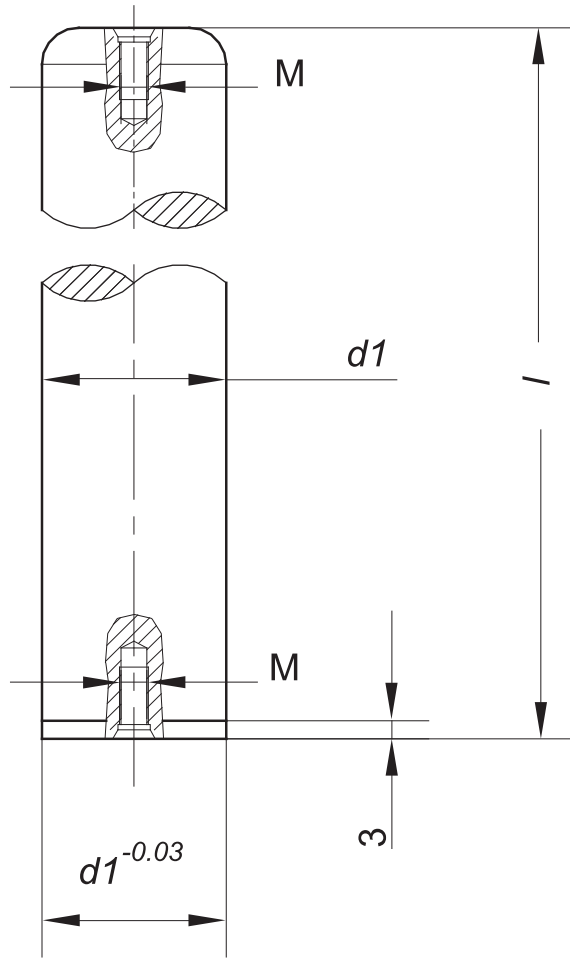


kalipyansan[®]







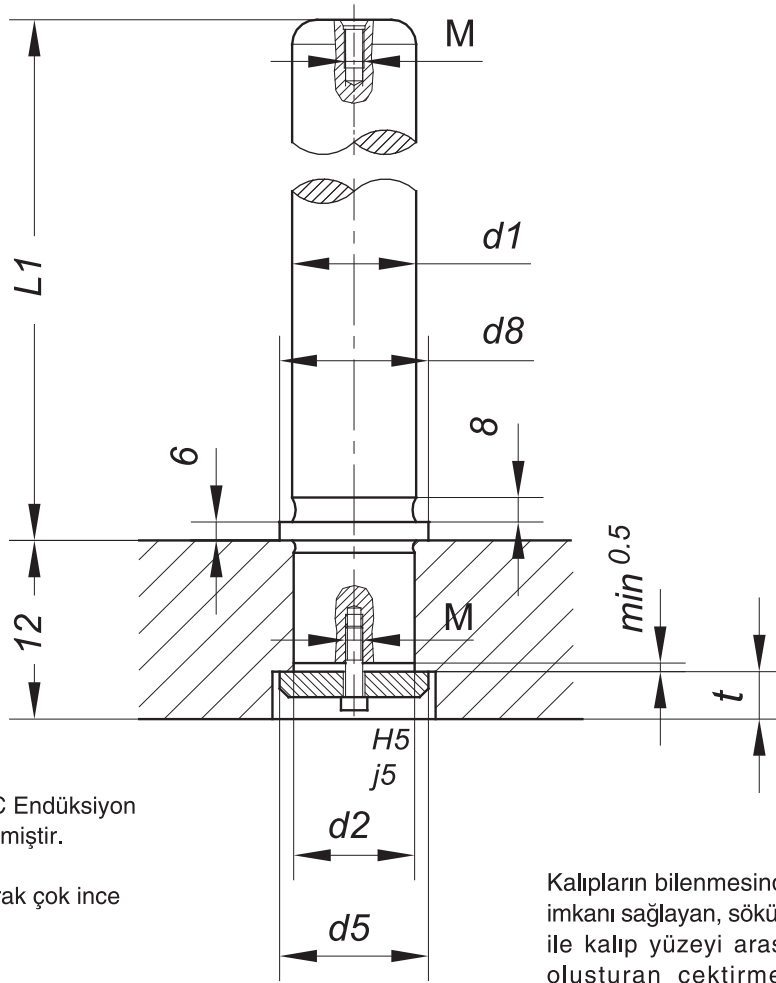
Malzeme : İmalat çeliği
 Sertlik : 60 ± 2 HRC Endüksiyon ile sertleştirilmiştir.
 Derinlik : ≥ 1.5 mm
 Yüzey : Hassas olarak çok ince taşlanmış.

Material : Tool Steel
 Surface Hardness : 60 ± 2 HRC Induction hardened
 Hardness Penetration : ≥ 1.5 mm
 Execution : Precision ground

204.			
d _{1h3}	I	M	Order Sipariş No.
12	100	M6 x 20	204.12.100
15	100		204.15.100
	125		204.15.125
16	100		204.16.100
	125		204.16.125
18	125		204.18.125
	160		204.18.160
19	200		204.18.200
	125		204.19.125
	160		204.19.160
20	200		204.19.200
	125		204.20.125
	160		204.20.160
24	200		204.20.200
	125		204.24.125
	160		201.24.160.
25	200		204.24.200
	220		204.24.220
	125		204.25.125
	160		204.25.160
	200		204.25.200
220	204.25.220		

204.			
d _{1h3}	I	M	Order Sipariş No.
30	160	M8 x 25	204.30.160.
	200		204.30.200
	220		204.30.220
	240		204.30.240
	260		204.30.260
	280		204.30.280
32	160		204.32.160
	200		204.32.200
	220		204.32.220
	240		204.32.240
38	260		204.32.260
	280		204.32.280
	160		204.38.160
	200		204.38.200
40	240		204.38.240
	280		204.38.280
	315		204.38.315
	160		204.40.160
40	200		204.40.200
	240		204.40.240
	280		204.40.280
	315		204.40.315

204.				
d _{1h3}	I	M	Order Sipariş No.	
48	200	M10 x 30	204.48.200	
	240		204.48.240	
	280		204.48.280	
	315		204.48.315	
	400		204.48.400	
50	200		204.50.200	
	240		204.50.240	
	280		204.50.280	
50	315		204.50.315	
	400		204.50.400	
	240		204.60.240	
60	315		204.60.315	
	400		204.60.400	
	450		204.60.450	
63	240		204.63.240	
	315		204.63.315	
	400		204.63.400	
	450		204.63.450	
80	315		M12 x 30	204.80.315
	400			204.80.400
	500			204.80.500
	600			204.80.600



Malzeme: İmalat çeliği
Sertlik : 60 ± 2 HRC Endüksiyon
ile sertleştirilmiştir.
Derinlik : ≥ 1.5 mm
Yüzey : Hassas olarak çok ince
taşlanmış.

Kalıpların bilenmesinde, çabuk ve kolay montaj
imkanı sağlayan, sökülebilir, kılavuz sütun eksenine
ile kalıp yüzeyi arasında hatasız bir dik açı
oluşturan çektirmeli kılavuz sütunlardır.

Material : Tool Steel
Surface Hardness : 60 ± 2 HRC Induction hardened
Hardness Penetration : ≥ 1.5 mm
Execution : Precision ground

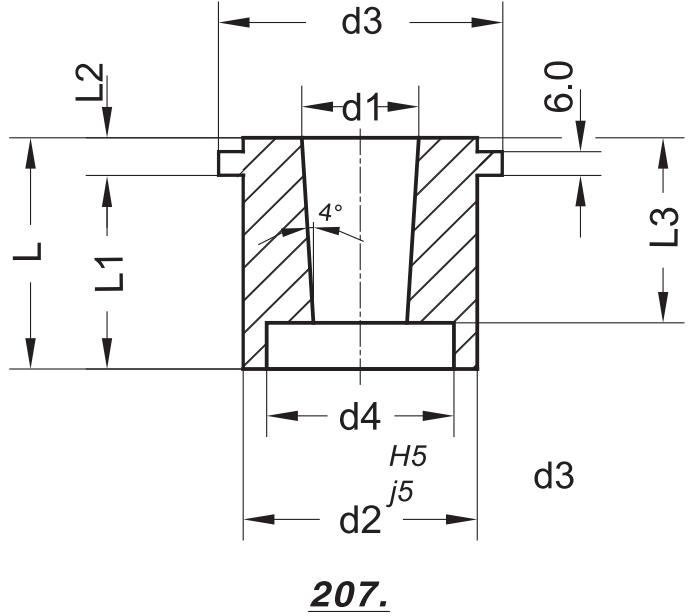
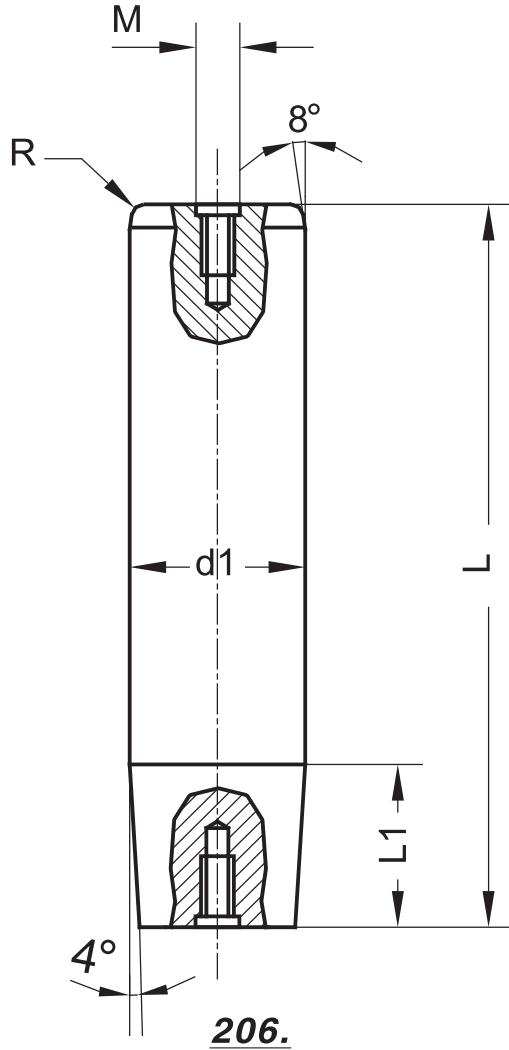
Demountable pillars with shoulder are suited to
applications where die sharpening requires
dismantling and re-fitting

205.

