



KROMAN ÇELİK SANAYİİ A.Ş.





YÜKSEK KALİTE DEVAMLILIK

DEVAMLILIK





İLERİ TEKNOLOJİ HEYETİN TESLİM

YÜKSEK KALİTE





KROMAN ÇELİK SANAYİ A.Ş.



Osmangazi Meykii Çayrova - GEBZE P.K. 24
Tel: (0262) 679 20 00 (PBX) Fax: (0262) 653 26 76
www.kromancelik.com.tr

YÜKSEK KALİTE, DEVAMLILIK STOK, İLERİ TEKNOLOJİ, HEMEN TESLİM...

Kroman Çelik Sanayii A.Ş. Demir Çelik yan mamul ve mamüllerini üretmek ve ticaretini yapmak amaçlı ile 25 Haziran 1988 tarihinde kurulmuştur.

Ekim 1985 tarihinde **Yücel Boru Şirketler Grubu**'nun yönetimine geçen **Kroman Çelik Sanayii A.Ş.** Gebze Demirçay mevkinde 300.000 m² toplam arazi üzerine 100.000 m²'lik kapalı tesislerde üretimini sürdürmektedir.

Kroman Çelik Sanayii A.Ş. 90 MVA gücünde 100 ton kapasiteli DC elektrik ark ocağı, 15 MVA gücündeki 100 ton kapasiteli pota ocağı, Vakum Altında Gaz Göçürme (VD) tesisi ve ağırlık yolu sürekli döküm makinesi ile 100 x 100 ile 180 x 180 mm kesitli köşük üretimi yapmaktadırlar. Yıllık kapasitesi yaklaşık 1.100.000 tondur.

Kangal Haddihanesi tesislerinde 8 mm ile 50 mm arası nervürlü çubuklar, 10 mm ile 75 mm arası düz yuvarlak çubuklar, 5,5 mm ile 20 mm arası düz kangal, 8 mm ile 16 mm arası nervürlü kangal, 8 mm ile 50 mm arası spool ve 5 mm ile 32 mm arası düz nervürlü spool üretilmekte olup, yıllık kapasitesi yaklaşık 800.000 tondur.

Çubuk Haddihanesi tesislerinde 8 mm ile 32 mm arası düz ve nervürlü çubuklar üretilmektedir. Yıllık kapasite yaklaşık 450.000 tondur.

Profil Haddihanesi tesislerinde 80 - 180 NPU, 100 - 160 NP ve 90 - 120 mm eşkenar köşebenler üretilmekte olup, yıllık kapasite yaklaşık 150.000 tondur.

Genel Çelikhane ve genel Haddihanelerimizde üretimin her aşamasında modern alet ve metodlarla kimyasal ve mekanik testler yapılmakta ve böylece piyasaya sunulan mamüllerin TSE, DIN, ASTM, BS, EURONORM v.b. uluslararası standartlara uygunluğu sağlanmaktadır.

Kroman Çelik Sanayii A.Ş. güncel güne gelmekte olan kalite anlayışı ile yenye dönük teknolojik ve kalite yönümlü ile demir çelik sektörü içinde önemli bir yer almaktadır.

HIGH QUALITY INCESSANT STOCKS HIGH TECHNOLOGY FAST DELIVERY

Kroman Çelik Sanayii A.Ş. was founded on 25 June 1988, for the production and marketing of iron and steel products and semi-products.

Kroman Çelik Sanayii A.Ş. continues production with a 90 MVA DC electrical arc furnace with a capacity of 100 tons; a 15 MVA ladle furnace with a capacity of 100 tons, a vacuum degassing unit and six strand C.C.M. Billet size range is between 100 x 100 and 180 x 180 mm. The total annual capacity reaches approximately 1.100.000 tons.

Wire Rod mill produce 8 - 50 mm reinforce steel bars, 10 - 75 mm round steel bars, 5,5 - 20 mm wire rod, 8 - 16 mm deformed wire rod, 8 - 50 mm spool and 8 - 32 mm deformed spool. The total annual capacity is approximately 800.000 tons.

Bar mill plant produce 8 - 32 mm round and reinforced steel bars and have a capacity of approximately 450.000 tons per year.

Profile rolling mill produce 80 - 180 NPU, 100 - 160 NP and 90 - 120 mm equal angles and have an annual capacity of approximately 150.000 tons.

Both the steel mill and rolling mills are incessantly applied mechanical and chemical tests with modern instruments and methods at every stage of production, and there fore compliance of marketed products with international standards, such as TSE, DIN, ASTM, BS and EURONORM is provided.

Kroman Çelik Sanayii A.Ş. has already achieved high standards and a respectable position within the steel industry by uncessing technological and qualitative investments.



KROMAN ÇELİK SANAYİİ A.Ş.

MAMÛL RENK KODLARI

(COLOR CODES)

ST 37		SAE 1008		SAE 1080		16 MnCr 5	
ST 37-2 (S235JR)		SAE 1010		SAE 1090		31 CrV 3	
ST 42		SAE 1015		SAE 4140		41 Cr 4	
ST 44-2 (S275JR)		SAE 1018		SAE 5135		46 Si 7	
ST 50-2 (E295)		SAE 1020		SAE 5140		31 CrV 3	
ST 52-3U (S355JO)		SAE 1025		SAE 8620		55 Cr 3	
ST 60-2 (E335)		SAE 1030		SAE 9260		55 Si 7	
ST 70-2 (E360)		SAE 1035		SAE 9262		60 Si 7	
ST 80		SAE 1040		PULLUK		60 SiCr 7	
Cq 10		SAE 1045		MİVZER		60 SiMn 5	
Cq 15		SAE 1050					
Cq 35		SAE 1060					
Ck 45		SAE 1065					
		SAE 1070					

100

120

III-a

I-a

Kararlılık Bölgesinde Alınması Gereken Hatazı Marifit



KRONAN ÇELİK SANAYİ A.Ş.





