



VUČNE OPRUGE OD OVALNE ŽICE

- Tehnički opis
- Tabele



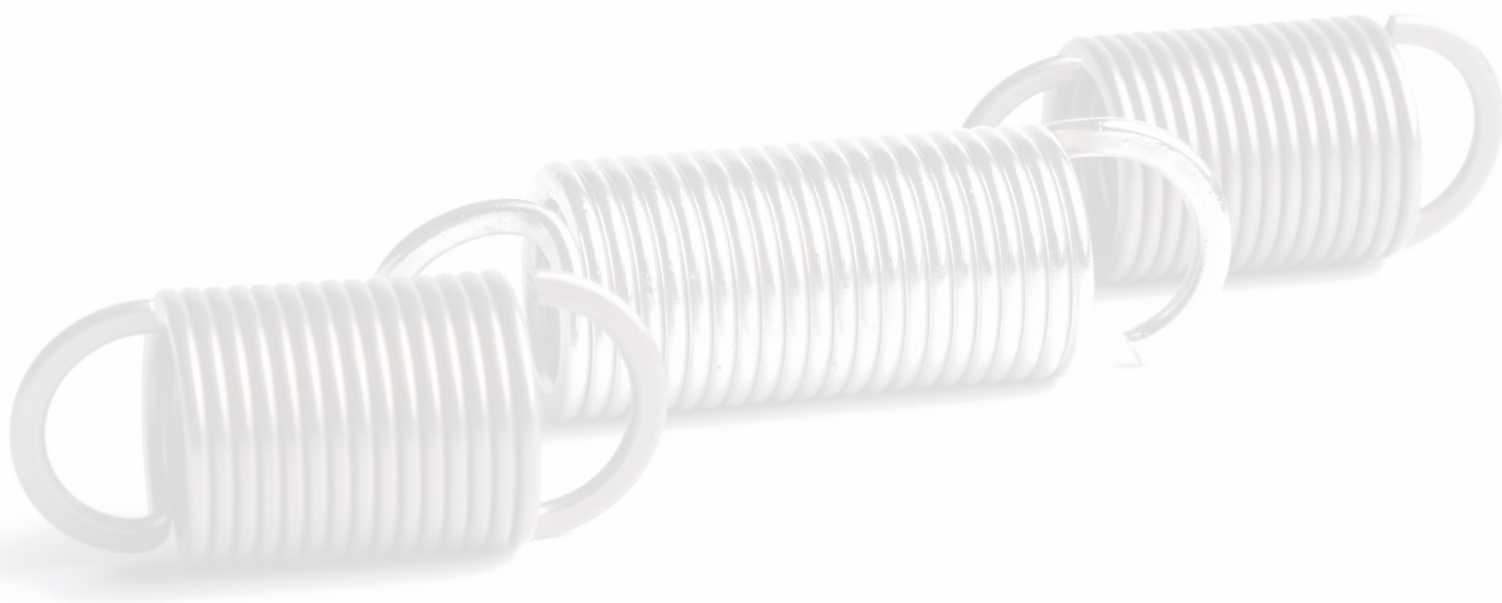
Vučne opruge od ovalne žice

Tehnički podaci

..... Strana 147 - 148

Tabele sa dimenzijama

..... Strana 149 - 154



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Vučne opruge od ovalne žice

Tehnički opis

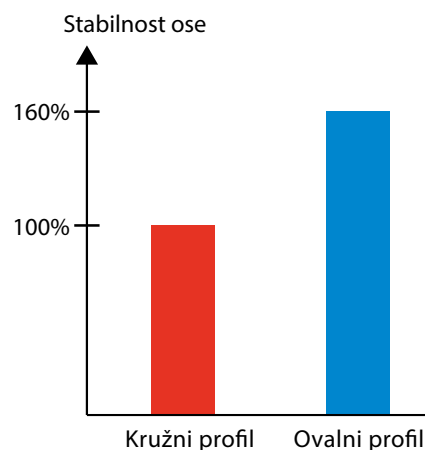
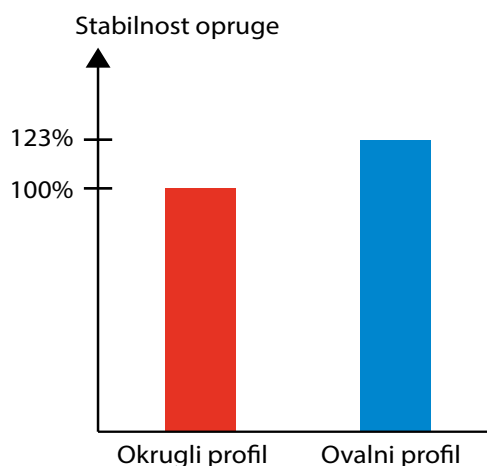
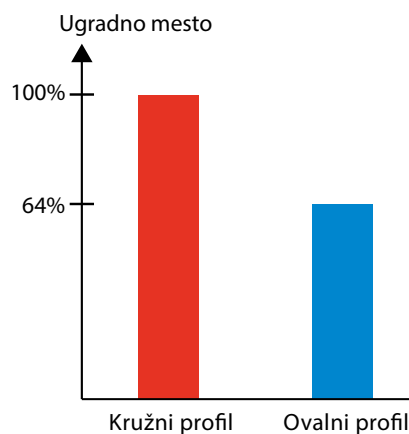
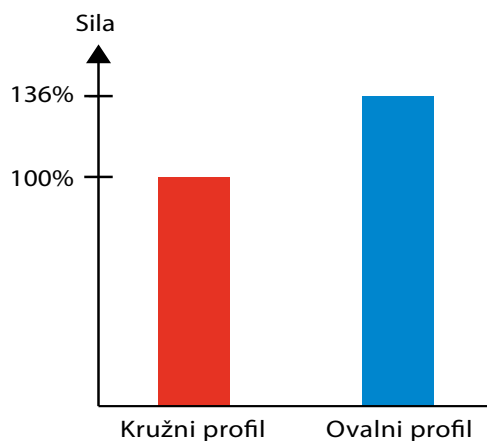
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Vaša aplikacija zahteva visoku dinamičku čvrstoću opruge?