d _{1h3}	l ₁	l ₂	d ₂	d ₈	d ₅	t	M	Order No. Sipariş No.
24	125	32	24	31,5	32	11	M6x20	205.24.125
	160	32	24	31,5	32	11	M6x20	205.24.160
	200	32	24	31,5	32	11	M6x20	205.24.200
	220	32	24	31,5	32	11	M6x20	205.24.220
	240	32	24	31,5	32	11	M6x20	205.24.240
25	125	32	25	31,5	32	11	M6x20	205.25.125
	160	32	25	31,5	32	11	M6x20	205.25.160
	200	32	25	31,5	32	11	M6x20	205.25.200
	220	32	25	31,5	32	11	M6x20	205.25.220
	240	32	25	31,5	32	11	M6x20	205.25.240
30	125	36	30	39,5	40	14	M8x25	205.30.125
	160	36	30	39,5	40	14	M8x25	205.30.160
	200	36	30	39,5	40	14	M8x25	205.30.200
	220	36	30	39,5	40	14	M8x25	205.30.220
	240	36	30	39,5	40	14	M8x25	205.30.240
	260	36	30	39,5	40	14	M8x25	205.30.260
	280	36	30	39,5	40	14	M8x25	205.30.280
32	125	36	32	39,5	40	14	M8x25	205.32.125
	160	36	32	39,5	40	14	M8x25	205.32.160
	200	36	32	39,5	40	14	M8x25	205.32.200
	220	36	32	39,5	40	14	M8x25	205.32.220
	240	36	32	39,5	40	14	M8x25	205.32.240
	260	36	32	39,5	40	14	M8x25	205.32.260
	280	36	32	39,5	40	14	M8x25	205.32.280

205.

d _{1h3}	l ₁	l ₂	d ₂	d ₈	d ₅	t	M	Order No. Sipariş No.
38	160	40	40	56	50	15	M8x25	205.38.160
	200	40	40	56	50	15	M8x25	205.38.200
	240	40	40	56	50	15	M8x25	205.38.240
	280	40	40	56	50	15	M8x25	205.38.280
	160	40	42	56	50	15	M8x25	205.40.160
40	200	40	42	56	50	15	M8x25	205.40.200
	240	40	42	56	50	15	M8x25	205.40.240
	280	40	42	56	50	15	M8x25	205.40.280
	200	50	50	71	60	15	M10x30	205.48.200
48	240	50	50	71	60	18,5	M10x30	205.48.240
	280	50	50	71	60	18,5	M10x30	205.48.280
	315	50	50	71	60	18,5	M10x30	205.48.315
50	200	50	52	71	60	18,5	M10x30	205.50.200
	240	50	52	71	60	18,5	M10x30	205.50.240
	280	50	52	71	60	18,5	M10x30	205.50.280
	315	50	52	71	60	18,5	M10x30	205.50.315
	200	56	60	80	70	22,5	M10x35	205.60.200
60	240	56	60	80	70	22,5	M10x35	205.60.240
	280	56	60	80	70	22,5	M10x35	205.60.280
	315	56	60	80	70	22,5	M10x35	205.60.315
	350	56	60	80	70	22,5	M10x35	205.60.350
63	200	56	63	80	70	22,5	M10x35	205.63.200
	240	56	63	80	70	22,5	M10x35	205.63.240
	280	56	63	80	70	22,5	M10x35	205.63.280
	315	56	63	80	70	22,5	M10x35	205.63.315
	350	56	63	80	70	22,5	M10x35	205.63.350



206.

d1h3	L	L ₁	M	Order / Sipariş No
24	160	37	M8 x 25	206.24.160
	200			206.24.200
	225			206.24.225
	250			206.24.250
25	160	37	M8 x 25	206.25.160
	200			206.25.200
	225			206.25.225
	250			206.25.250
30	160	45	M8 x 25	206.30.160
	200			206.30.200
	225			206.30.225
	250			206.30.250
32	160	45	M8 x 25	206.32.160
	200			206.32.200
	225			206.32.225
	250			206.32.250

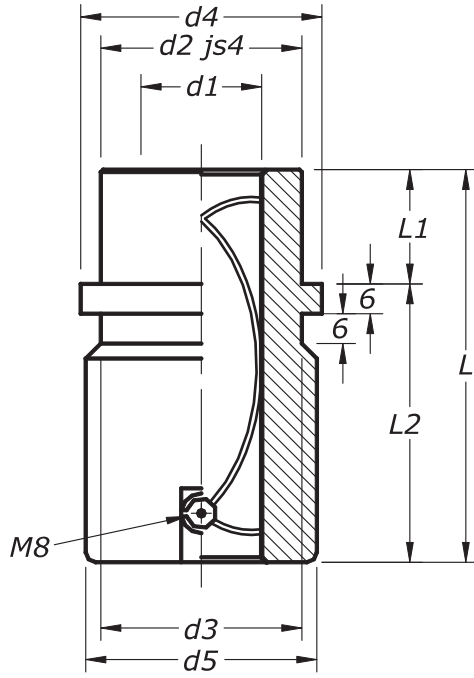
206.

d1h3	L	L ₁	M	Order / Sipariş No
38	200	50	M8 x 25	206.38.200
	225			206.38.225
	250			206.38.250
	315			206.38.315
40	200	50	M8 x 25	206.40.200
	225			206.40.225
	250			206.40.250
	315			206.40.315
48	225	55	M10 x 30	206.48.225
	250			206.48.250
	315			206.48.315
	400			206.48.400
50	225	55	M10 x 30	206.50.225
	250			206.50.250
	315			206.50.315
	400			206.50.400

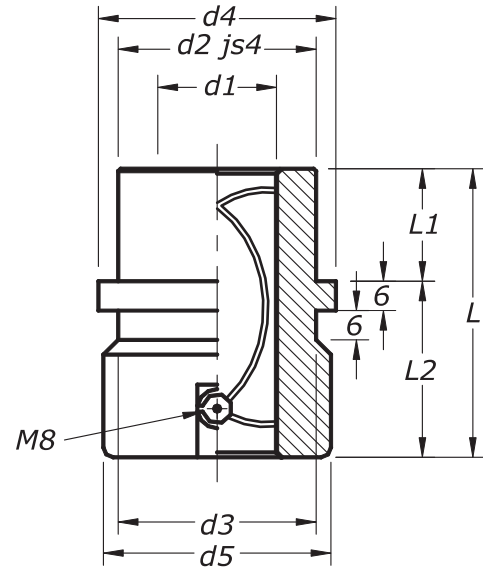
207.

Ø d1	24-25	30-32	38-40	48-50
Ø d2	40	48	58	70
Ø d3	48	54	64	78
Ø d4	26	32	40	50
L	52	60	65	73
L1	40	45	50	55
L2	12	15	15	18
L3	37	45	50	55
Sipariş Örneği / Example of Ordering				
Ø d1 = 32				
207.32				

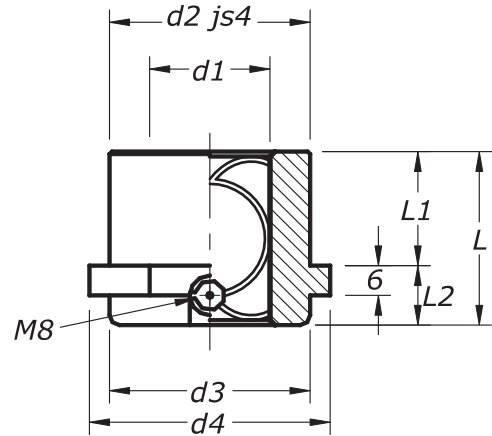
ISO 9448



651.



652.



653.

Malzeme : Takım Çeliği
Material : Tool Steel

Sertlik : 54± 56 HRC
Hardness

651.

d ₁	d ₂₌₃	d ₄	d ₅	l	l ₁	l ₂
19-20	32	40	39	59	23	36
24-25	40	48	46	79	23	56
30-32	48	56	53	93	30	63
38-40	58	66	63	108	37	71
48-50	70	80	77	127	47	80
60-63	85	95	92	150	60	90
80	105	118	115	150	60	90

Sipariş Örneği / Example of Ordering

651	d1	L	
50	x	127	651.50.127

652.

d ₁	d ₂₌₃	d ₄	d ₅	l	l ₁	l ₂
19-20	32	40	39	43	23	20
24-25	40	48	46	59	23	36
30-32	48	56	53	75	30	45
38-40	58	66	63	82	37	45
48-50	70	80	77	97	47	50
60-63	85	95	92	116	60	56
80	105	118	115	120	60	60

Sipariş Örneği / Example of Ordering

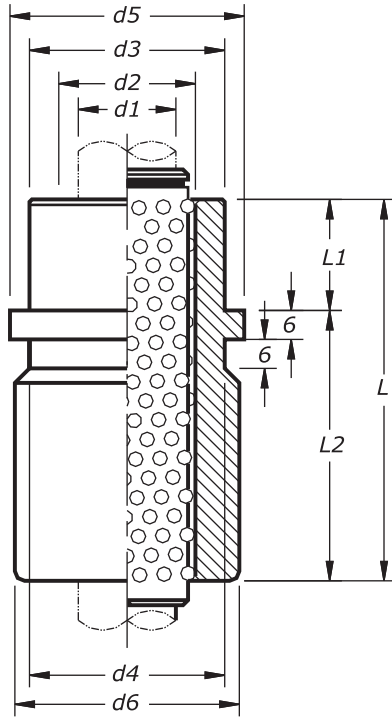
652	d1	L	
50	x	97	652.50.97

653.

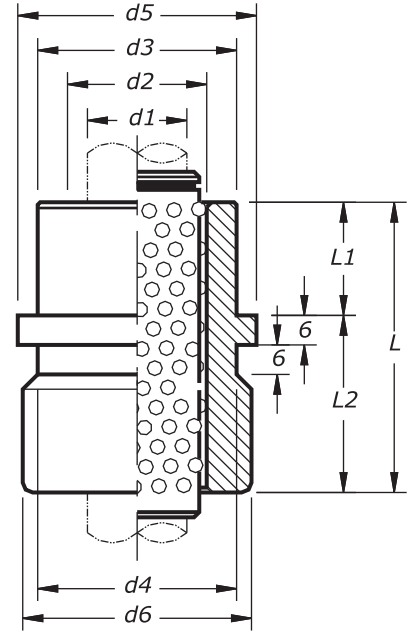
d ₁	d ₂₌₃	d ₄	d ₅	l	l ₁	l ₂
19-20	32	40	39	35	23	12
24-25	40	48	46	35	23	12
30-32	48	56	53	42	30	12
38-40	58	66	63	52	37	15
48-50	70	80	77	65	47	18
60-63	85	95	92	80	60	20
80	105	118	115	80	60	20

Sipariş Örneği / Example of Ordering

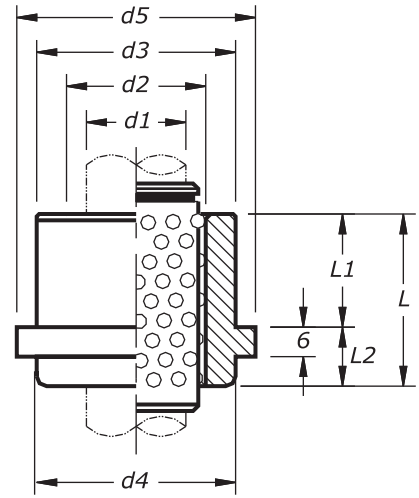
651	d1	L	
50	x	65	653.50.065



654.