KROMAN ÇELİK SANAYİİ A.Ş.



DÜZ YUVARLAK KANGAL

TS BS ASTM AFNOR ELOT DIN

Anma Çapı (D) (mm)	Çevre Uzunluğu (L) (mm)	Kesit Alanı (F) (mm ²)	Anma Kütlesi (G) (Kg/m)
6,5	17,27	23,7	0,186
8	18,84	28,3	0,222
8	25,12	50,2	0,304
10	31,40	78,5	0,616
12	37,88	113,0	0,887
14	43,98	153,9	1,208
16	50,24	201,0	1,578
18	56,52	254,3	1,987
20	62,80	314,0	2,465



KROMAN ÇELİK SANAYİ A.Ş.



WIRE ROD (WR)

TS BS ASTM AFNOR ELOT DIN

Diameter (D) (mm)	Circular Length (L) (mm)	Gross Section Area (F) (mm ²)	Theoretical Weight (G) (Kg/m)
5.5	17.27	23.7	0.186
6	18.84	28.3	0.222
8	25.12	50.2	0.394
10	31.40	78.5	0.616
12	37.68	113.0	0.887
14	43.96	150.9	1.208
16	50.24	201.0	1.578
18	56.52	254.3	1.987
20	62.80	314.0	2.465



KROMAN ÇELİK SANAYİ A.Ş.



DÜZ YUVARLAK MAKARA

TS BS ASTM AFNOR ELOT DIN

Anne Çapı (D) (mm)	Çevre Uzunluğu (U) (mm)	Kesit Alanı (F) (mm ²)	Anne Kütlesi (G) (Kg/m)
8	25,12	50,2	0,294
10	31,40	78,5	0,616
12	37,68	113,0	0,887
14	43,96	153,9	1,208
16	50,24	201,0	1,578
18	56,52	254,3	1,997
20	62,80	314,0	2,465
22	69,08	379,9	2,883
24	75,36	452,2	3,549
25	78,50	490,8	3,851
26	81,64	530,7	4,166
28	87,92	615,4	4,831
30	94,20	706,5	5,548
32	100,50	803,8	6,310
36	113,04	1,017,4	7,986
40	125,60	1,256,0	9,860
50	157,00	1,962,5	15,406



KROMAN ÇELİK SANAYİİ A.Ş.



SPOOL (RB)

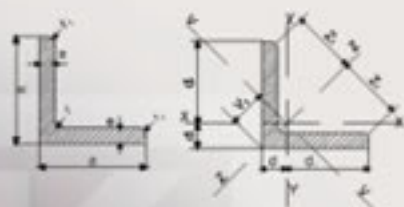
TS BS ASTM AFNOR ELOT DIN

Diameter (D) (mm)	Coiler Length (L) (mm)	Cross Section Area (F) (mm ²)	Theoretical Weight (G) (Kg/m)
8	25,12	50,2	0,394
10	31,40	78,5	0,616
12	37,68	113,0	0,887
14	43,96	153,9	1,200
16	50,24	201,0	1,578
18	56,52	254,3	1,997
20	62,80	314,0	2,465
22	69,08	379,9	2,983
24	75,36	452,2	3,549
25	76,50	490,8	3,851
28	81,64	530,7	4,166
28	87,82	615,4	4,831
30	94,20	706,5	5,546
52	4850	900,8	6,910
38	113,04	1,017,4	7,986
40	125,60	1,256,0	9,860
50	157,00	1,962,5	15,405



KROMAN ÇELİK SANAYİ A.Ş.

EŞKENAR ÇELİK KÖŞEBENTLER



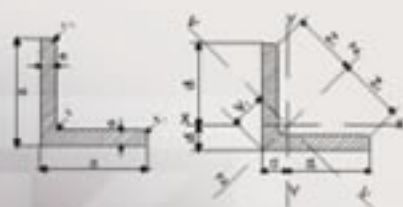
TS, DIN, EN, ASTM

Kısa İsimsiz L	boyutlar						açıklık noktasına aralık			Toplam yüzey alanı S cm ² /in ²	Açıklık alanı F cm ²	Ağırlık G kg/m
	mm	tolerans mm	e kaldırığı mm	tolerans mm	r mm	r ₁ mm	s mm	L mm	B mm			
50x50	50	±0	2	+0.75	11	5.5	2.21	6.30	3.40	0.381	10.2	8.30
			2				2.30		3.53		12.2	10.9
			3				2.04		3.18		15.2	12.2
			10	+1.00			2.58		3.45		17.1	12.4
			11				2.62		3.70		12.7	14.7
			12				2.68		3.74		20.3	15.9
			12				2.70		3.81		21.8	17.1
16	2.81	3.87	25.1	20.7								
100x100	100	±0	2	+0.75	12	6	2.67	7.07	3.77	0.390	12.7	8.20
			2				2.74		3.87		15.2	12.2
			10				2.82		3.89		15.2	15.0
			12	+1			2.90		4.11		22.7	17.8
			14				2.98		4.21		25.2	20.6
			12				3.02		4.27		27.5	21.9
			16				3.08		4.32		29.6	23.2
20	+1.20	3.28	5.33	28.2	25.4							
110x110	110	±0	10	+0.75	12	6	3.07	7.79	4.54	0.430	21.2	15.6
			12	+1			3.15		4.45		25.1	18.7
			14				3.21		4.54		29.0	22.8
100x100	100	±0	2	+0.75	13	6.5	2.23	8.49	4.58	0.468	12.7	14.7
			10				3.31		4.69		23.2	12.2
			11				3.38		4.75		25.4	15.9
			12	+1			3.40		4.80		27.5	21.6
			13				3.44		4.86		29.7	23.3
			15				3.51		4.87		33.9	26.6



KROMAN ÇELİK SANAYİ A.Ş.