Patentirane opruge od ovalne žice su optimalno dizajnirane za ovaj zahtev.

Najveće opterećenje od naprezanja je u kuki. Ovde su predstavljeni ovalni profili različitih prednosti.
Savijanje se smanjuje za 43%, kuka je stabilna i time je obezbeđen dug radni vek.

Pored dugog veka trajanja, ove opruge odlikuje i visoka čvrstoća, a velika elastičnost čini ove opruge primenljivim u mnogim aplikacijama.

Ovalne vučne opruge trpe velika dinamička opterećenja.

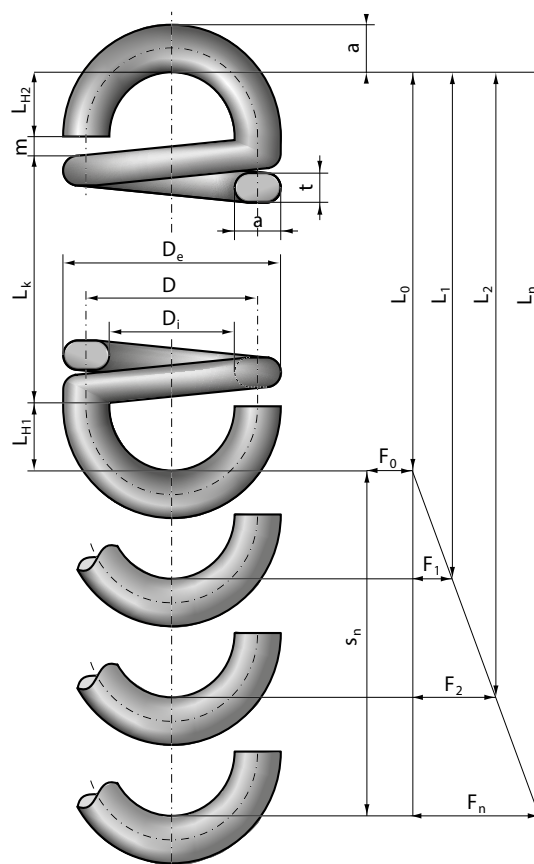
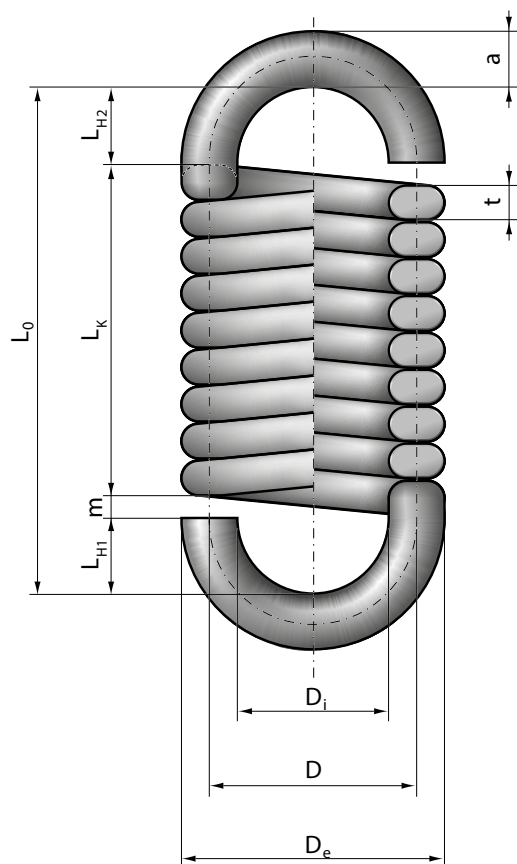