655.



656.

Malzeme : Takım Çeliği
 Material Tool Steel

Sertlik : 62±2 HRC
 Hardness

654.

d ₁	d ₂	d ₃₌₄	d ₅	d ₆	l	l ₁	l ₂
19-20	25-26	32	40	39	59	23	36
24-25	30-31	40	48	46	79	23	56
30-32	38-40	48	56	53	93	30	63
38-40	46-48	58	66	63	108	37	71
48-50	56-58	70	80	77	127	47	80
60-63	68-71	85	95	92	150	60	90

Sipariş Örneği / Example of Ordering

654	d1	L	
	50	x 127	654.50.127

655.

d ₁	d ₂	d ₃₌₄	d ₅	d ₆	l	l ₁	l ₂
19-20	25-26	32	40	39	43	23	20
24-25	30-31	40	48	46	59	23	36
30-32	38-40	48	56	53	75	30	54
38-40	46-48	58	66	63	82	37	45
48-50	56-58	70	80	77	97	47	50
60-63	68-71	85	95	92	116	60	56

Sipariş Örneği / Example of Ordering

655	d1	L	
	50	x 97	655.50.097

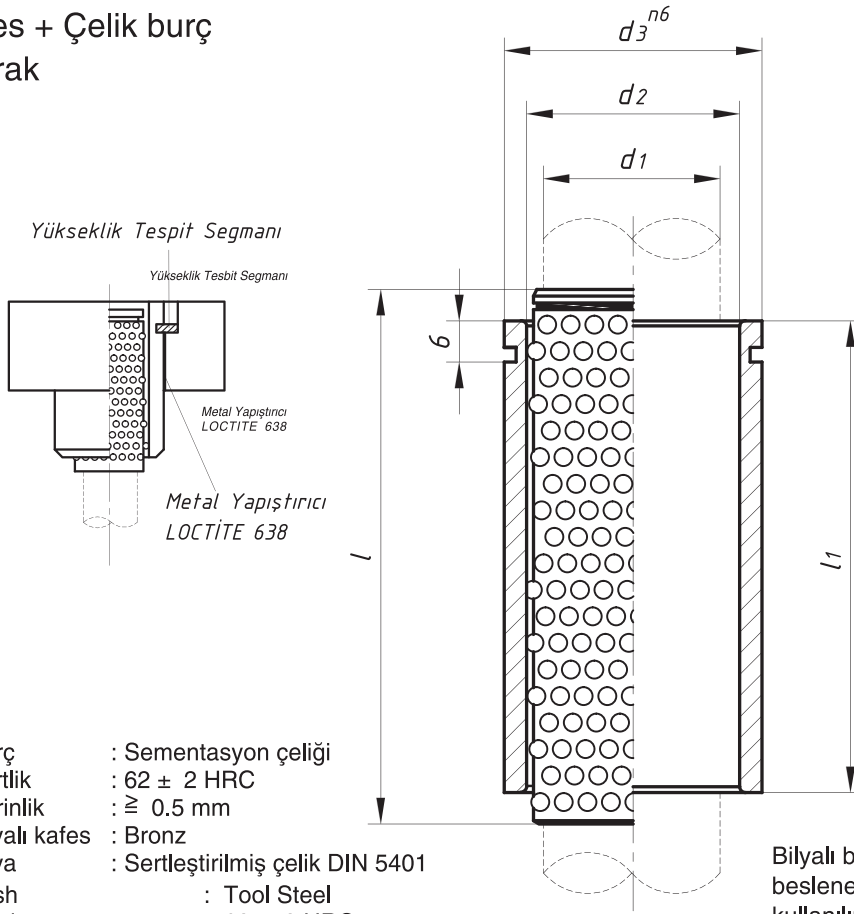
656.

d ₁	d ₂	d ₃₌₄	d ₅	d ₆	l	l ₁	l ₂
19-20	25-26	32	40	39	35	23	12
24-25	30-31	40	48	46	35	23	12
30-32	38-40	48	56	53	42	30	12
38-40	46-48	58	66	63	52	37	15
48-50	56-58	70	80	77	65	47	18
60-63	68-71	85	95	92	80	60	20

Sipariş Örneği / Example of Ordering

656	d1	L	
	50	x 97	656.50.065

Bilyalı kafes + Çelik burç
Takım olarak



Malzeme : Burç : Sementasyon çeliği
Sertlik : 62 ± 2 HRC
Derinlik : ≥ 0.5 mm
Bilyalı kafes : Bronz
Bilya : Sertleştirilmiş çelik DIN 5401
Material : Bush : Tool Steel
Hardness : 62 ± 2 HRC
Hardness Penetration : ≥ 0.5 mm
Cage : Brass
Balls : Hardened Steel DIN 5401

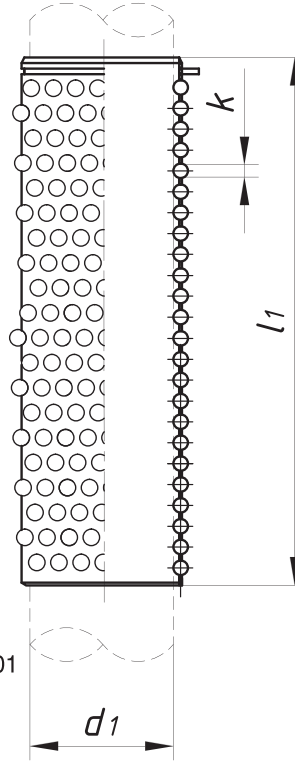
Bilyalı burçlar, otomatik sürücü ile beslenen seri ve hassas kalıplarda kullanılırlar. Çelik burcun delik yüzeyi taşlandıktan sonra honlanmıştır.

661.

d ₁	l ₁	l	d ₂	d ₃	Order No. Sipariş No.
12	35	40	17	22	661.12.035
15	40	50	21	30	661.15.040
	55	60			661.15.055
16	40	50	22	36	661.16.040
	55	60			661.16.055
18	35	40	24	36	661.18.035
	50	55			661.18.050
	65	70			661.18.065
	75	80			661.18.075
19	35	40	25	40	661.19.035
	50	55			661.19.050
	65	70			661.19.065
	75	80			661.19.075
20	35	40	26	40	661.20.035
	50	55			661.20.050
	65	70			661.20.065
	75	80			661.20.075
24	40	50	30	40	661.24.040
	55	65			661.24.055
	70	80			661.24.070
	85	90			661.24.085
25	40	50	31	40	661.25.040
	55	65			661.25.055
	70	80			661.25.070
	85	90			661.25.085

661.

d ₁	l ₁	l	d ₂	d ₃	Order No. Sipariş No.
30	45	55	38	48	661.30.045
	60	70			661.30.080
	80	85			661.30.080
	100	105			661.30.100
32	45	55	40	58	661.32.045
	60	70			661.32.060
	80	85			661.32.080
	100	105			661.32.100
38	50	55	48	58	661.38.050
	65	75			661.38.065
	90	95			661.38.090
	110	115			661.38.110
40	50	55	50	68	661.40.050
	65	75			661.40.065
	90	95			661.40.090
	110	115			661.40.110
48	55	60	58	68	661.48.055
	75	80			661.48.075
	105	120			661.48.105
50	55	60	60	68	661.50.055
	75	80			661.50.075
	105	120			661.50.105



Ball cages with stop are also available

Bilyalı kafes : Bronz
Bilya : Sertleştirilmiş çelik DIN 5401
Cages : Brass
Balls : Hardened steel DIN 5401

Boşluk bırakmaksızın intibak ederek sürtünmesiz bir şekilde hareket ederler. Bu sayede bir kaç milyon strok sonunda kılavuz sütunlarda ve burçlarda aşınmayı oluştururlar. Bilyalı kafesler özel bir bronz alaşımından imal edilmektedir ve bu alaşım sert olup uzun bir çalışma ömrü sağlamaktadır. Kılavuz sütununa gelen yükün eşit olarak bütün yüzeyi kapsayabilmesi için bilyalar hilesel olarak dizilmişler ve tesadüfi şekilde yerlerinden çıkmalarını önleyecek biçimde monte edilmişlerdir.

671.

d ₁	l ₁	k	Order / Sipariş No
12	40	2.5	671.12.040
	50		671.15.050
15	60	3	671.15.060
	70		671.15.070
16	50	3	671.16.050
	60		671.16.060
	70		671.16.070
18	55	3	671.18.055
	70		671.18.070
	80		671.18.080
19	90	3	671.18.090
	55		671.19.055
	70		671.19.070
20	80	3	671.19.080
	90		671.19.090
	55		671.20.055
	70		671.20.070
24	80	3	671.20.080
	90		671.20.090
	50		671.24.050
	65		671.24.065
	80		671.24.080
25	90	3	671.24.090
	100		671.24.100
	120		671.24.120
	50		671.25.050
	65		671.25.065
25	80	3	671.25.080
	90		671.25.090
	100		671.25.100
	120		671.25.120

671.

d ₁	l ₁	k	Order / Sipariş No
30	55	4	671.30.055
	70		671.30.070
	85		671.30.085
	105		671.30.105
	120		671.30.120
	140		671.30.140
32	160	4	671.30.160
	55		671.32.055
	70		671.32.070
	85		671.32.085
38	105	4	671.32.105
	120		671.32.120
	140		671.32.140
	160		671.32.160
40	55	4	671.38.055
	75		671.38.075
	95		671.38.095
	115		671.38.115
	120		671.38.120
	140		671.38.140
40	160	4	671.38.160
	200		671.38.200
	240		671.38.240
	55		671.40.055
	75		671.40.075
	95		671.40.095
40	115	4	671.40.115
	120		671.40.120
	140		671.40.140
	160		671.40.160
	200		671.40.200
	240		671.40.240

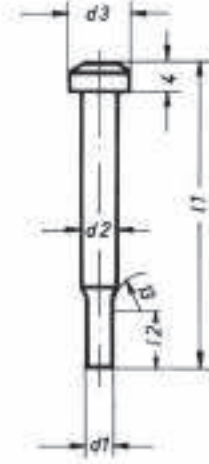
671.