EQUAL ANGLES



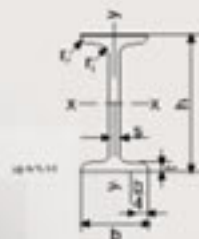
TS, DIN, EN, ASTM

Short Mark L	dimensions						between center of mass			Total surface area S cm ²	Section area F cm ²	Weight G kg/m
	mm	tolerance mm	thickness mm	tolerance mm	r mm	r ₁ mm	e mm	r ₂ mm	r ₃ mm			
										B	F	G
90x90	90	±0	8	±0.75	11	8.5	8.28		3.60	0.281	10.8	8.20
			9								12.8	10.8
			10								15.8	12.2
			11	±1.00							17.1	13.4
			12								18.7	14.7
			13								20.2	15.8
			14	21.8							17.1	
16	24.4	20.7										
100x100	100	±0	8.8	±0.75	12	8	7.07		3.77	0.280	12.7	8.20
			9								15.8	12.2
			10								18.2	13.0
			12	±1							22.7	17.8
			14								26.2	20.8
			15								27.8	21.8
			16	±1.20							29.8	23.2
20	36.2	28.4										
110x110	110	±0	10	±0.75	12	8	7.70		4.94	0.430	21.2	16.8
			12								25.1	18.7
			14								28.0	22.8
125x125	125	±0	8	±0.75	12	4.5	8.48		4.58	0.489	18.7	14.7
			10								22.2	16.2
			11								25.4	18.8
			12	±1							27.8	21.8
			13								29.7	23.3
			15								33.8	26.8



KROMAN ÇELİK SANAYİİ A.Ş.

I PROFİLLERİ (DAR) İP



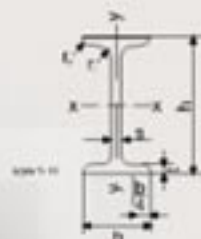
TS, DIN EN, ASTM

Kısa İsaret I	boyutlar							Kısa Alan F cm ²	Ağırlık G kg/m	Tegülün yüzey alanı S m ² /m	
	h	t	b	t	r ₁	r ₂	t				
100	100	80	4.5	6.8	+1.5/-0.8	4.5	2.7	10.6	6.34	0.270	
120	120	80	5.1	7.7		5.1	3.1	14.0	11.1	0.438	
140	140	+2.0	5.7	8.8	+1.2	-0.3/-1.0	3.7	3.4	18.2	14.3	0.500
160	160	74	6.3	9.5			4.3	3.8	22.8	17.8	0.678



KROMAN ÇELİK SANAYİİ A.Ş.

I PROFİLLER (NARROW) IP



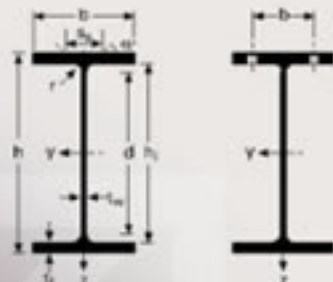
TS, DIN EN, ASTM

Short Metre I	dimensions								Flaccion area F cm ²	Weight G kg/m	Total surface area S m ² /m
	tolerance	tolerance	tolerance	tolerance	r ₁	r ₂					
100	100	20	4.5	6.8	-1.5/+0.5	4.5	2.7	10.6	6.24	0.270	
120	120	22	2.1	7.7		6.1	3.1	14.2	11.1	0.428	
140	140	26	2.7	8.8	-0.5/+1.0		3.4	18.2	14.2	0.502	
160	160	24	2.2	8.5		6.2	3.8	22.8	17.8	0.673	



KRONAN ÇELİK SANAYİİ A.Ş.

İPE PROFİLLERİ (Ekonomik)