Vučne opruge od ovalne žice

Tehnički opis

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Oznake	Jedinica	Opis
t	mm	Debljina žice
a	mm	Širina omče
D_e	mm	Spoljašnji prečnik
L_0	mm	Nenapregnuta dužina
L_k	mm	Dužina bez omči
L_H	mm	Visina omče
n	-	Broj navoja
R (C-Wert)	N/mm	Krutost
L_n	mm	Dužina opruge u skladu sa silom F_n
s_n	mm	Hod opruge u skladu sa silom F_n
F_0	N	Elastična sila
F_n	N	Sila u skladu sa dužinom opruge L_n
M	g	Težina opruge

Vučne opruge od ovalne žice

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Nerđajući čelik 1.4310													
Napon, prečnik, dužine, broj namotaja							Krutost, dužina, hod, sile, masa						Broj artikla
t mm	a mm	D _e mm	L ₀ mm	L _K mm	L _H mm	n -	R N/mm	L _n mm	s _n mm	F ₀ N	F _n N	M g	
0,80	1,30	7,4	20,0	12,0	4,0	14	3,25	33,2	13,2	13,0	56,0	2,09	HZE08/11
			21,6	13,6		16	2,84	36,7	15,1			2,37	HZE08/12
			24,0	16,0		19	2,40	42,0	18,0			2,79	HZE08/13
			28,0	20,0		24	1,90	50,7	22,7			3,49	HZE08/14
			32,0	24,0		29	1,57	59,4	27,4			4,19	HZE08/15
			36,0	28,0		34	1,34	68,1	32,1			4,88	HZE08/16
			40,0	32,0		39	1,17	76,9	36,9			5,58	HZE08/17
			48,0	40,0		49	0,93	94,3	46,3			6,98	HZE08/18
0,80	1,30	8,3	21,0	12,0	4,5	14	2,15	39,1	18,1	11,0	50,0	2,40	HZE08/21
			22,6	13,6		16	1,88	43,3	20,7			2,72	HZE08/22
			25,0	16,0		19	1,58	49,6	24,6			3,20	HZE08/23
			29,0	20,0		24	1,25	60,1	31,1			4,00	HZE08/24
			33,0	24,0		29	1,04	70,6	37,6			4,80	HZE08/25
			37,0	28,0		34	0,89	81,0	44,0			5,61	HZE08/26
			41,0	32,0		39	0,77	91,5	50,5			6,41	HZE08/27
			49,0	40,0		49	0,61	112,5	63,5			8,01	HZE08/28
0,80	1,30	9,3	22,0	12,0	5,0	14	1,44	45,6	23,6	10,0	44,0	2,75	HZE08/31
			23,6	13,6		16	1,26	50,6	27,0			3,11	HZE08/32
			26,0	16,0		19	1,06	58,0	32,0			3,66	HZE08/33
			30,0	20,0		24	0,84	70,4	40,4			4,58	HZE08/34
			34,0	24,0		29	0,70	82,9	48,9			5,49	HZE08/35
			38,0	28,0		34	0,59	95,3	57,3			6,41	HZE08/36
			42,0	32,0		39	0,52	107,7	65,7			7,32	HZE08/37
			50,0	40,0		49	0,41	132,6	82,6			9,15	HZE08/38
1,00	1,65	9,3	24,0	15,0	4,5	14	4,15	39,2	15,2	22,0	85,0	4,17	HZE10/11
			26,0	17,0		16	3,63	43,4	17,4			4,72	HZE10/12
			29,0	20,0		19	3,06	49,6	20,6			5,55	HZE10/13
			34,0	25,0		24	2,42	60,0	26,0			6,94	HZE10/14
			39,0	30,0		29	2,00	70,5	31,5			8,33	HZE10/15
			44,0	35,0		34	1,71	80,9	36,9			9,72	HZE10/16
			49,0	40,0		39	1,49	91,3	42,3			11,11	HZE10/17
			59,0	50,0		49	1,19	112,2	53,2			13,88	HZE10/18
1,00	1,65	11,0	26,0	15,0	5,5	14	2,27	48,0	22,0	20,0	70,0	5,09	HZE10/21
			28,0	17,0		16	1,99	53,2	25,2			5,77	HZE10/22
			31,0	20,0		19	1,67	60,9	29,9			6,79	HZE10/23
			36,0	25,0		24	1,33	73,7	37,7			8,49	HZE10/24
			41,0	30,0		29	1,10	86,6	45,6			10,18	HZE10/25
			46,0	35,0		34	0,94	99,4	53,4			11,88	HZE10/26
			51,0	40,0		39	0,82	112,3	61,3			13,58	HZE10/27
			61,0	50,0		49	0,65	138,0	77,0			16,97	HZE10/28
1,10	1,80	9,5	25,5	16,5	4,5	14	5,86	39,5	14,0	28,0	110,0	5,03	HZE11/11
			27,7	18,7		16	5,13	43,7	16,0			5,70	HZE11/12
			31,0	22,0		19	4,32	50,0	19,0			6,71	HZE11/13
			36,5	27,5		24	3,42	60,5	24,0			8,39	HZE11/14
			42,0	33,0		29	2,83	71,0	29,0			10,06	HZE11/15
			47,5	38,5		34	2,41	81,5	34,0			11,74	HZE11/16
			53,0	44,0		39	2,10	92,0	39,0			13,42	HZE11/17
			64,0	55,0		49	1,67	113,0	49,0			16,77	HZE11/18
1,10	1,80	10,7	27,5	16,5	5,5	14	3,79	46,0	18,5	24,0	94,0	5,82	HZE11/21
			29,7	18,7		16	3,32	50,8	21,1			6,59	HZE11/22
			33,0	22,0		19	2,80	58,0	25,0			7,75	HZE11/23
			38,5	27,5		24	2,21	70,1	31,6			9,69	HZE11/24
			44,0	33,0		29	1,83	82,2	38,2			11,63	HZE11/25
			49,5	38,5		34	1,56	94,3	44,8			13,57	HZE11/26
			55,0	44,0		39	1,36	106,4	51,4			15,51	HZE11/27
			66,0	55,0		49	1,08	130,6	64,6			19,38	HZE11/28