d ₁	l ₁	k	Order / Sipariş No
48	60	4	671.48.060
	80		671.48.080
	100		671.48.100
	120		671.48.120
	140		671.48.140
	160		671.48.160
50	180	4	671.48.180
	200		671.48.200
	240		671.48.240
	60		671.50.060
60	80	4	671.50.080
	100		671.50.100
	120		671.50.120
	140		671.50.140
	160		671.50.160
	180		671.50.180
60	200	4	671.50.200
	240		671.50.240
	95		671.60.095
	105		671.60.105
	120		671.60.120
	140		671.60.140
63	200	4	671.60.200
	240		671.60.240
	95		671.63.095
	105		671.63.105
	120		671.63.120
	140		671.63.140
80	200	6	671.63.200
	240		671.63.240
	120		671.80.120
	140		671.80.140
	160		671.80.160
	200		671.80.200

DIN 9844 Form A / B



Form A



Form B

Malzeme : HWS %12 Cr'lu Takım çeliği	- HSS Yüksek hız çeliği	Material : HWS	HSS
Sipariş no : Form A = 10.2	- Form A = 10.3	Cod No. : Form A = 10.2	Form A = 10.3
Form B = 11.2	- Form B = 11.3	Form B = 11.2	Form B = 11.3
Sertlik : Gövde = 62 ± 2 HRC	- Gövde = 64 ± 2 HRC	Hardness : Shank = 62 ± 2 HRC	Shank = 62 ± 2 HRC
: Şapka = 45 ± 5 HRC	- Şapka = 45 ± 5 HRC	Head 45 ± 5 HRC	Head 45 ± 5 HRC

103.

d ₁ h ₆	d ₃	l ₁ + 0,5
2,0	3,6	Stoktaki boylar 100 mm. Diğer çap ve boylar istek üzerine imal edilebilir.
3,0	5,0	
4,0	7,0	
5,0	8,5	
6,0	10,0	
8,0	12,0	
10,0	14,5	100 mm lengths are available in stocks. Other diameter and l engths could be produce according to the customer specifications.
12,0	18,0	

Sipariş Örneği / Example of Ordering:

Delik Zımbası / Hole Punch

Malzeme / Material HWS = 102 x d₁ x l₁

203 DIN 9844 Form A Özel zımba / Special punch

Sipariş Örneği / Example of Ordering:

S Başlı özel Zımba /C. Head special Punch

Malzeme / Material HWS = 202 x d₁ x l₁

113.

d ₁ h ₆	d ₂	d ₃	l ₁ + 0,5
1,0 - 1,9	2	3,6	Stoktaki boylar 100 mm. Diğer çap ve boylar istek üzerine imal edilebilir.
2,0 - 2,9	3	5,0	
3,0 - 3,9	4	7,0	
4,0 - 4,9	5	8,5	
5,0 - 5,9	6	10,0	
6,0 - 7,9	8	12,0	
8,0 - 9,9	10	14,5	100 mm lengths are available in stocks. Other diameter and l engths could be produce according to the customer specifications.
10,0 - 11,9	12	18,0	

Delik Zımbası / Hole Punch

Malzeme / Material HSS = 113 x d₁ x l₁

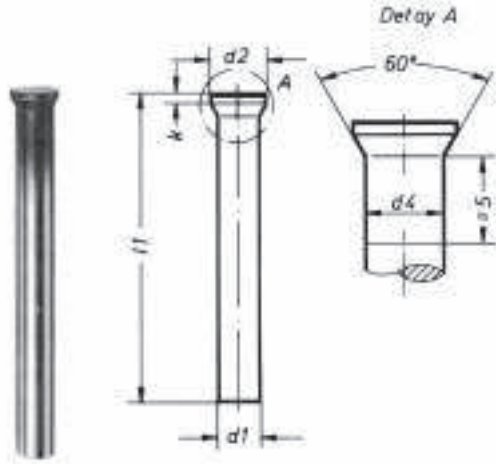
203 DIN 9844 Form B Özel zımba / Special punch

Sipariş Örneği / Example of Ordering:

S Başlı özel Zımba /C. Head special Punch

Malzeme / Material HSS = 213 x d₁ x l₁ x d₁ x 12

DIN 9861 Form DA / D



Form DA



Form D

Malzeme : HWS %12 Cr'lu Takım çeliği	- HSS Yüksek hız çeliği	Material : HWS	HSS
Sipariş no : Form DA = 12.2	- Form DA = 12.3	Ord.Cod No. : Form DA = 12.2	Form DA = 12.3
Form D = 13.2	Form D = 13.3	Form D = 13.2	Form D = 13.3
Sertlik : Gövde = 62 ± 2 HRC	- Gövde = 64 ± 2 HRC	Hardness : Shank = 62 ± 2 HRC	Shank = 64 ± 2 HRC
: Şapka = 45 ± 5 HRC	- Şapka = 45 ± 5 HRC	Head 45 ± 5 HRC	Head 45 ± 5 HRC

122. / 123.

d ₁ h6	d ₂	d ₄	k	l ₁ +0,5
1,0 - 1,1	1,8	d ₁ +0,03	0,5	Stoktaki boyılar 71 - 80 - 100 mm.
1,2 - 1,3	2,0			
1,4 - 1,5	2,2			
1,6 - 1,7	2,5			
1,8 - 1,9	2,8			
2,0	3,0			
2,1 - 2,2	3,2			
2,3 - 2,5	3,5			
2,6 - 2,9	4,0			
3,0 - 3,4	4,5			
3,5 - 3,9	5,0			
4,0 - 4,4	5,5			
4,5 - 4,9	6,0			
5,0 - 5,4	6,5			
5,5 - 5,9	7,0			
6,0 - 6,4	8,0	d ₁ +0,04	1,0	
6,5 - 7,0	9,0			
7,5 - 8,0	10,0			
8,5 - 9,0	11,0			
9,5 - 10,0	12,0			
10,5 - 11,0	13,0			
11,5 - 12,0	14,0			

Sipariş Örneği / Example of Ordering:

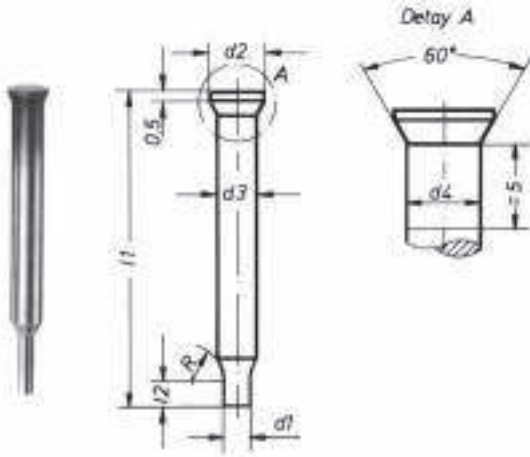
Zimba / Punch
Malzeme / Material HSS = 122 x d₁ x l₁

132. / 133.

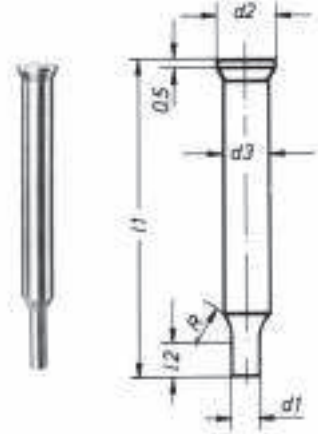
d ₁ h6	d ₂	k	l ₁ +0,5
1,0 - 1,1	1,8	0,5	Stoktaki boyılar 71 - 80 - 100 mm.
1,2 - 1,3	2,0		
1,4 - 1,5	2,2		
1,6 - 1,7	2,5		
1,8 - 1,9	2,8		
2,0	3,0		
2,1 - 2,2	3,2		
2,3 - 2,5	3,5		
2,6 - 2,9	4,0		
3,0 - 3,4	4,5		
3,5 - 3,9	5,0		
4,0 - 4,4	5,5		
4,5 - 4,9	6,0		
5,0 - 5,4	6,5		
5,5 - 5,9	7,0		
6,0 - 6,4	8,0	1,0	
6,5 - 7,0	9,0		
7,5 - 8,0	10,0		
8,5 - 9,0	11,0		
9,5 - 10,0	12,0		
10,5 - 11,0	13,0		
11,5 - 12,0	14,0		

Sipariş Örneği / Example of Ordering:

Zimba / Punch
Malzeme / Material HSS = 133 x d₁ x l₁



Form CA



Form C

Malzeme : HWS %12 Cr'lu Takım çeliği
Siparişi : Form CA = 14.2
: Form C = 15.2
Sertlik : Gövde = 62 ± 2 HRC
: Şapka = 45 ± 5 HRC

- HSS Yüksek hız çeliği
- Form CA = 14.3
Form C = 15.3
- Gövde = 64 ± 2 HRC
- Şapka = 45 ± 5 HRC

142. / 143.

d ₁ h6	d ₂	d ₃	d ₄	l ₂	l ₁ +0,5
0,50 - 0,55	3	2	d ₃ +0,03	7	Stoktaki boylar 71 mm.
0,60 - 0,65					
0,70 - 0,75					
0,80 - 0,85					
0,90 - 0,95					
1,00 - 1,10					
1,20 - 1,30					
1,40 - 1,50					
1,60 - 1,70	4,5	3			
1,80 - 1,90					
2,00 - 2,10					
2,20 - 2,30					
2,40 - 2,50					
2,60 - 2,70					
2,80 - 2,90					

Sipariş Örneği

Havşa başlı kademeli zımba

Malzeme / HSS = 143 x d₁ x l₁

223. DIN 9861 Form CA'ya uygun özel zımba

Sipariş Örneği

Havşa başlı kademeli özel zımba

Malzeme / HSS = 223 x d₃ x l₁ x d₁ x l₂

152. / 153.

d ₁ h6	d ₂	d ₃	l ₂	l ₁ +0,5
0,50 - 0,55	3	2	7	Stoktaki boylar 71 mm.
0,60 - 0,65				
0,70 - 0,75				
0,80 - 0,85				
0,90 - 0,95				
1,00 - 1,10				
1,20 - 1,30				
1,40 - 1,50				
1,60 - 1,70	4,5	3		
1,80 - 1,90				
2,00 - 2,10				
2,20 - 2,30				
2,40 - 2,50				
2,60 - 2,70				
2,80 - 2,90				

Sipariş Örneği

Havşa başlı kademeli zımba

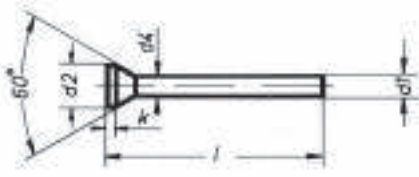
Malzeme / HWS = 152 x d₁ x l₁

232. DIN 9861 Form C'ye uygun özel zımba

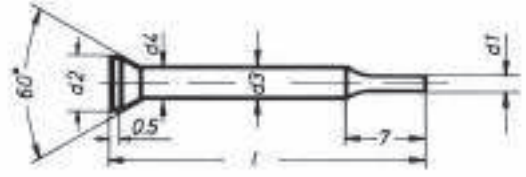
Sipariş Örneği

Havşa başlı kademeli özel zımba

Malzeme / HWS = 232 x d₃ x l₁ x d₁ x l₂



Genel olarak perfore ve baskılı devre kalıplarında zımbaların flambaja maruz kalmamaları için tercih edilirler.