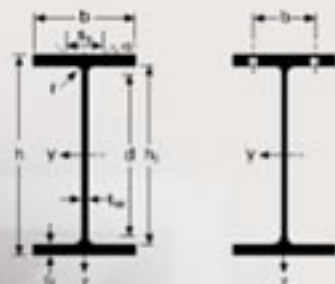
TS, DIN EN, ASTM

Boyut	Ebat						Montaj Ölçüsü						Yüzey	
	G kg/m	h mm	b mm	t _f mm	t _w mm	r mm	A cm ²	h ₁ mm	d mm	Ø	Pirinç mm	Pirinç mm	A _z m ² /m	A _y m ² /m
100	8.1	100	55	4.1	5.7	7	10.32	86.6	74.6	-	-	-	0.400	43.33
120	10.4	120	64	4.4	6.3	7	13.21	107.4	93.4	-	-	-	0.475	45.89
140	12.9	140	73	4.7	6.9	7	16.43	126.2	112.2	-	-	-	0.551	42.70
160	15.8	160	82	5	7.4	8	20.09	145.2	127.2	-	-	-	0.623	39.47
180	18.8	180	91	5.3	8	9	23.95	164	148	M10	48	48	0.698	37.13
200	22.4	200	100	5.6	8.5	12	28.48	183	159	M10	54	58	0.768	34.36
220	26.2	220	110	5.9	9.2	12	33.37	201.6	177.6	M12	60	62	0.848	32.36
240	30.7	240	120	6.2	9.8	15	39.12	220.4	190.4	M12	66	66	0.927	30.02
270	36.1	270	135	6.6	10.2	15	45.95	249.6	218.6	M16	72	72	1.041	28.66
300	42.2	300	150	7.1	10.7	15	53.81	279.6	248.6	M18	72	86	1.180	27.46
330	49.1	330	160	7.5	11.5	18	62.81	307	271	M18	78	96	1.254	25.59
360	57.1	360	170	8	12.7	18	72.73	334.6	298.6	M22	88	98	1.353	23.70
400	66.3	400	180	8.6	13.5	21	84.46	373	331	M22	96	98	1.467	22.12
450	77.6	450	190	9.4	14.6	21	98.82	420.6	378.6	M24	100	102	1.605	20.69
500	90.7	500	200	10.2	16	21	115.5	468	426	M24	102	112	1.744	19.23
550	106	550	210	11.1	17.2	24	134.4	515.6	467.6	M24	110	122	1.877	17.78
600	122	600	220	12	19	24	156.0	562	514	M27	118	118	2.015	16.45
750x147	173	753	265	13.2	17	17	187.5	719	685	M27	104	164	2.510	17.06



KROMAN ÇELİK SANAYİİ A.Ş.

IPE PROFILES (Economic)



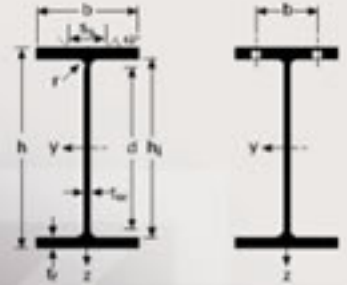
TS, DIN EN, ASTM

Designation	Dimensions							Construction Dimensions					Surface	
	G kg/m	h mm	b mm	t _{fl} mm	t _w mm	r mm	A _{cal} cm ²	h ₁ mm	d ₁ mm	Ø	Pin mm	Pin ₂ mm	A _s m ² /m	A _p m ² /A
100	8.1	100	55	4.1	5.7	7	10.32	88.8	74.8	-	-	-	0.400	48.33
120	10.4	120	64	4.4	6.3	7	13.21	107.4	93.4	-	-	-	0.475	45.80
140	12.9	140	73	4.7	6.9	7	16.43	126.2	112.2	-	-	-	0.551	42.70
160	15.8	160	82	5	7.4	8	20.08	145.2	127.2	-	-	-	0.623	39.47
180	18.5	180	91	5.3	8	9	23.95	164	146	M10	48	48	0.698	37.13
200	22.4	200	100	5.6	8.5	12	28.48	183	159	M10	54	58	0.768	34.38
220	26.2	220	110	5.9	9.2	12	33.37	201.8	177.8	M12	60	62	0.848	32.38
240	30.7	240	120	6.2	9.8	18	39.12	220.4	193.4	M12	66	68	0.922	30.02
270	38.1	270	135	6.6	10.2	15	45.95	248.6	213.6	M16	72	72	1.041	28.08
300	46.2	300	150	7.1	10.7	16	53.81	276.6	248.6	M16	72	68	1.160	27.48
330	49.1	330	160	7.5	11.5	18	62.61	307	271	M16	78	96	1.254	25.52
360	57.1	360	170	8	12.7	18	72.73	334.8	296.8	M20	88	88	1.353	23.70
400	66.3	400	180	8.6	13.5	21	84.48	373	331	M22	96	98	1.467	22.12
450	77.6	450	190	9.4	14.6	21	98.82	420.8	379.8	M24	100	100	1.605	20.89
500	90.7	500	200	10.2	16	21	115.5	468	428	M24	102	112	1.744	19.23
550	108	550	210	11.1	17.2	24	134.4	515.6	467.6	M24	110	122	1.877	17.78
600	122	600	220	12	18	24	156.0	562	514	M27	116	116	2.018	16.48
750x147	173	750	265	13.2	17	17	187.5	718	635	M27	104	164	2.510	17.06



KROMAN ÇELİK SANAYİ A.Ş.

HPE PROFİLLERİ (geniş kenarlar)