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Nerđajući čelik 1.4310

Napon, prečnik, dužine, broj namotaja							Krutost, dužina, hod, sile, masa						Broj artikla
t mm	a mm	D _e mm	L ₀ mm	L _K mm	L _H mm	n -	R N/mm	L _n mm	s _n mm	F ₀ N	F _n N	M g	
1,30	2,10	11,0	29,5	19,5	5,0	14	7,21	45,2	15,7	30,0	143,0	8,02	HZE13/01
			32,1	22,1		16	6,31	50,0	17,9			9,09	HZE13/02
			36,0	26,0		19	5,31	57,3	21,3			10,69	HZE13/03
			42,5	32,5		24	4,21	69,4	26,9			13,36	HZE13/04
			49,0	39,0		29	3,48	81,5	32,5			16,04	HZE13/05
			55,5	45,5		34	2,97	93,6	38,1			18,71	HZE13/06
			62,0	52,0		39	2,59	105,7	43,7			21,38	HZE13/07
			75,0	65,0		49	2,06	129,8	54,8			26,73	HZE13/08
1,30	2,10	12,0	30,8	20,8	5,0	14	5,24	50,8	20,0	25,0	130,0	9,00	HZE13/11
			32,1	22,1		16	4,58	55,0	22,9			10,00	HZE13/12
			36,0	26,0		19	3,86	63,2	27,2			12,00	HZE13/13
			42,5	32,5		24	3,06	76,9	34,4			15,00	HZE13/14
			49,0	39,0		29	2,53	90,5	41,5			18,00	HZE13/15
			55,5	45,5		34	2,16	104,2	48,7			21,00	HZE13/16
			62,0	52,0		39	1,88	117,8	55,8			24,00	HZE13/17
			75,0	65,0		49	1,50	145,1	70,1			30,00	HZE13/18
1,30	2,10	14,3	31,5	19,5	6,0	14	2,80	62,2	30,7	25,0	111,0	11,00	HZE13/21
			34,1	22,1		16	2,45	69,2	35,1			12,00	HZE13/22
			38,0	26,0		19	2,06	79,7	41,7			15,00	HZE13/23
			44,5	32,5		24	1,63	97,2	52,7			18,00	HZE13/24
			51,0	39,0		29	1,35	114,6	63,6			22,00	HZE13/25
			57,5	45,5		34	1,15	132,1	74,6			26,00	HZE13/26
			64,0	52,0		39	1,01	149,6	85,6			29,00	HZE13/27
			77,0	65,0		49	0,80	184,5	107,5			37,00	HZE13/28
1,40	2,25	12,5	32,0	21,0	5,5	14	6,29	52,7	20,7	30,0	160,0	11,00	HZE14/11
			34,8	23,8		16	5,50	58,4	23,6			12,00	HZE14/12
			39,0	28,0		19	4,63	67,1	28,1			14,00	HZE14/13
			46,0	35,0		24	3,67	81,5	35,5			18,00	HZE14/14
			53,0	42,0		29	3,03	95,8	42,8			21,00	HZE14/15
			60,0	49,0		34	2,59	110,2	50,2			25,00	HZE14/16
			67,0	56,0		39	2,26	124,6	57,6			28,00	HZE14/17
			81,0	70,0		49	1,80	153,4	72,4			36,00	HZE14/18
1,40	2,25	14,5	35,0	21,0	7,0	14	3,68	63,0	28,0	30,0	133,0	13,00	HZE14/21
			37,8	23,8		16	3,22	69,8	32,0			14,00	HZE14/22
			42,0	28,0		19	2,71	80,0	38,0			17,00	HZE14/23
			49,0	35,0		24	2,15	97,0	48,0			21,00	HZE14/24
			56,0	42,0		29	1,78	113,9	57,9			25,00	HZE14/25
			63,0	49,0		34	1,52	130,9	67,9			30,00	HZE14/26
			70,0	56,0		39	1,32	147,9	77,9			34,00	HZE14/27
			84,0	70,0		49	1,05	181,9	97,9			42,00	HZE14/28
1,60	2,55	14,5	37,0	24,0	6,5	14	6,65	58,8	21,8	35,0	180,0	16,00	HZE16/21
			40,2	27,2		16	5,82	65,1	24,9			18,00	HZE16/22
			45,0	32,0		19	4,90	74,6	29,6			21,00	HZE16/23
			53,0	40,0		24	3,88	90,4	37,4			27,00	HZE16/24
			61,0	48,0		29	3,21	106,1	45,1			32,00	HZE16/25
			69,0	56,0		34	2,74	121,9	52,9			38,00	HZE16/26
			77,0	64,0		39	2,39	137,7	60,7			43,00	HZE16/27
			93,0	80,0		49	1,90	169,3	76,3			54,00	HZE16/28
1,60	2,55	17,0	42,0	24,0	9,0	14	3,76	73,9	31,9	35,0	155,0	19,00	HZE16/31
			45,2	27,2		16	3,29	81,6	36,4			22,00	HZE16/32
			50,0	32,0		19	2,77	93,3	43,3			26,00	HZE16/33
			58,0	40,0		24	2,20	112,7	54,7			32,00	HZE16/34
			66,0	48,0		29	1,82	132,0	66,0			39,00	HZE16/35
			74,0	56,0		34	1,55	151,4	77,4			45,00	HZE16/36
			82,0	64,0		39	1,35	170,8	88,8			52,00	HZE16/37
			98,0	80,0		49	1,08	209,6	111,6			65,00	HZE16/38