Malzeme : HSS Yüksek hız çeliği
Sipariş no : 163
Sertlik : 64 ± 2 HRC şapka 45 ± 5 HRC

Malzeme : HSS Yüksek hız çeliği
Sipariş no : 173
Sertlik : 64 ± 2 HRC şapka 45 ± 5 HRC

163.

d ₁ h6	d ₂	d ₄	k	l
0,8	1,4	d ₁ +0,03	0,5	Stoktaki boylar 30 mm.
0,9	1,6			
1,0 - 1,1	1,8			
1,2 - 1,3	2,0			
1,4 - 1,5	2,2			
1,6 - 1,7	2,5			
1,8 - 1,9	2,8			
2,0	3,0			
2,5	3,5			
3,0	4,5			

Sipariş Örneği

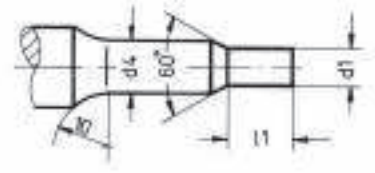
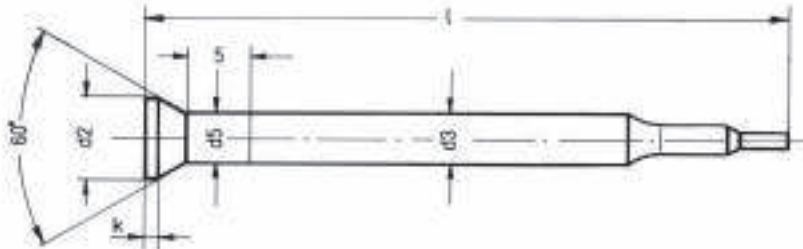
Kısa boylu delik zımbası

Malzeme / HSS = 163 x d₁ x l₁**173.**

d ₁ h6	d ₂	d ₃	d ₄	l
0,8 - 1,4	2,2	1,5	d ₃ +0,03	Stoktaki boylar 40 mm.
1,5 - 2,9	4,5	3		

Sipariş Örneği

Kısa boylu delik zımbası

Malzeme / HSS = 173 x d₁ x l

Malzeme : HSS Yüksek hız çeliği
Sipariş No : 183
Sertlik : 64 ± 2 HRC Şapka 45 ± 5 HRC

Sac parça üzerindeki diş çekilecek deliklerin delme ve sıvama işlemini birlikte yapan iki kademeli patlatma zımbası

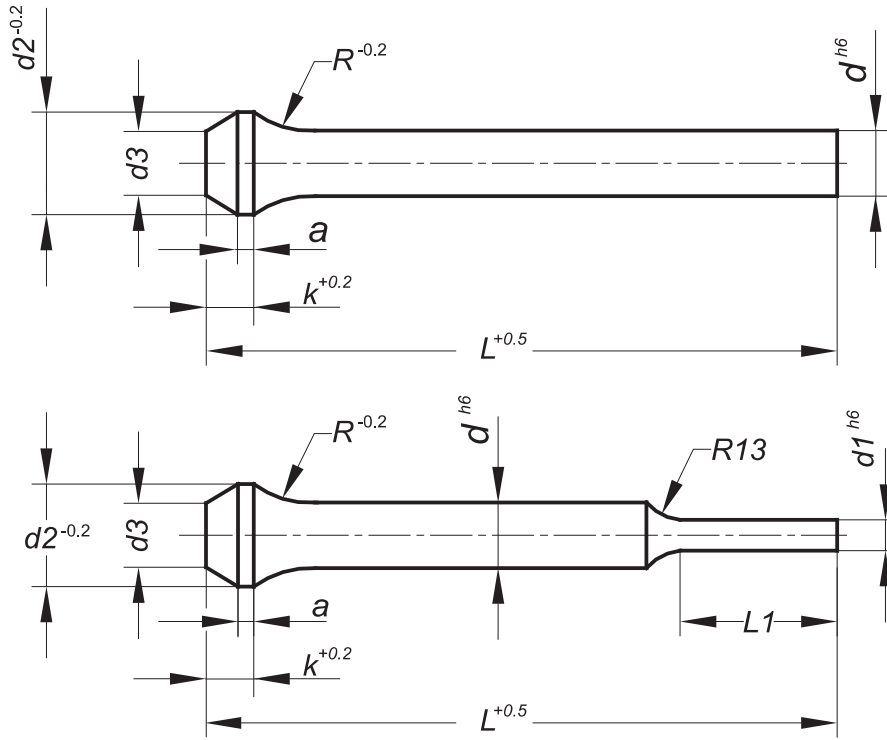
183.

Diş ölçüsü	d ₁ +0,02	d ₂	d ₃	d ₄ +0,01	d ₅	k	l+0,5	l ₁			
M2	1,1	4,5	3,0	1,65	d ₃ +0,03	0,5	72	1,5			
M2,5	1,5			2,1				2,0			
M3	1,8			2,55				2,5			
M4	2,3			5,5			4,0	3,35	82	Diğer boylar istek üzerine	3,0
M5	3,0			6,5			5,0	4,25			
M6	3,6			8,0			6,0	5,1			
M8	4,9	10,0	8,0	6,85	d ₃ +0,04	1,0	4,0				

Sipariş Örneği

Delik patlatma zımbası

Malzeme / HSS = 183 x d₁ x l₁



180.

181.

Malzeme : HSS
Material

Gövde Sertlik : 64±2 HRC
Shaft Hardness

Şapka Sertlik : 50±5 HRC
Head Hardness

Şişe Boyunlu (Radüs Başlı) Delik Zımbaları

Kalın, silisli, paslanmaz (krom nikel) sac ve buna benzer, kopma mukavemeti yüksek malzemelerin delik delme işlemlerinde zımba şapkasının kopmasını önlemek amacı ile tasarlanmış, şapka dayanımı yüksek zımbalardır. Özel durumlarda kademeli olarak ta kullanılırlar.

Delik zımbasının; aşınmalara karşı mukavemetini artırarak, daha düşük sürtünme kat sayısını ile çalışmasını sağlamak için, delinecek malzeme cinsine ve baskı adedine bağlı olarak zımba yüzeyine PVD kaplama işlemi tavsiye edilmektedir. Yapılan bu kaplama işlemi sayesinde zımbaların baskı adetlerinde minimum 3, maksimum 8 kata varan ömür artışları tespit edilmektedir.

TIN, TIALN, TiCN

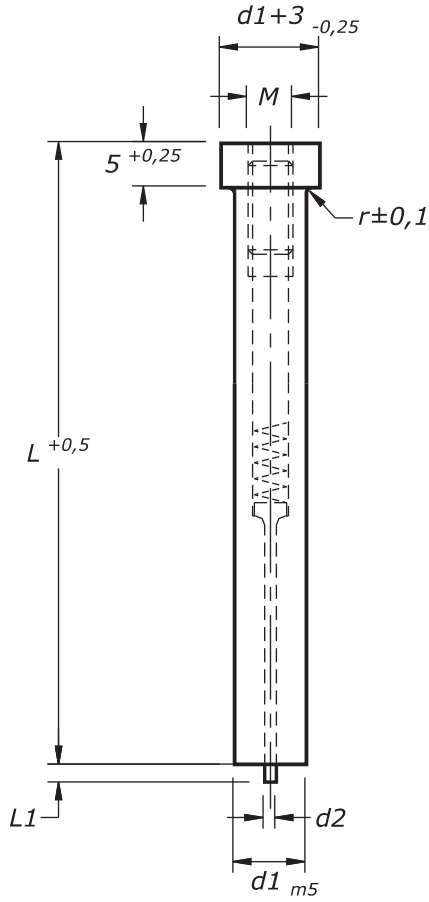
d h6	d Kademe/Steps	d1	L1	d2 Kademe/Steps	a	d3	k+0,2	r	L
2,0	0,1	3,1 - 5,9	15	3,0	1,5	d ±0,1	3,0	6,5	71
2,1 - 2,2				3,2					
2,3 - 2,5				3,5					
2,6 - 2,9				4,0					
3,0 - 3,4				4,5					
3,5 - 3,9				5,0					
4,0 - 4,4				6,0					
4,5 - 4,9				7,0					
5,0 - 5,4				8,0					
5,5 - 5,9				9,0					
6,0 - 6,4	0,5	6,1 - 9,9	20	10,0	1,5	d ±0,1	4,0	10	80
6,5 - 7,0				11,0					
7,5 - 8,0				12,0					
8,5 - 9,0				13,0					
9,5 - 10,0				14,0					
10,5 - 11,0				15,0					
11,5 - 12,00				16,0					
12,5 - 13,00				17,0					
13,5 - 14,00				18,0					
14,5 - 15,00				20,0					
15,5 - 16,00									

Sipariş Örneği

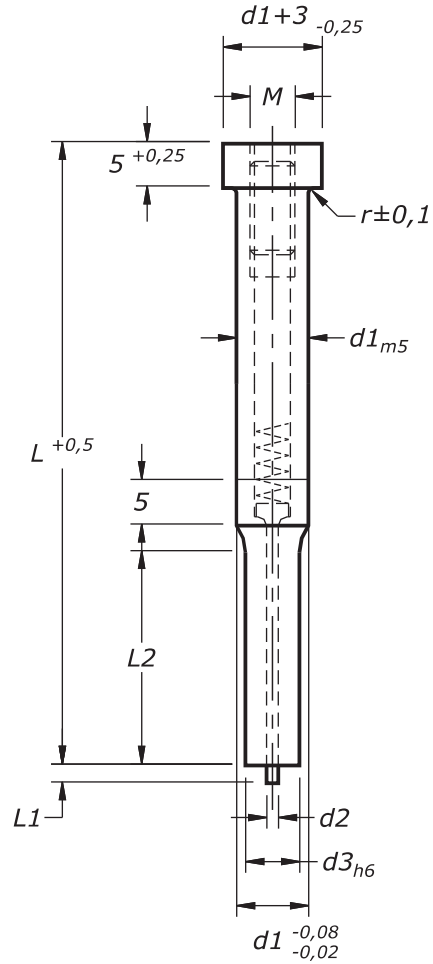
Şişe boyunlu (Radüs başlı) delik zımbası

183.0600.080.0500

ISO 8020



190.