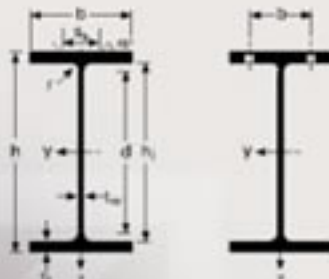


TS, DIN

Boyut	Ebat						Montaj Ölçüsü						Yüzey	
	G kg/m	h mm	b mm	t _f mm	t _w mm	r mm	A _{net} cm ²	h _{net} mm	d mm	Ø	Prin mm	Prin mm	A _z m ² /m	A _y m ² /m
100 A	18.7	98	100	5	8	12	21.24	80	58	M10	54	58	0.561	33.68
100 B	20.4	100	100	6	10	12	26.04	80	56	M10	56	58	0.567	27.76
120 A	19.9	114	120	5	8	12	25.34	98	74	M12	58	68	0.877	34.06
120 B	26.7	120	120	6.5	11	12	34.01	88	74	M12	60	68	0.686	25.71
140 A	24.7	133	140	5.5	8.5	12	31.42	118	92	M16	64	76	0.794	32.21
140 B	33.7	140	140	7	12	12	42.96	116	82	M16	66	76	0.805	23.88
160 A	30.4	152	160	8	9	15	38.77	134	104	M20	78	84	0.908	29.78
160 B	42.6	160	160	8	13	15	54.25	134	104	M20	80	84	0.918	21.58
180 A	35.5	171	180	6	9.5	15	45.25	152	122	M24	86	92	1.024	28.83
180 B	51.2	180	180	8.5	14	15	65.25	152	122	M24	88	92	1.037	20.25
200 A	42.3	190	200	6.5	10	18	53.83	170	134	M27	98	100	1.138	26.89
200 B	61.3	200	200	8	15	18	78.08	170	134	M27	100	100	1.151	18.78
220 A	50.5	210	220	7	11	18	64.34	188	152	M27	98	118	1.255	24.85
220 B	71.5	220	220	8.5	16	18	91.04	188	152	M27	100	118	1.270	17.77
240 A	60.3	230	240	7.5	12	21	76.84	206	164	M27	104	138	1.369	22.70
240 B	83.2	240	240	10	17	21	106.0	206	164	M27	108	138	1.384	16.63
260 A	88.2	250	260	7.5	12.5	24	86.82	225	177	M27	110	158	1.484	21.77
260 B	93.0	260	260	10	17.5	24	118.4	225	177	M27	114	158	1.489	16.12
280 A	76.4	270	280	8	13	24	97.26	244	198	M27	112	178	1.603	20.99
280 B	103	280	280	10.5	18	24	131.4	244	198	M27	114	178	1.618	15.69
300 A	88.3	280	300	8.5	14	27	112.5	262	208	M27	118	188	1.717	18.43
300 B	117	300	300	11	19	27	149.1	262	208	M27	120	188	1.732	14.80
320 A	97.6	310	300	9	15.5	27	124.4	279	225	M27	118	188	1.756	17.98
320 B	127	320	300	11.5	20.5	27	161.3	279	225	M27	122	188	1.771	13.98
340 A	105	330	300	9.5	16.5	27	133.5	297	243	M27	118	188	1.785	17.13
340 B	134	340	300	12	21.5	27	170.9	297	243	M27	122	188	1.810	13.48
360 A	112	350	300	10	17.5	27	142.8	315	261	M27	120	188	1.834	16.36
360 B	142	360	300	12.5	22.5	27	180.6	315	261	M27	122	188	1.849	13.04
400 A	125	380	300	11	19	27	158.0	352	288	M27	120	188	1.912	15.32
400 B	195	400	300	13.5	24	27	197.8	352	288	M27	124	188	1.927	12.41
450 A	140	440	300	11.5	21	27	178.0	398	344	M27	122	188	2.011	14.38
450 B	171	450	300	14	26	27	218.0	398	344	M27	124	188	2.026	11.84
500 A	155	480	300	12	23	27	197.5	444	380	M27	122	188	2.110	13.60
500 B	187	500	300	14.5	28	27	238.6	444	390	M27	124	188	2.125	11.34
550 A	166	540	300	12.5	24	27	211.8	492	438	M27	122	188	2.208	13.28
550 B	199	550	300	15	29	27	254.1	492	438	M27	124	188	2.224	11.15



KRONAN ÇELİK SANAYİ A.Ş.



HPE PROFILES (wide flanges)

TS, DIN

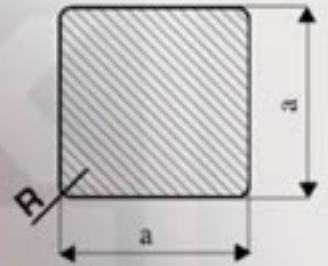
Designation	Dimensions						Construction Dimensions						Surface	
	G kg/m	h mm	b mm	t _p mm	t _w mm	r mm	A cm ²	h ₀ mm	d mm	Ø	P _{max} mm	P _{min} mm	A _s m ² /m	A _o m ² /m
100 A	18.7	98	100	5	8	12	21.24	80	58	M10	54	58	0.581	33.88
100 B	20.4	100	100	6	10	12	26.04	80	56	M10	56	58	0.567	27.76
120 A	19.9	114	120	5	8	12	25.34	98	74	M12	58	68	0.877	34.06
120 B	26.7	120	120	6.5	11	12	34.01	98	74	M12	60	68	0.686	25.71
140 A	24.7	133	140	5.5	8.5	12	31.42	118	92	M16	64	78	0.794	32.21
140 B	33.7	140	140	7	12	12	42.86	116	82	M16	66	76	0.805	23.88
160 A	30.4	152	160	8	9	15	38.77	134	104	M20	78	84	0.908	29.78
160 B	42.8	160	160	8	13	15	54.25	134	104	M20	80	84	0.818	21.56
180 A	35.5	171	180	8	9.5	15	45.25	152	122	M24	88	92	1.024	28.83
180 B	51.2	180	180	8.5	14	15	65.25	152	122	M24	88	92	1.037	20.25
200 A	42.3	190	200	6.5	10	18	53.83	170	134	M27	98	100	1.136	26.89
200 B	61.3	200	200	9	15	18	78.08	170	134	M27	100	100	1.151	18.78
220 A	50.5	210	220	7	11	18	64.34	188	152	M27	98	118	1.255	24.85
220 B	71.5	220	220	8.5	16	18	91.04	188	152	M27	100	118	1.270	17.77
240 A	60.3	230	240	7.5	12	21	76.84	206	164	M27	104	138	1.389	22.70
240 B	83.2	240	240	10	17	21	106.0	206	164	M27	108	138	1.394	16.63
260 A	68.2	250	260	7.5	12.5	24	86.82	225	177	M27	110	158	1.484	21.77
260 B	93.0	260	260	10	17.5	24	118.4	225	177	M27	114	158	1.489	16.12
280 A	78.4	270	280	8	13	24	97.26	244	198	M27	112	178	1.603	20.99
280 B	103	280	280	10.5	18	24	131.4	244	198	M27	114	178	1.616	15.69
300 A	88.3	280	300	8.5	14	27	112.5	262	208	M27	118	188	1.717	18.43
300 B	117	300	300	11	19	27	148.1	262	208	M27	120	188	1.732	14.80
320 A	87.8	310	300	9	15.5	27	124.4	279	225	M27	118	188	1.756	17.98
320 B	127	320	300	11.5	20.5	27	161.3	279	225	M27	122	188	1.771	13.98
340 A	105	330	300	8.5	16.5	27	133.5	297	243	M27	118	198	1.795	17.13
340 B	134	340	300	12	21.5	27	170.8	297	243	M27	122	198	1.810	13.49
360 A	112	350	300	10	17.5	27	142.8	315	261	M27	120	198	1.834	16.36
360 B	142	360	300	12.5	22.5	27	180.8	315	261	M27	122	198	1.849	13.04
400 A	125	390	300	11	19	27	158.0	352	298	M27	120	198	1.812	15.32
400 B	155	400	300	13.5	24	27	197.8	352	298	M27	124	198	1.827	12.41
450 A	140	440	300	11.5	21	27	178.0	398	344	M27	122	198	2.011	14.39
450 B	171	450	300	14	26	27	218.0	398	344	M27	124	198	2.026	11.84
500 A	155	490	300	12	23	27	197.5	444	390	M27	122	198	2.110	13.60
500 B	187	500	300	14.5	28	27	238.6	444	390	M27	124	198	2.125	11.34
550 A	166	540	300	12.5	24	27	211.8	492	438	M27	122	198	2.208	13.28
550 B	199	550	300	15	29	27	254.1	492	438	M27	124	198	2.224	11.15