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Napon, prečnik, dužine, broj namotaja							Krutost, dužina, hod, sile, masa						Broj artikla
t mm	a mm	D _e mm	L ₀ mm	L _K mm	L _H mm	n -	R N/mm	L _n mm	s _n mm	F ₀ N	F _n N	M g	
1,80	2,85	15,0	39,0	27,0	6,0	14	10,01	60,1	21,1	42,0	253,0	21,00	HZE18/11
			42,6	30,6		16	8,76	66,7	24,1			23,00	HZE18/12
			48,0	36,0		19	7,37	76,6	28,6			27,00	HZE18/13
			57,0	45,0		24	5,84	93,1	36,1			34,00	HZE18/14
			66,0	54,0		29	4,83	109,7	43,7			41,00	HZE18/15
			75,0	63,0		34	4,12	126,2	51,2			48,00	HZE18/16
			84,0	72,0		39	3,59	142,7	58,7			55,00	HZE18/17
			102,0	90,0		49	2,86	175,8	73,8			69,00	HZE18/18
1,80	2,85	17,0	41,0	27,0	7,0	14	6,34	69,4	28,4	42,0	222,0	24,00	HZE18/21
			44,6	30,6		16	5,54	77,1	32,5			27,00	HZE18/22
			50,0	36,0		19	4,67	88,6	38,6			32,00	HZE18/23
			59,0	45,0		24	3,70	107,7	48,7			40,00	HZE18/24
			68,0	54,0		29	3,06	126,8	58,8			48,00	HZE18/25
			77,0	63,0		34	2,61	146,0	69,0			56,00	HZE18/26
			95,0	81,0		44	2,02	184,3	89,3			72,00	HZE18/27
1,80	2,85	19,0	43,0	27,0	8,0	14	4,26	77,7	34,7	42,0	190,0	27,00	HZE18/31
			46,6	30,6		16	3,73	86,3	39,7			31,00	HZE18/32
			52,0	36,0		19	3,14	99,1	47,1			36,00	HZE18/33
			61,0	45,0		24	2,49	120,5	59,5			46,00	HZE18/34
			70,0	54,0		29	2,06	141,9	71,9			55,00	HZE18/35
			79,0	63,0		34	1,75	163,3	84,3			64,00	HZE18/36
			88,0	72,0		39	1,53	184,7	96,7			73,00	HZE18/37
			106,0	90,0		49	1,22	227,5	121,5			91,00	HZE18/38
2,00	3,20	17,0	44,0	30,0	7,0	14	10,63	68,0	24,0	55,0	310,0	29,00	HZE20/11
			48,0	34,0		16	9,30	75,4	27,4			33,00	HZE20/12
			54,0	40,0		19	7,83	86,6	32,6			39,00	HZE20/13
			64,0	50,0		24	6,20	105,1	41,1			49,00	HZE20/14
			74,0	60,0		29	5,13	123,7	49,7			58,00	HZE20/15
			84,0	70,0		34	4,38	142,2	58,2			68,00	HZE20/16
			94,0	80,0		39	3,82	160,8	66,8			78,00	HZE20/17
			114,0	100,0		49	3,04	197,9	83,9			97,00	HZE20/18
2,00	3,20	19,0	46,0	30,0	8,0	14	7,08	77,1	31,1	55,0	275,0	33,00	HZE20/21
			50,0	34,0		16	6,20	85,5	35,5			38,00	HZE20/22
			56,0	40,0		19	5,22	98,1	42,1			44,00	HZE20/23
			66,0	50,0		24	4,13	119,2	53,2			56,00	HZE20/24
			76,0	60,0		29	3,42	140,3	64,3			67,00	HZE20/25
			86,0	70,0		34	2,92	161,4	75,4			78,00	HZE20/26
			96,0	80,0		39	2,54	182,5	86,5			89,00	HZE20/27
			116,0	100,0		49	2,02	224,7	108,7			111,00	HZE20/28
2,00	3,20	22,0	50,0	30,0	10,0	14	4,20	92,3	42,3	55,0	233,0	40,00	HZE20/31
			54,0	34,0		16	3,68	102,4	48,4			45,00	HZE20/32
			60,0	40,0		19	3,10	117,4	57,4			53,00	HZE20/33
			70,0	50,0		24	2,45	142,6	72,6			66,00	HZE20/34
			80,0	60,0		29	2,03	167,7	87,7			79,00	HZE20/35
			90,0	70,0		34	1,73	192,8	102,8			93,00	HZE20/36
			100,0	80,0		39	1,51	217,9	117,9			106,00	HZE20/37
			120,0	100,0		49	1,20	268,2	148,2			132,00	HZE20/38



