					
	50	1.96	2.36	2.75	3.14	3.93	4.71	5.5	5.89	6.28	7.07	7.85	9.81	11.8	13.7				
	55	2.16	2.59	3.02	3.45	4.32	5.18	6.04	6.48	6.91	7.77	8.64	10.8	13	15.1				
	60	2.36	2.83	3.3	3.77	4.71	5.65	6.59	7.07	7.54	8.48	9.42	11.8	14.1	16.5	18.8			
	65	2.55	3.06	3.57	4.08	5.1	6.12	7.14	7.65	8.16	9.18	10.2	12.8	15.3	17.9	20.4	23		
	70	2.75	3.3	3.85	4.4	5.5	6.59	7.69	8.24	8.79	9.89	11	13.7	16.5	19.2	22	24.7	27.5	
	75	2.94	3.53		4.71	5.89	7.07		8.83	9.42		11.8	14.7	17.7	20.6	23.6			
	80	3.14	3.77	4.4	5.02	6.28	7.54	8.79	9.42	10	11.3	12.6	15.7	18.8	22	25.1	28.3	31.4	
	90	3.53	4.24	4.95	5.65	7.07	8.48	9.89	10.6	11.3	12.7	14.1	17.7	21.2	24.7	28.3	31.8	35.3	
100	3.93	4.71	5.5	6.28	7.85	9.42	11	11.8	12.6	14.1	15.7	19.6	23.6	27.5	31.4	35.3			
110	4.32	5.18	6.04	6.91	8.64	10.4	12.1	13	13.8	15.5	17.3	21.6	25.9	30.2	34.5				
120	4.71	5.65	6.59	7.54	9.42	11.3	13.2	14.1	15.1	17	18.8	23.6	28.3						
130				8.16	10.2	12.3	14.3	15.3	16.3	18.4	20.4	25.5	30.6	35.7	40.8	45.9	51	62.2	
140				8.79	11	13.2	15.4	16.5	17.6	19.8	22	27.5	33	38.5	44	49.5	55	65.9	
ravne šipke / flat bars	150				9.42	11.8	14.1	16.5	17.7	18.8	21.2	23.6	2.4	35.3	41.2	47.1	53	58.9	70.7
	160				10.1	12.6	15.1	17.6	18.8	20.1	22.6	25.1	31.4	37.7	44	50.2	56.5	62.8	75.4
	170				10.7	13.3	16	18.7	20	21.4	24	26.7	33.4	40	46.7	53.4	60.1	66.7	80.1
	*180				11.3	14.1	17	19.8	21.2	22.6	25.4	28.3	35.3						
	*200				12.6	15.7	18.8	22	23.6	25.1	28.3	31.4	39.3	47.1	55	62.8			
	*220					17.3	20.7		25.9			34.5	43.2	51.8	60.4	69.1			
	*250					19.6	23.6		29.4			39.3	49.1	58.9	68.7	78.5			
	*300					23.6	28.3		35.3			47.1	58.9	70.7	82.4	94.2			
	*350					27.5	33		41.2			55	68.7	82.4	96.2	110			
*400					31.4	37.7		47.1			62.8	78.5	94.2	110	126				

## 21. Okrugle toplo valjane čelične šipke / Hot rolled round steel bars

Standard / Norm : SRPS EN 10060: 2003

Materijal / Material : S235JR; S275JR; S355JR

ili po zahtevu klijenta / or at client's request



	G	d	A		G	d	a
	[kg / m]	[mm]	[mm <sup>2</sup> x 10 <sup>2</sup> ]		[kg / m]	[mm]	[mm <sup>2</sup> x 10 <sup>2</sup> ]
R 10	0.617	10	0.785	R 47	13.6	47	17.3
R 12	0.888	12	1.13	R 48	14.2	48	18.1
R 14	1.21	14	1.54	R 49.2	14.9	49.2	19
R 16	1.58	16	2.01	R 50	15.4	50	19.6
R 18	2	18	2.54	R 51	16	51	20.4
R 20	2.47	20	3.14	R 52	16.7	52	21.2
R 22	2.98	22	3.8	R 53	17.3	53	22.1
R 22.5	3.05	22.25	3.89	R 54	18	54	22.9
R 23.6	3.43	23.6	4.37	R 55	18.7	55	23.8
R 24	3.55	24	4.52	R 55.8	19.2	55.8	24.5
R 24.5	3.7	24.5	4.71	R 56	19.3	56	24.6
R 25	3.85	25	4.91	R 57	20	57	25.5
R 26	4.17	26	5.31	R 58	20.7	58	26.4
R 26.7	4.4	26.7	5.6	R 59	21.5	59	27.3
R 27	4.49	27	5.73	R 60	22.2	60	28.3
R 28	4.83	28	6.16	R 62	23.7	62	30.2
R 29	5.19	29	6.61	R 63	24.5	63	31.2
R 29.5	5.37	29.5	6.83	R 65	26	65	33.2
R 29.7	5.44	29.7	6.93	R 70	30.2	70	38.5
R 30	5.55	30	7.07	R 75	34.7	75	44.2
R 31	5.92	31	7.55	R 80	39.5	80	50.3
R 32	6.31	32	8.04	R 85	44.5	85	56.7
R 34	7.13	34	9.08	R 90	49.9	90	63.6
R 34.4	7.3	34.4	9.29	R 95	55.6	95	70.9
R 35	7.55	35	9.62	R 100	61.7	100	78.5
R 35.7	7.86	35.7	10	R 105	68	105	86.6
R 36	7.99	36	10.2	R 110	74.6	110	95
R 37	8.44	37	10.8	R 120	88.8	120	113
R 38	8.9	38	11.3	R 130	104	130	133
R 39	9.38	39	11.9				
R 39.2	9.47	39.2	12.1				
R 40	9.86	40	12.6				
R 42	10.9	42	13.9				
R 44	11.9	44	15.2				
R 45	12.5	45	15.9				
R 46	13	46	16.6				