KROMAN ÇELİK SANAYİİ A.Ş.

KÜTÜKLER

TS, DIN ASTM, BS

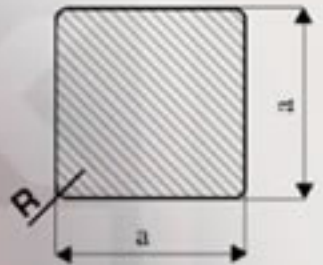


Anma Ölçüsü (mm)	Anma Ölçüsü Toleransı (mm)	Köşe Yuvarlaklığı (R) (mm) (En Çok)	Birim Uzunluk Kutlesi (Teorik) (kg/m)
100 x 100	+ 2.0	12	77.53
120 x 120	+ 2.0	12	112.70
130 x 130	+ 2.0	12	131.70
150 x 150	+ 2.0	12	176.60
160 x 160	+ 2.0	12	200.96
180 x 180	+ 2.0	12	254.34

Boy : 6000 mm - 14000 mm
Rombiklik : 10 mm [max]
Doğruluk : 10 mm/m [max]
Kesim : Oksijenle kesim
Burma : 1°/m [max]



KROMAN ÇELİK SANAYİ A.Ş.



BILLETS

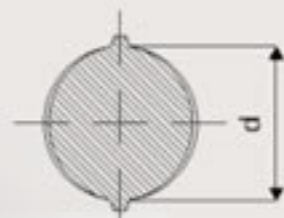
TS, DIN, ASTM, BS

Nominal Thickness (mm)	Nominal Thickness Tolerance (mm)	Corner Radius max. (°) (mm) (A Lot)	Theoretical weight (Ton/k) (kg/m)
100 x 100	± 2.0	12	77.53
120 x 120	± 2.0	12	112.70
130 x 130	± 2.0	12	131.70
150 x 150	± 2.0	12	176.60
160 x 160	± 2.0	12	200.96
180 x 180	± 2.0	12	254.34

Length : 6000 mm - 14000 mm
Rhomboidity : 10 mm (max)
Straightness : 10 mm/m (max)
Cut : Oxy torch
Twist : 1°/m (max)



KROMAN ÇELİK SANAYİİ A.Ş.



NERVÜRLÜ BETON ÇELİK ÇUBUKLAR

TS BS ASTM AFNOR ELOT DIN

Anena Çapı (D) [mm]	Çevre Uzunluğu (L) [mm]	Kesit Alanı (F) [mm ²]	Anena Kütlesi (G) [Kg/m]
8	25,10	50,2	0,304
10	31,40	78,5	0,616
12	37,70	113,0	0,667
14	44,00	153,9	1,208
16	50,30	201,0	1,578
18	56,50	254,3	1,997
20	62,80	314,0	2,465
22	69,10	379,9	2,983
24	75,40	452,2	3,548
25	78,50	490,8	3,951
26	81,70	530,7	4,186
28	87,90	615,4	4,831
30	94,20	706,5	5,548
32	100,50	803,8	6,310
36	113,04	1,017,4	7,988
40	125,80	1,256,0	9,880
50	157,00	1,962,5	15,406



KROMAN ÇELİK SANAYİİ A.Ş.



REINFORCE STEEL BARS

TS BS ASTM AFNOR ELOT DIN

Diameter (D) (mm)	Circular Length (L) (mm)	Cross Section Area (F) (mm ²)	Theoretical Weight (G) (Kg/m)
8	25,10	502	0,394
10	31,40	78,5	0,616
12	37,70	113,0	0,887
14	44,00	153,9	1,208
16	50,30	201,0	1,578
18	56,50	254,3	1,987
20	62,80	314,0	2,465
22	69,10	379,9	2,983
24	75,40	452,2	3,548
25	78,50	490,8	3,851
26	81,70	533,7	4,166
28	87,90	615,4	4,831
30	94,20	706,5	5,546
32	100,50	806,8	6,310
36	113,04	1,017,4	7,986
40	125,60	1,256,0	9,860
50	157,00	1,962,5	15,406



KROMAN ÇELİK SANAYİİ A.Ş.