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Napon, prečnik, dužine, broj namotaja							Krutost, dužina, hod, sile, masa						Broj artikla
t mm	a mm	D _e mm	L ₀ mm	L _K mm	L _H mm	n -	R N/mm	L _n mm	s _n mm	F ₀ N	F _n N	M g	
2,20	3,50	19,0	49,0	33,0	8,0	14	10,86	74,8	25,8	70,0	350,0	39,00	HZE22/11
			53,4	37,4		16	9,50	82,9	29,5			45,00	HZE22/12
			60,0	44,0		19	8,00	95,0	35,0			53,00	HZE22/13
			71,0	55,0		24	6,34	115,2	44,2			66,00	HZE22/14
			82,0	66,0		29	5,24	135,4	53,4			79,00	HZE22/15
			93,0	77,0		34	4,47	155,6	62,6			92,00	HZE22/16
			104,0	88,0		39	3,90	175,8	71,8			105,00	HZE22/17
			126,0	110,0		49	3,10	216,2	90,2			131,00	HZE22/18
2,20	3,50	21,0	51,0	33,0	9,0	14	7,55	84,1	33,1	70,0	320,0	44,00	HZE22/21
			55,4	37,4		16	6,60	93,3	37,9			50,00	HZE22/22
			62,0	44,0		19	5,56	107,0	45,0			59,00	HZE22/23
			73,0	55,0		24	4,40	129,8	56,8			74,00	HZE22/24
			84,0	66,0		29	3,64	152,6	68,6			89,00	HZE22/25
			95,0	77,0		34	3,11	175,5	80,5			104,00	HZE22/26
			106,0	88,0		39	2,71	198,3	92,3			119,00	HZE22/27
			128,0	110,0		49	2,16	243,9	115,9			148,00	HZE22/28
2,20	3,50	24,0	55,0	33,0	11,0	14	4,69	97,6	42,6	70,0	270,0	52,00	HZE22/31
			59,4	37,4		16	4,11	108,1	48,7			59,00	HZE22/32
			66,0	44,0		19	3,46	123,8	57,8			69,00	HZE22/33
			77,0	55,0		24	2,74	150,0	73,0			87,00	HZE22/34
			88,0	66,0		29	2,27	176,2	88,2			104,00	HZE22/35
			99,0	77,0		34	1,93	202,5	103,5			122,00	HZE22/36
			110,0	88,0		39	1,69	228,7	118,7			139,00	HZE22/37
			132,0	110,0		49	1,34	281,1	149,1			174,00	HZE22/38
2,50	4,00	21,0	54,5	37,5	8,5	14	13,88	80,4	25,9	100,0	460,0	56,00	HZE25/21
			59,5	42,5		16	12,15	89,1	29,6			64,00	HZE25/22
			67,0	50,0		19	10,23	102,2	35,2			75,00	HZE25/23
			79,5	62,5		24	8,10	123,9	44,4			94,00	HZE25/24
			92,0	75,0		29	6,70	145,7	53,7			112,00	HZE25/25
			104,5	87,5		34	5,72	167,5	63,0			131,00	HZE25/26
			117,0	100,0		39	4,98	189,2	72,2			150,00	HZE25/27
			142,0	125,0		49	3,97	232,7	90,7			187,00	HZE25/28
2,50	4,00	23,00	57,5	37,5	10,0	14	9,95	89,7	32,2	100,0	420,0	63,00	HZE25/31
			65,0	45,0		17	8,19	104,1	39,1			75,00	HZE25/32
			75,0	55,0		21	6,63	123,3	48,3			92,00	HZE25/33
			85,0	65,0		25	5,57	142,5	57,5			109,00	HZE25/34
			95,0	75,0		29	4,80	161,7	66,7			125,00	HZE25/35
			110,0	90,0		35	3,98	190,4	80,4			150,00	HZE25/36
			125,0	105,0		41	3,40	219,2	94,2			176,00	HZE25/37
			145,0	125,0		49	2,84	257,6	112,6			209,00	HZE25/38
2,50	4,00	26,0	61,5	37,5	12,0	14	6,41	104,7	43,2	100,0	377,0	73,00	HZE25/41
			66,5	42,5		16	5,61	115,9	49,4			82,00	HZE25/42
			74,0	50,0		19	4,72	132,7	58,7			97,00	HZE25/43
			86,5	62,5		24	3,74	160,6	74,1			121,00	HZE25/44
			99,0	75,0		29	3,09	188,6	89,6			145,00	HZE25/45
			111,5	87,5		34	2,64	216,5	105,0			169,00	HZE25/46
			124,0	100,0		39	2,30	244,5	120,5			194,00	HZE25/47
			149,0	125,0		49	1,83	300,3	151,3			242,00	HZE25/48