# Međunarodno poređenje materijala / International comparison of material

Broj materijala / Material number	DIN	SRPS EN	ANSI	GOST
1.0037	St 37.2	S 235 JR	1015 / A 283 Gr.C	WSt 3sp2
1.0038	RSt 37.2	S 235 JRG 2	A 570 Gr.36	WSt 3kp2
1.0254	St 37.0	P 235TR1		-10
1.0460	C 22.8	-P 245 GH (1.0352)	M 1023	20
1.0305	St 35.8/I	-P 235 GH (1.0345)	A 106 Gr.A	-10
1.0405	St 45.8/I	-P 265 GH (1.0425)	A 234 Gr.WPB-A 106 Gr.B	-20
1.0425	H II	P 265 GH		15K
1.0432	C 21	-	A 105	-
1.5217	20MN V 6	E 450 / E 470	-	-
1.5415	15 Mo 3	16 Mo 3	-A 235 WP 1 - A 355 P 1	
1.7335	13 Cr Mo 44	13 Cr Mo 4-5	A 234 WP 12 - A 335 P 12	12 ChM, 15 ChM
1.7362	12 Cr Mo 19 5	X 11 Cr Mo 5	A 234 WP 5 - A 335 P 5	15 ChM
1.7380	10 Cr Mo 9 10	10 Cr Mo 9-10	A 234 WP 22 - A 335 P 22	10 ChM
1.7715	14 Mo V 63	14 Mo V 6-3	A 234 WP 24 - A 335 P 24	-
1.0486		P 275 N	A 420 WPL 6 - A 333 Gr.6	-
1.5637	10 Ni 14	12 Ni 14	A 420 WPL 3 - A 333 Gr.3	-
1.0421	St 52.0	P 355 T 1	-	-17G1S
1.0484	StE 290.7	L 290	API STD5LX / X 42	-
1.0562	StE 355	P 355 N	A 588 - A 633 Gr. C	17G1S
1.0582	StE 360.7	L 360	API STD5LX / X 52	-
1.4301	X 5 Cr Ni 16 10	X 5 Cr Ni 18-10	TP 304 - WP 304 - F 304	08Ch18N10
1.4306	X 2 Cr Ni 19 11	X 2 Cr Ni 19-11	TP 304 L - WP 304 L - F 304 L	03Ch18N11
1.4404	X 2 Cr Ni Mo 17 13 2	X 2 Cr Ni Mo 17-12-2	TP 316 L - WP 316 L - F 316 L	03Ch17N14M2
1.4436	X 5 Cr Ni Mo 17 13 3	X 3 Cr Ni Mo 17-13-3	TP 316 - WP 316 - F 316	08Ch17N13M2
1.4541	X 6 Cr Ni Ti 18 10	X 6 Cr Ni Ti 18-10	TP 321 - WP 321 - F 321	12Ch18N10T
1.4571	X 6 Cr Ni Mo Ti 17 12 2	X 6 Cr Ni Mo Ti 17-12-2	TP 316 Ti - F 316 Ti	10Ch17N13M2T
1.4828	X 15 Cr Ni Si 20 12	-	WP 309	20Ch20N14S2
1.4878	X 12 Cr Ni Ti 18 9	-	TP321 H - WP321 H - F321 H	080910Ch18N10T