NERVÜRLÜ KANGAL

TS BS ASTM AFNOR ELOT DIN

Anma Çapı (D) (mm)	Çevre Uzunluğu (L) (mm)	Keşit Alanı (F) (mm ²)	Anma Kütlesi (G) (Kg/m)
6	18,84	28,3	0,222
8	25,12	50,2	0,394
10	31,40	78,5	0,616
12	37,68	113,0	0,887
14	43,96	153,9	1,208
16	50,24	201,0	1,578



KROMAN ÇELİK SANAYİİ A.Ş.



DEFORMED WIRE ROD (DWR)

TS BS ASTM AFNOR ELOT DIN

Diameter (D) (mm)	Circular Length (L) (mm)	Cross Section Area (F) (mm ²)	Theoretical Weight (G) (Kg/m)
8	18,84	25,3	0,222
8	25,12	50,2	0,394
10	31,40	75,5	0,616
12	37,68	113,0	0,967
14	43,90	153,9	1,206
16	50,24	201,0	1,578



KROMAN ÇELİK SANAYİİ A.Ş.



NERVÜRLÜ MAKARA

TS BS ASTM AFNOR ELOT DIN

Anma Çapı [D] [mm]	Çevre Uzunluğu [L] [mm]	Kesit Alanı [F] [mm ²]	Anma Kütlesi [G] [Kg/m]
8	25,10	50,2	0,394
10	31,40	78,5	0,616
12	37,70	113,0	0,887
14	44,00	153,9	1,208
16	50,30	201,0	1,578
18	56,50	254,3	1,987
20	62,80	314,0	2,465
22	68,10	379,9	2,983
24	75,40	452,2	3,549
25	78,50	490,8	3,851
26	81,70	530,7	4,166
28	87,90	615,4	4,831
30	94,20	706,5	5,546
32	100,50	803,8	6,310



KROMAN ÇELİK SANAYİİ A.Ş.



SPOOL (DB)

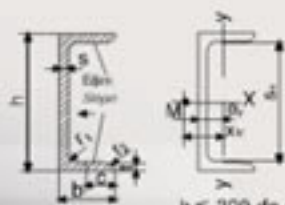
TS BS ASTM AFNOR ELOT DIN

Diameter (D) (mm)	Coupler Length (L) (mm)	Cross Section Area (F) (mm ²)	Theoretical Weight (G) (Kg/m)
8	25.10	502	0.394
10	31.40	78.5	0.616
12	37.70	113.0	0.887
14	44.00	153.9	1.208
16	50.30	201.0	1.578
18	56.50	254.3	1.987
20	62.80	314.0	2.405
22	69.10	379.9	2.983
24	75.40	452.2	3.548
25	78.50	483.8	3.851
26	81.70	530.7	4.166
28	87.90	615.4	4.831
30	94.20	706.5	5.546
32	100.50	803.8	6.310



KROMAN ÇELİK SANAYİİ A.Ş.

U PROFİLLERİ (YUVARLAK KÖŞELİ)



$h \leq 300$ de $c = \frac{b}{2}$
 $h > 300$ de $c = \frac{b \cdot S}{2}$

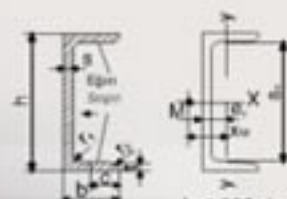
TS, DIN, EN, ASTM

Kısa İsaret U	boyutlar								Kesit alanı F cm ²	Ağırlık G kg/m	Fiyatlar yüzey alanı S m ² /m
	h	b	S	S ₁	S ₂	R	c	e			
80	80	45	8	8	8	4	11.0	8.64	0.218		
100	100	50	8	8.5	8.5	4.5	13.5	10.6	0.277		
120	120	±2.0 55	±1.5 7	±0.5 9	9	5	17.0	13.4	0.434		
140	140	60	7	10	10	5	20.4	16.0	0.489		
160	160	65	7.5	10.5	-1.0 10.5	5.5	24.0	18.8	0.548		



KROMAN ÇELİK SANAYİ A.Ş.

U PROFILES (ROUND CORNERS)



$h \leq 300$ de $c = \frac{b}{2}$
 ≤ 300 mm de %8
 > 300 mm de %5
 $h > 300$ de $c = \frac{b \cdot 3}{2}$

TS, DIN, EN, ASTM

Short Mark U	dimensions								Section area F cm ²	Weight G kg/m	Total surface S m ² /m
	h	b	t	S	S ₁	e	c	r			
80	80	45	8	8	8	4	4	11.0	8.84	0.319	
100	100	60	8	8.5	8.5	4.5	4.5	16.3	12.8	0.370	
100	120	±2.0 55	±1.2 7	±0.5 8	8	4.5	4.5	17.0	12.8	0.434	
140	140	60	7	8	10	5	5	20.4	16.0	0.488	
180	180	65	7.5	10.5	-1.0 10.5	5.5	5.5	24.0	18.8	0.548	



KROMAN ÇELİK SANAYİİ A.Ş.