191.

Malzeme : HSS
Material

Gövde Sertlik : 64±2 HRC
Shaft Hardness

Şapka Sertlik : 50±5 HRC
Head Hardness

Delik zimbasının; aşınmalara karşı mukavemetini artırarak, daha düşük sürtünme kat sayısı ile çalışmasını sağlamak için, delinecek malzeme cinsine ve baskı adedine bağlı olarak zımba yüzeyine PVD kaplama işlemi tavsiye edilmektedir. Yapılan bu kaplama işlemi sayesinde zımbaların baskı adetlerinde minimum 3, maksimum 8 kata varan ömür artışları tespit edilmektedir.
TIN, TIALN, TiCN

190.

d ₁	r	d ₂	d ₅	L ₁	L
5,0	0,3	0,9	2,5	0,8	71-80-100
6,0		3			
8,0		1,3	4		
10,0		1,6	5		
13,0	0,4	2,1	6	2,0	
16,0		2,6	2,5		
20,0					

Sipariş Örneği / Example of Ordering

190. d1 L
6,0 x 71 **190.0600.071**

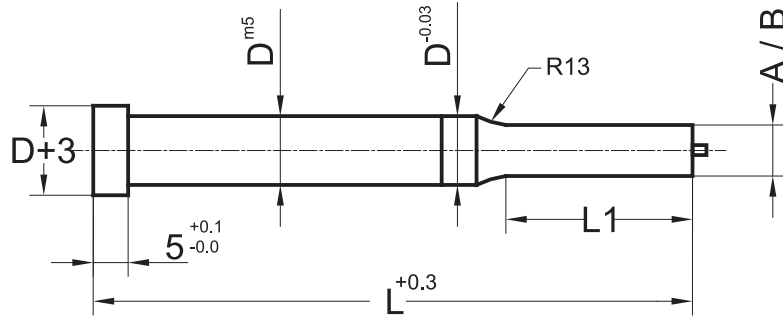
191.

d ₃	d ₁	d ₂	M	r	L ₁	L
2,5	-	7,9	8	1,3	4	71-80-100
4,0	-	9,9	10	1,6	5	
5,0	-	12,9	13	2,1	6	
8,0	-	15,9	16			

Sipariş Örneği / Example of Ordering

191. d1 d3 L
4,0 x 7,0 80 **191.0400.0700.080**

ISO 8020



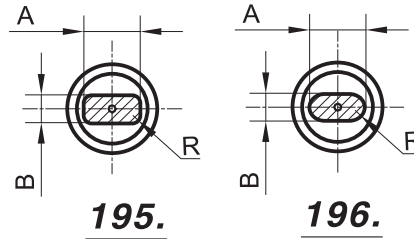
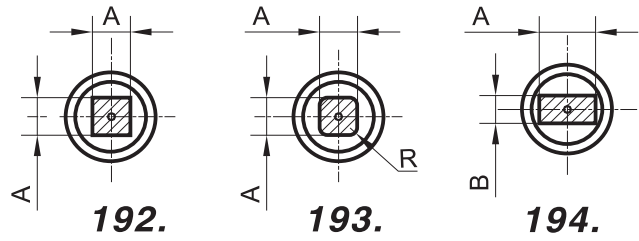
192.

Type / ØD	I ₁	L	A
192.06	13	71	3,0 - 4,0
192.08	19		4,0 - 5,5
192.10			5,5 - 7,0
192.13		7,0 - 9,0	
192.16	80	9,0 - 11,0	
192.20		11,0 - 14,0	
192.25	100	14,0 - 17,5	
192.32		18,0 - 22,0	

Sipariş Örneği

Type / ØD	I ₁	L	A
192.13	19	80	8,50

192.13.19.080.0850



193.

Type / ØD	I ₁	L	A	R
193.06	13	71	3,0 - 4,0	0,5 - 1,0
193.08	19		4,0 - 5,5	
193.10			5,5 - 7,0	
193.13		7,0 - 9,0		
193.16	80	9,0 - 11,0	1,0 - 2,0	
193.20		11,0 - 14,0		
193.25	100	14,0 - 17,5	1,5 - 3,0	
193.32		18,0 - 22,0		

Sipariş Örneği

Type / ØD	I ₁	L	A	R
193.13	19	80	8,50	1,0

193.13.19.080.0850.010

195.

Type / ØD	I ₁	L	A	B	R
195.06	13	71	2,4 - 4,0	2,4 - 4,0	0,5 - 1,0
195.08	19		3,5 - 5,5	3,5 - 5,5	
195.10			4,0 - 7,0	4,0 - 7,0	
195.13		5,0 - 9,0	5,0 - 9,0		
195.16	80	6,0 - 11,0	6,0 - 11,0	1,0 - 2,0	
195.20		7,0 - 14,0	7,0 - 14,0		
195.25	100	8,0 - 17,0	8,0 - 17,0	1,5 - 3,0	
195.32		10,0 - 22,0	10,0 - 22,0		

Sipariş Örneği

Type / ØD	I ₁	L	A	B	R
195.13	19	80	8,50	11,0	1,0

195.13.19.080 / 8,5 x 11,0 - 1,0

194.

Type / ØD	I ₁	L	A	B
194.06	13	71	2,4 - 4,0	2,4 - 4,0
194.08	19		3,5 - 5,5	3,5 - 5,5
194.10			4,0 - 7,0	4,0 - 7,0
194.13		5,0 - 9,0	5,0 - 9,0	
194.16	80	6,0 - 11,0	6,0 - 11,0	7,0 - 14,0
194.20		7,0 - 14,0	7,0 - 14,0	
194.25	100	8,0 - 17,0	8,0 - 17,0	10,0 - 22,0
194.32		10,0 - 22,0	10,0 - 22,0	

Sipariş Örneği

Type / ØD	I ₁	L	A	B
194.16	19	100	6,0	11,0

194.16.19.100 / 6,0 x 11,0

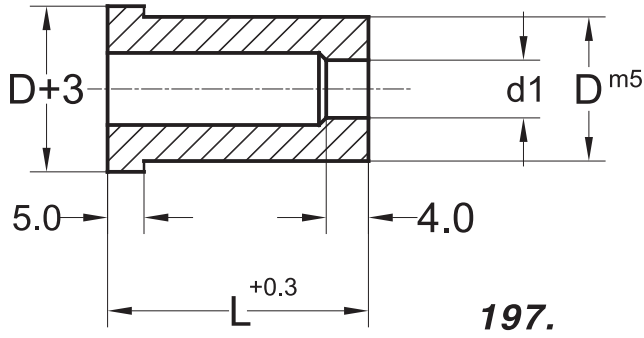
196.

Type / ØD	I ₁	L	A	B
196.06	13	71	3,0 - 5,0	3,0 - 5,0
196.08	19		4,0 - 7,0	4,0 - 7,0
196.10			5,0 - 9,0	5,0 - 9,0
196.13		6,0 - 12,0	6,0 - 12,0	
196.16	80	7,0 - 15,0	7,0 - 15,0	8,0 - 19,0
196.20		8,0 - 19,0	8,0 - 19,0	
196.25	100	10,0 - 24,0	10,0 - 24,0	12,0 - 30,0
196.32		12,0 - 30,0	12,0 - 30,0	

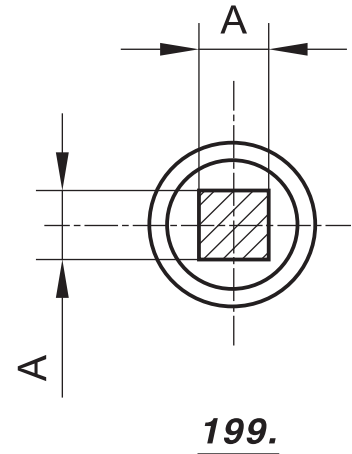
Sipariş Örneği

Type / ØD	I ₁	L	A	B
196.13	19	80	8,5	11,5

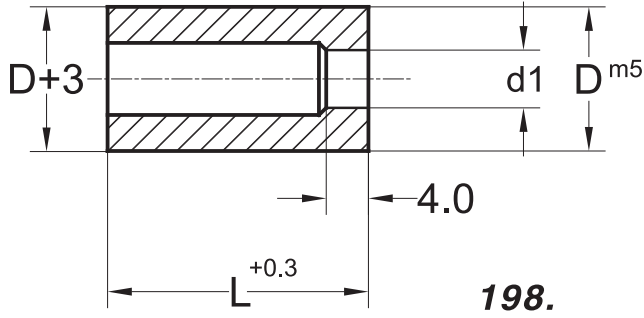
196.13.19.080 / 8,5 x 11,0



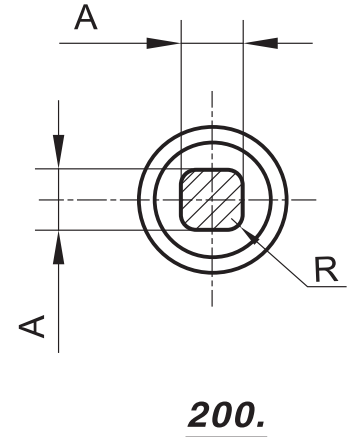
197.



199.



198.



200.

197.

Type / ØD	L			Ø d1
	22	28	32	
197.08	•	•	•	1,5 - 3,2
197.10	•	•	•	1,5 - 5,0
197.13	•	•	•	2,0 - 7,0
197.16	•	•	•	5,0 - 9,0
197.20	•	•	•	7,0 - 11,0
197.25		•	•	11,0 - 16,0
197.32		•	•	13,0 - 20,0
Sipariş Örneği				
Type / ØD	L			Ø d1
197.13	28			6,5
197.13.28.0650				

199.