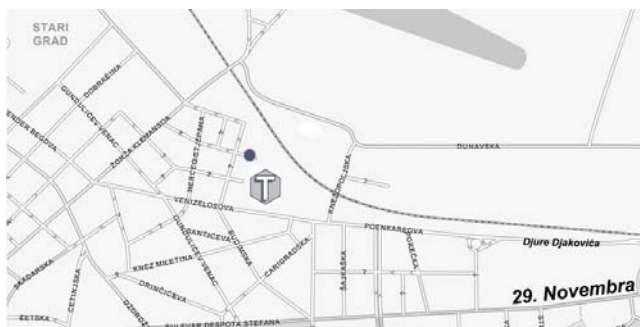
## Poređenje materijala sa američkim standardom ASTM / Comparison with U.S. material standard ASTM

Cevi / Pipes			Prirubnice/ Flanges		
ASTM	Broj čelika / Steel number	Simbol DIN / Symbol DIN	ASTM	Broj čelika / Steel number	Simbol DIN / Symbol DIN
A 106 Grade A	1.0305	St 35.8	A 105 Grade I	1.0432	C 21
A 106 Grade B	1.0405	St 45.8	A 105 Grade II	1.0432	C 21
A 335 Grade P1	1.5423	16 Mo 5	A 182 Grade F 1	1.5421	20 Mn Mo 3-5
A 335 Grade P5	1.7362	X 11 Cr Mo 5	A 182 Grade F 5	1.7362	X 11 Cr Mo 5
A 335 Grade P7	-	-	A 182 Grade F 7	-	-
A 335 Grade P9	1.7386	X 12 Cr Mo 9-1	A 182 Grade F 9	1.7386	X 12 Cr Mo 9-1
A 335 Grade P11	-	-	A 182 Grade F 11	-	-
A 335 Grade P12	1.7335	13 Cr Mo 4-5	A 182 Grade F 12	1.7335 / 1.7337	13CrMo4-5 / 16CrMo9-10
A 335 Grade P22	1.7375 / 1.7380	12CrMo9-10/10CrMo9-10	A 182 Grade F 22	1.7375 / 1.7380	12CrMo9-10 / 10CrMo9-10
A 333 Grade 1	1.1101	TT St 35	A 350 Grade LF 1	1.0437 / 1.0562	P 310 NB / P 355 N
	-	-	A 350 Grade LF 2	1.0570	S 355 J2G3
A 333 Grade 3	1.5637 / 1.5639	12 Ni 14 / 16 Ni 14	A 350 Grade LF 3	1.5637 / 1.5639	12 Ni 14 / 16 Ni 14
A 333 Grade 4	-	-	A 350 Grade LF 4	-	-
A 333 Grade 6	1.0486 / 1.0256	X 8 Ni 9	A 350 Grade LF 6	1.8902 / 1.8905	S 420 N / P 460 N
A 333 Grade 8			A 350 Grade LF 8	-	
A 312 Grade TP 304	1.4301	X 5 Cr Ni 18-10	A 182 Grade F 304	1.4301	X 5 Cr Ni 18-10
A 312 Grade TP 304 L	1.4306	X 2 Cr Ni 19-11	A 182 Grade F 304 L	1.4306	X 2 Cr Ni 19-11
	-	-	-	-	-
A 312 Grade TP 316	1.4436	X 3 Cr Ni Mo 17-13-3	A 182 Grade F 316	1.4436	X 3 Cr Ni Mo 17-13-3
A 312 Grade TP 316 L	1.4404	X 2 Cr Ni Mo 17-12-2	A 182 Grade F 3 L	1.4404	X 2 Cr Ni Mo 17-12-2
A 312 Grade TP 316 Ti	1.4571	X 6 Cr Ni Mo Ti 18-10	A 182 Grade F 316 Ti	1.4571	X 6 Cr Ni Mo Ti 17-12-2
A 312 Grade TP 321	1.4541	X 6 Cr Ni Ti 18-10	A 182 Grade F 321	1.4541	X6 Cr Ni Ti 18-10
A 312 Grade TP H	1.4878	X 8 Cr Ni Ti	A 182 Grade F 321 H	1.4878	X8 Cr Ni Ti 18-10

## Komercijalna služba / Commercial service

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Zoran Đokić

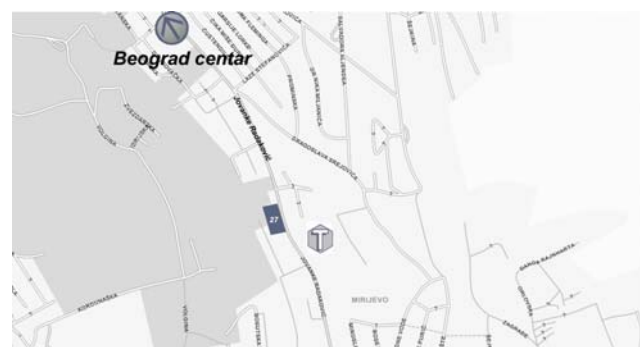


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