YUVARLAK YÜZEYLİ ÇELİK ÇUBUKLAR



TS DIN, ASTM, AFNOR, EL0T

Anma Çapı (D) (mm)	Daire Uzunluğu (U) (cm ²)	Kesit Alanı (F) (cm ²)	Anma Kütlesi (G) (cm ²)
8	25,10	50,2	1,284
10	31,40	78,5	0,816
12	37,68	113,0	0,887
14	43,96	153,8	1,208
16	50,24	201,0	1,578
18	56,52	254,3	1,897
20	62,80	314,0	2,465
22	69,08	379,9	2,583
24	75,36	452,2	3,548
25	78,50	490,6	3,551
28	81,64	530,7	4,166
28	87,92	615,4	4,301
30	94,20	706,5	5,546
32	100,48	803,8	6,310
36	113,04	1,017,4	7,568
40	125,60	1,256,0	8,960
50	157,00	1,962,5	15,408
70	219,80	3,846,5	30,195
75	235,50	4,415,8	34,883

1) Anma çapları parantez içinde olan yuvarlak çelik çubuklar ancak zorunlu hallerde yapılmazdır.

2) Kesit alanı: $F = \frac{d^2 \pi}{4} = 0,785 d^2$



KROMAN ÇELİK SANAYİ A.Ş.

ROUND STEEL BARS

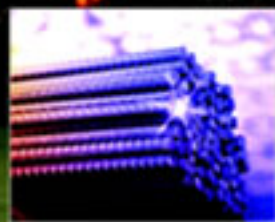
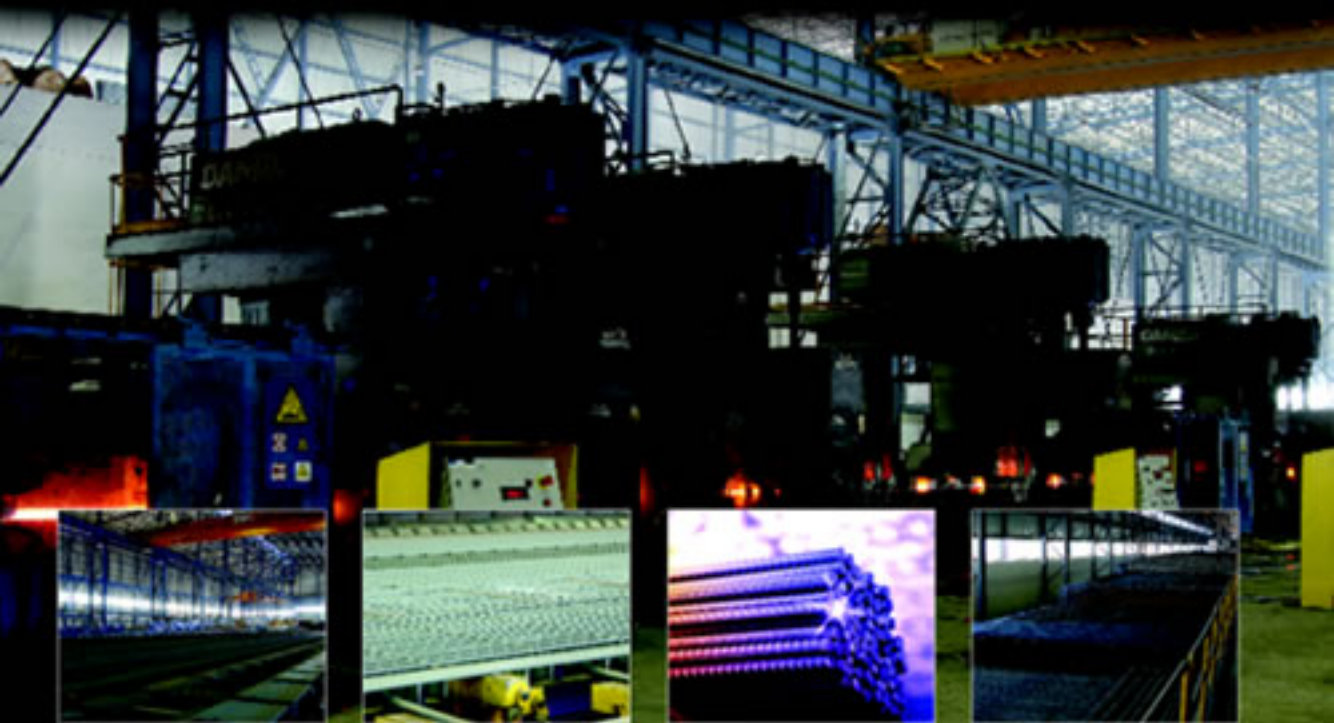
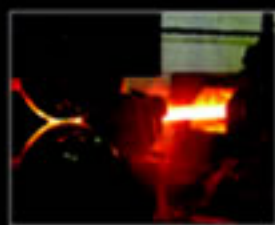


TS DIN, ASTM, AFNOR, ELOT

Diameter (D) (mm)	Circular Length (L) (mm)	Cross Section Area (F) (mm ²)	Nominal Mass (S) (Kg/ml)
8	25,10	50,2	0,264
10	31,40	78,5	0,416
12	37,68	113,0	0,587
14	43,96	153,9	0,803
16	50,24	201,0	1,078
18	56,52	254,3	1,397
20	62,80	314,0	1,765
22	69,08	379,9	2,183
24	75,36	452,2	2,649
25	78,50	490,8	2,851
28	81,64	603,7	3,468
28	87,88	615,4	3,331
30	94,20	706,5	3,948
32	100,48	803,8	4,310
36	113,04	1,017,4	5,588
40	125,60	1,256,0	6,980
50	157,00	1,962,5	10,406
70	219,80	3,846,5	20,195
75	235,50	4,415,6	23,883

1) Circular steel bars which their nominal diameters enclosed with parenthesis are made in case of necessity

2) Cross - section area $F = \frac{d^2 \pi}{4} = 0,785 d^2$





KROMAN ÇELİK SANAYİİ A.Ş.