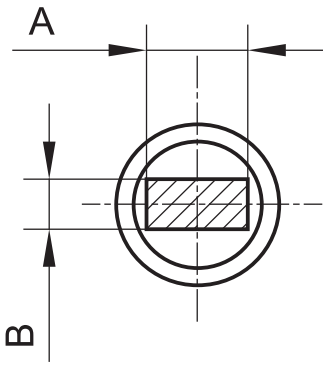
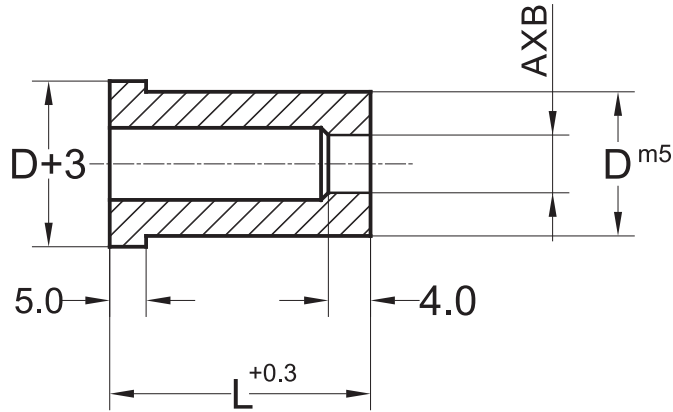
Type / ØD	L			A
	22	28	32	
199.13	•	•	•	2,0 - 7,0
199.16	•	•	•	2,4 - 9,0
199.20	•	•	•	3,2 - 11,0
199.25		•	•	5,0 - 16,0
199.32		•	•	6,0 - 20,0
Sipariş Örneği				
Type / ØD	L			Ø d1
199.13	28			6,5
199.13.28.0650				

198.

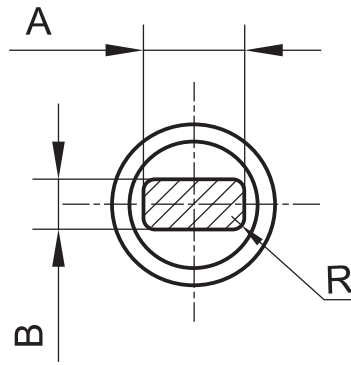
Type / ØD	L			Ø d1
	22	28	32	
198.08	•	•	•	1,5 - 3,2
198.10	•	•	•	1,5 - 5,0
198.13	•	•	•	2,0 - 7,0
198.16	•	•	•	5,0 - 9,0
198.20	•	•	•	7,0 - 11,0
198.25		•	•	11,0 - 16,0
198.32		•	•	13,0 - 20,0
Sipariş Örneği				
Type / ØD	L			Ø d1
198.08	22			3,0
198.08.22.0300				

200.

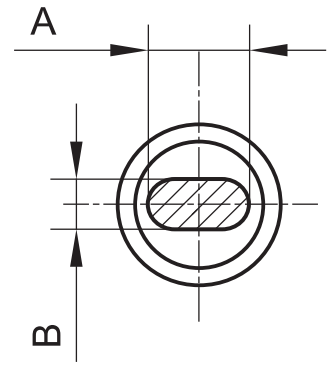
Type / ØD	L			A	R
	22	28	32		
200.13	•	•	•	2,0 - 7,0	0,8 - 1,5
200.16	•	•	•	2,4 - 9,0	1,0 - 2,0
200.20	•	•	•	3,2 - 11,0	1,5 - 3,0
200.25		•	•	5,0 - 16,0	
200.32		•	•	6,0 - 20,0	
Sipariş Örneği					
Type / ØD	L			Ø d1	
200.16	32			8,0	1,8
200.16.32.0800.018					



201.



202.



203.

201.

Type Ø D	L			A	B
	22	28	32		
201.13	•	•	•	2,0 - 7,0	2,0 - 7,0
201.16	•	•	•	2,4 - 9,0	2,4 - 9,0
201.20	•	•	•	3,2 - 11,0	3,2 - 11,0
201.25	•	•	•	5,0 - 16,0	5,0 - 16,0
201.32	•	•	•	6,0 - 20,0	6,0 - 20,0

Sipariş Örneği

Type Ø D	L	A	B
201.20	32	8,0	1,8

201.20.32 / 8,3 x 11,0

202.

Type Ø D	L			A	B	R
	22	28	32			
202.13	•	•	•	2,0 - 7,0	2,0 - 7,0	0,8 - 1,5
202.16	•	•	•	2,4 - 9,0	2,4 - 9,0	1,0 - 2,0
202.20	•	•	•	3,2 - 11,0	3,2 - 11,0	
202.25	•	•	•	5,0 - 16,0	5,0 - 16,0	1,5 - 3,0
202.32	•	•	•	6,0 - 20,0	6,0 - 20,0	

Sipariş Örneği

Type Ø D	L	A	B	R
202.20	28	8,3	11,0	2,0

202.20.28 / 8,3 x 11,0 - 2,0

203.

Type Ø D	L			A	B
	22	28	32		
203.13	•	•	•	2,0 - 7,0	2,0 - 7,0
203.16	•	•	•	2,4 - 9,0	2,4 - 9,0
203.20	•	•	•	3,2 - 11,0	3,2 - 11,0
203.25	•	•	•	5,0 - 16,0	5,0 - 16,0
203.32	•	•	•	6,0 - 20,0	6,0 - 20,0

Sipariş Örneği

Type Ø D	L	A	B
203.16	28	2,5	7,0

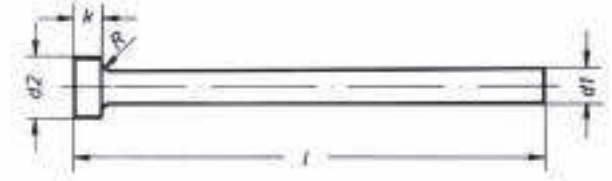
203.16.28 / 2,5 x 7,0

DIN 1530 Form A



Plastik enjeksiyon kalıplarında; itici pim olarak kullanılırlar.
Gövde, sertleştirilmiş ve çok ince taşlanmıştır.
They use in plastic enjeksiyon dies like ejetör device.
Shank hardened and precision ground.

★ Also Hotwork Ejector pins Nitrided DIN 1530 Form A
are available



Malzeme / Material : 1.2210 Takım çeliği/Tool Steel
1.2344 Sıcak iş çeliği/Hotwork Steel
Sipariş No. / Order No. : 40.1
Sertlik / Hardness : Gövde / Shank = 60 ± 2 HRC
Şapka / Head = 45 ± 5 HRC

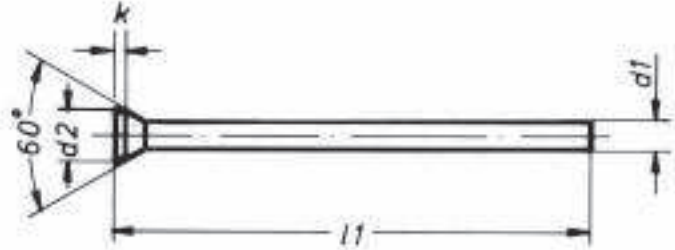
401.

d ₂ -0,2	k-0,05	R	d ₁ g6	l _{±2}	Order / Sipariş No.	
4	2	0,3	2	100	401.0200.100	
				125	401.0200.125	
				160	401.0200.160	
				200	401.0200.200	
			2,2	100	401.0220.100	
				125	401.0220.125	
				160	401.0220.160	
				200	401.0220.200	
			5	2,5	100	401.0250.100
					125	401.0250.125
					160	401.0250.160
					200	401.0250.200
2,7	100	401.0270.100				
	125	401.0270.125				
	160	401.0270.160				
	200	401.0270.200				
6	3	3	100	401.0300.100		
			125	401.0300.125		
			160	401.0300.160		
			200	401.0300.200		
		3,2	100	401.0320.100		
			125	401.0320.125		
			160	401.0320.160		
			200	401.0320.200		
		3,3	100	401.0330.100		
			125	401.0330.125		
			160	401.0330.160		
			200	401.0330.200		
7	3,5	100	401.0350.100			
		125	401.0350.125			
		160	401.0350.160			
		200	401.0350.200			
8	3	4	100	401.0400.100		
			125	401.0400.125		
			160	401.0400.160		
			200	401.0400.200		
		4,2	100	401.0420.100		
			125	401.0420.125		
			160	401.0420.160		
			200	401.0420.200		
		315	100	401.0420.250		
			125	401.0420.315		
			160	401.0420.315		
			200	401.0420.315		

401.

d ₂ -0,2	k-0,05	R	d ₁ g6	l _{±2}	Order / Sipariş No.	
8	3	0,3	4,5	100	401.0450.100	
				125	401.0450.125	
				160	401.0450.160	
				200	401.0450.200	
			10	5	100	401.0450.250
					125	401.0450.315
					160	401.0450.315
					200	401.0450.315
			5,5	100	401.0500.100	
				125	401.0500.125	
				160	401.0500.160	
				200	401.0500.200	
12	5	0,5	6	100	401.0500.250	
				125	401.0500.315	
				160	401.0500.315	
				200	401.0500.315	
			7	100	401.0550.100	
				125	401.0550.125	
				160	401.0550.160	
				200	401.0550.200	
			14	8	100	401.0550.250
					125	401.0550.315
					160	401.0550.315
					200	401.0550.315
16	5	0,5	8	100	401.0600.100	
				125	401.0600.125	
				160	401.0600.160	
				200	401.0600.200	
			10	100	401.0600.250	
				125	401.0600.315	
				160	401.0600.315	
				200	401.0600.315	
			7	100	401.0700.100	
				125	401.0700.125	
				160	401.0700.160	
				200	401.0700.200	
20	7	0,8	10	100	401.0700.250	
				125	401.0700.315	
				160	401.0700.315	
				200	401.0700.315	
			12	100	401.0800.100	
				125	401.0800.125	
				160	401.0800.160	
				200	401.0800.200	
			315	100	401.0800.250	
				125	401.0800.315	
				160	401.0800.315	
				200	401.0800.315	
20	7	0,8	12	100	401.1000.100	
				125	401.1000.125	
				160	401.1000.160	
				200	401.1000.200	
			315	100	401.1000.250	
				125	401.1000.315	
				160	401.1000.315	
				200	401.1000.315	
			7	100	401.1200.100	
				125	401.1200.125	
				160	401.1200.160	
				200	401.1200.200	
315	100	401.1200.250				
	125	401.1200.315				
	160	401.1200.315				
	200	401.1200.315				

DIN 1530 Form D



Malzeme / Material : 1.2210 Takım çeliği / Tool Steel
Sertlik / Hardness : Gövde / Shank = 60 ± 2 HRC
Şapka / Head = 45 ± 5 HRC

Plastik enjeksiyon kalıplarında; itici pim olarak kullanılırlar. Gövde, sertleştirilmiş ve çok ince taşlanmıştır. They use in plastic enjeksiyon dies like ejektor device. Shank hardened and precision ground.

★ Also Hotwork Ejector pins Nitrided DIN 1530 Form A are available

421.