Vučne opruge od ovalne žice

HENNLICH d.o.o. Beograd

Nerđajući čelik 1.4310													
Napon, prečnik, dužine, broj namotaja							Krutost, dužina, hod, sile, masa						
t mm	a mm	D _e mm	L ₀ mm	L _K mm	L _H mm	n -	R N/mm	L _n mm	s _n mm	F ₀ N	F _n N	M g	Broj artikla
2,80	4,50	23,0	62,0	42,0	10,0	14	17,10	88,0	26,0	130,0	580,0	77,00	HZE28/21
			67,6	47,6		16	14,97	98,0	30,0			87,00	HZE28/22
			76,0	56,0		19	12,60	112,0	36,0			103,00	HZE28/23
			90,0	70,0		24	9,98	135,0	45,0			128,00	HZE28/24
			104,0	84,0		29	8,26	158,0	54,0			154,00	HZE28/25
			118,0	98,0		34	7,04	182,0	64,0			179,00	HZE28/26
			132,0	112,0		39	6,14	205,0	73,0			205,00	HZE28/27
2,80	4,50	26,0	160,0	140,0		49	4,89	252,0	92,0			256,00	HZE28/28
			66,0	42,0	12,0	14	10,90	100,0	34,0	130,0	500,0	89,00	HZE28/31
			71,6	47,6		16	9,53	110,0	39,0			101,00	HZE28/32
			80,0	56,0		19	8,03	126,0	46,0			119,00	HZE28/33
			94,0	70,0		24	6,36	152,0	58,0			149,00	HZE28/34
			108,0	84,0		29	5,26	178,0	70,0			179,00	HZE28/35
			122,0	98,0		34	4,49	204,0	82,0			209,00	HZE28/36
2,80	4,50	29,0	136,0	112,0		39	3,91	231,0	95,0			238,00	HZE28/37
			164,0	140,0		49	3,11	283,0	119,0			298,00	HZE28/38
			68,0	42,0	13,0	14	7,36	109,0	41,0	130,0	430,0	102,00	HZE28/41
			73,6	47,6		16	6,44	120,0	47,0			115,00	HZE28/42
			82,0	56,0		19	5,43	137,0	55,0			136,00	HZE28/43
			96,0	70,0		24	4,30	166,0	70,0			170,00	HZE28/44
			110,0	84,0		29	3,56	194,0	84,0			204,00	HZE28/45
3,20	5,10	25,0	124,0	98,0		34	3,03	223,0	99,0			238,00	HZE28/46
			138,0	112,0		39	2,64	251,0	113,0			272,00	HZE28/47
			166,0	140,0		49	2,10	309,0	143,0			340,00	HZE28/48
			68,0	48,0	10,0	14	23,05	94,0	26,0	170,0	770,0	107,00	HZE32/11
			74,4	54,4		16	20,17	104,0	30,0			121,00	HZE32/12
			84,0	64,0		19	16,99	119,0	35,0			143,00	HZE32/13
			100,0	80,0		24	13,45	145,0	45,0			179,00	HZE32/14
3,20	5,10	28,0	116,0	96,0		29	11,13	170,0	54,0			214,00	HZE32/15
			132,0	112,0		34	9,49	195,0	63,0			250,00	HZE32/16
			148,0	128,0		39	8,28	220,0	72,0			286,00	HZE32/17
			180,0	160,0		49	6,59	271,0	91,0			357,00	HZE32/18
			74,0	48,0	13,0	14	15,13	109,0	35,0	170,0	700,0	123,00	HZE32/21
			80,4	54,4		16	13,24	120,0	40,0			140,00	HZE32/22
			90,0	64,0		19	11,15	138,0	48,0			164,00	HZE32/23
3,20	5,10	28,0	106,0	80,0		24	8,83	166,0	60,0			206,00	HZE32/24
			122,0	96,0		29	7,30	195,0	73,0			247,00	HZE32/25
			138,0	112,0		34	6,23	223,0	85,0			288,00	HZE32/26
			154,0	128,0		39	5,43	252,0	98,0			329,00	HZE32/27
			186,0	160,0		49	4,32	309,0	123,0			411,00	HZE32/28



Vučne opruge od ovalne žice

HENNLICH d.o.o. Beograd

Nerđajući čelik 1.4310													
Napon, prečnik, dužine, broj namotaja							Krutost, dužina, hod, sile, masa						
t mm	a mm	D _e mm	L ₀ mm	L _K mm	L _H mm	n -	R N/mm	L _n mm	s _n mm	F ₀ N	F _n N	M g	Broj artikla
4,00	6,40	32,0	86,0	60,0	13,0	14	26,65	117,0	31,0	300,0	1130,0	216,00	HZE40/11
			94,0	68,0		16	23,32	130,0	36,0			245,00	HZE40/12
			106,0	80,0		19	19,63	148,0	42,0			288,00	HZE40/13
			126,0	100,0		24	15,54	179,0	53,0			360,00	HZE40/14
			146,0	120,0		29	12,86	211,0	65,0			433,00	HZE40/15
			166,0	140,0		34	10,97	242,0	76,0			505,00	HZE40/16
			186,0	160,0		39	9,57	273,0	87,0			577,00	HZE40/17
			226,0	200,0		49	7,61	335,0	109,0			721,00	HZE40/18
4,00	6,40	35,0	90,0	60,0	15,0	14	19,11	128,0	38,0	300,0	1020,0	242,00	HZE40/21
			98,0	68,0		16	16,72	141,0	43,0			277,00	HZE40/22
			110,0	80,0		19	14,08	161,0	51,0			322,00	HZE40/23
			130,0	100,0		24	11,15	195,0	65,0			403,00	HZE40/24
			150,0	120,0		29	9,23	228,0	78,0			483,00	HZE40/25
			170,0	140,0		34	7,87	262,0	92,0			564,00	HZE40/26
			190,0	160,0		39	6,86	295,0	105,0			644,00	HZE40/27
			230,0	200,0		49	5,46	362,0	132,0			805,00	HZE40/28
4,00	6,40	39,0	94,0	60,0	17,0	14	12,90	140,0	46,0	300,0	900,0	275,00	HZE40/31
			102,0	68,0		16	11,29	155,0	53,0			312,00	HZE40/32
			114,0	80,0		19	9,51	177,0	53,0			367,00	HZE40/33
			134,0	100,0		24	7,53	214,0	80,0			459,00	HZE40/34
			154,0	120,0		29	6,23	250,0	96,0			551,00	HZE40/35
			174,0	140,0		34	5,31	287,0	113,0			643,00	HZE40/36
			194,0	160,0		39	4,63	324,0	130,0			734,00	HZE40/37
			234,0	200,0		49	3,69	397,0	163,0			918,00	HZE40/38
4,00	6,40	41,0	420,0	380,0	20,0	94	1,61	799,0	379,0	270,0	880,0	1851,00	HZE40/40
			460,0	420,0		104	1,45	880,0	420,0			2046,00	HZE40/41
			500,0	460,0		114	1,33	960,0	460,0			2241,00	HZE40/42
			540,0	500,0		124	1,22	1041,0	501,0			2436,00	HZE40/43
			580,0	540,0		134	1,13	1121,0	541,0			2631,00	HZE40/44