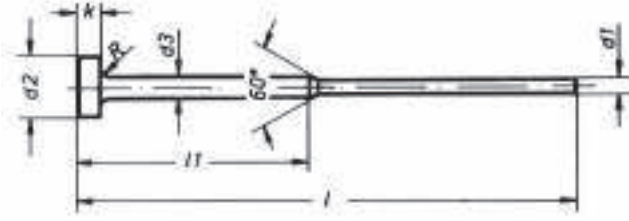
d ₂ -0,2	k+0,2	d _{1g6}	l ₁₊₂	Order / Sipariş No.
1,8	0,5	1	100	421.0100.100
		1,1		421.0110.100
		1,2		421.0120.100
		1,3		421.0130.100
2,2	0,5	1,4	100	421.0140.100
		1,5		421.0150.100
2,5	0,5	1,6	160	421.0150.160
			200	421.0160.100
		1,7	100	421.0160.160
			160	421.0170.100
2,8	0,5	1,8	100	421.0170.160
			160	421.0180.100
3	0,5	2	100	421.0180.160
			160	421.0200.100
			200	421.0200.160
3,2	0,5	2,1	100	421.0200.200
			160	421.0210.100
			200	421.0210.160
		2,2	100	421.0210.200
			160	421.0220.100
			200	421.0220.160
3,5	0,5	2,3	100	421.0220.200
			160	421.0230.100
			200	421.0230.160
		2,4	100	421.0230.200
			160	421.0240.100
			200	421.0240.160
4	0,5	2,5	100	421.0240.200
			160	421.0250.100
			200	421.0250.160
		2,6	100	421.0250.200
			160	421.0260.100
			200	421.0260.160
4,5	0,5	2,7	100	421.0260.200
			160	421.0270.100
			200	421.0270.160
		2,8	100	421.0270.200
			160	421.0280.100
			200	421.0280.160
4,5	0,5	3	100	421.0280.200
			160	421.0300.100
			200	421.0300.160
			250	421.0300.200

421.

d ₂ -0,2	k+0,2	d _{1g6}	l ₁₊₂	Order / Sipariş No.
4,5	0,5	3,1	100	421.0310.100
			160	421.0310.160
			200	421.0310.200
			250	421.0310.250
			100	421.0310.250
5	0,5	3,5	100	421.0350.100
			160	421.0350.160
			200	421.0350.200
			250	421.0350.250
5,5	0,5	4	100	421.0400.100
			160	421.0400.160
			200	421.0400.200
			250	421.0400.250
6	0,5	4,5	100	421.0450.100
			160	421.0450.160
			200	421.0450.200
			250	421.0450.250
6,5	0,5	5	100	421.0500.100
			160	421.0500.160
			200	421.0500.200
			250	421.0500.250
			100	421.0500.250
7	0,5	5,5	100	421.0550.100
			160	421.0550.160
			200	421.0550.200
			250	421.0550.250
			100	421.0550.250
8	0,5	6	100	421.0600.100
			160	421.0600.160
			200	421.0600.200
			250	421.0600.250
			100	421.0600.250
9	1	6,5	160	421.0650.160
			200	421.0650.200
			250	421.0650.250
			160	421.0650.250
			200	421.0700.160
10	1	7	160	421.0700.160
			200	421.0700.200
			250	421.0700.250
			160	421.0700.250
			200	421.0800.160
12	1	8	160	421.0800.160
			200	421.0800.200
			250	421.0800.250
			160	421.0800.250
			200	421.1000.160
14	1	10	160	421.1000.160
			200	421.1000.200
			250	421.1000.250
			160	421.1000.250
			200	421.1200.160
14	1	12	160	421.1200.160
			200	421.1200.200
			250	421.1200.250
			160	421.1200.250

Silindirik başlı kademeli hassas itici pimler 411.
Hardened ejector pins - cylindrical head 414.

kalıpyansan®



Malzeme : 1.2210 Takım çeliği
 Sertlik : Gövde = 60 ± 2 HRC
 Şapka = 45 ± 5 HRC

Plastik enjeksiyon kalıplarında itici pim olarak kullanılırlar. Gövde, sertleştirilmiş ve çok ince taşlanmıştır.

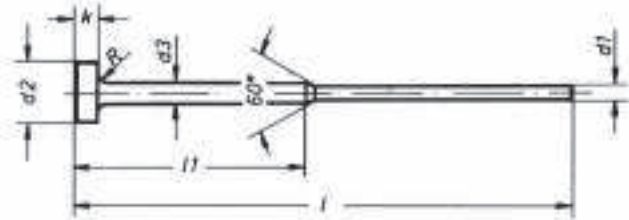
411.

d ₁ g6	d ₂ - 0,2	d ₃ - 0,1	k- 0,05	R	100	125	160	200
					50	50	75	75
0,8 - 1,4	4	2	2	0,3				
1,5 - 1,9	6	3	3					
2,0 - 2,4	6	3	3					
2,5 - 2,9	6	3	3					
3,0 - 3,9	8	4	3					

Sipariş Örneği

Kademeli İtici pim

Malzeme / WS = 411 x d₁ x l



Malzeme : 1.2344 Sıcak iş çeliği
 Sertlik : Gövde ≥ 950 HV 0.3
 Şapka = 45 ± 5 HRC

Metal enjeksiyon, bakalit kalıplarında itici pim olarak kullanılırlar. Gövde, nitrürlenmiş ve çok ince taşlanmıştır.

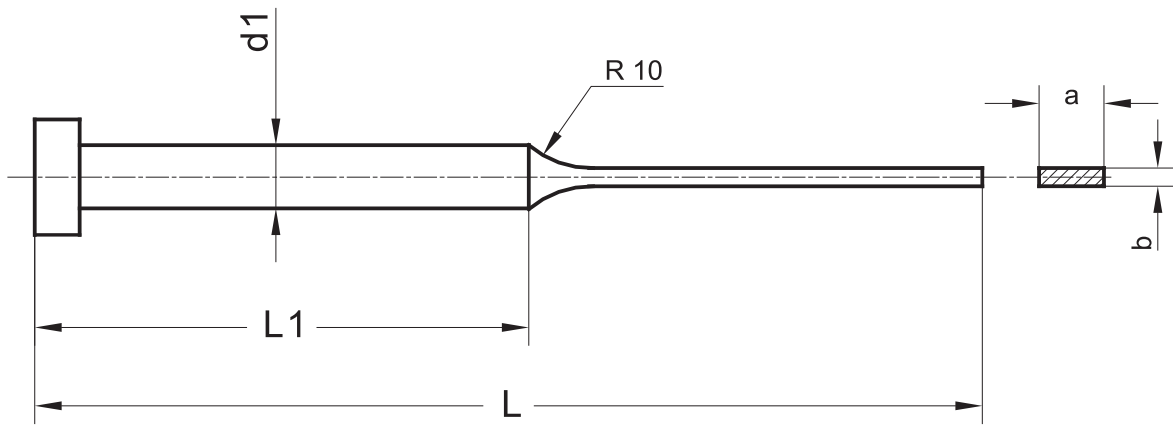
414.

d ₁ g6	d ₂ - 0,2	d ₃ - 0,1	k- 0,05	R	100	125	160	200
					50	50	75	75
0,8 - 1,4	4	2	2	0,3				
1,5 - 1,9	6	3	3					
2,0 - 2,4	6	3	3					
2,5 - 2,9	6	3	3					
3,0 - 3,9	8	4	3					

Sipariş Örneği

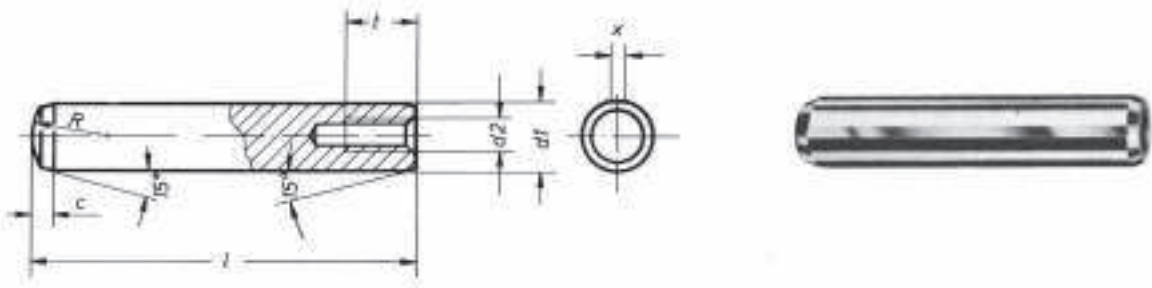
Kademeli İtici pim

Malzeme / WS = 414 x d₁ x l



412.

Ø d1	L	100	125	160	200	250	a x b
	L1	50	60	80	100	125	
3,0		•	•	•	•	•	0,8 x 2,5
4,0		•	•	•	•	•	0,8 x 2,5
6,0		•	•	•	•	•	1,2 x 5,5
8,0		•	•	•	•	•	2,0 x 7,5
10,0		•	•	•	•	•	2,5 x 9,5
12,0		•	•	•	•	•	4,0 x 11,5
16,0		•	•	•	•	•	5,0 x 15,5
Sipariş Örneği							
Ø d1	L					axb	
3,0			125				0,8 x 2,5
412.0300.125 / 0,8 x 2,5							



Malzeme : Sementasyon çeliği;
yüzey sertleştirilmesi
yapılmış, çok ince
taşlanmış.

Sertlik : 60 ± 2 HRC

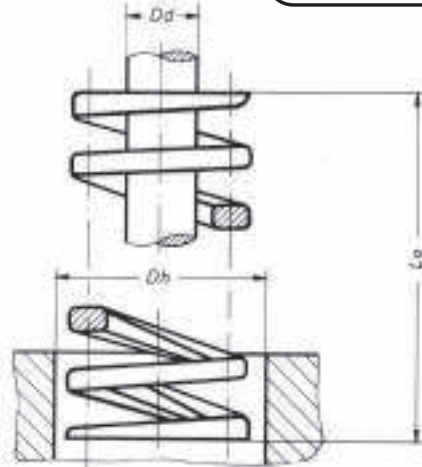
311.

d_1^{m6}	l	d_2	R	t	c	Sipariş no.
6	20	M4	6	6	1,5	311.0600.020
	24					311.0600.024
	28					311.0600.028
	32					311.0600.032
	36					311.0600.036
	40					311.0600.040
	50					311.0600.050
	60					311.0600.060
8	20	M5	8	8	2	311.0800.020
	24					311.0800.024
	28					311.0800.028
	32					311.0800.032
	36					311.0800.036
	40					311.0800.040
	50					311.0800.050
	60					311.0800.060
10	20	M6	10	10	2,5	311.1000.024
	28					311.1000.028
	32					311.1000.032
	36					311.1000.036
	40					311.1000.040
	50					311.1000.050
	60					311.1000.060
	80					311.1000.080
100	311.1000.100					

311.

d_1^{m6}	l	d_2	R	t	c	Sipariş no.
12	32	M6	12	10	3	311.1200.032
	36					311.1200.036
	40					311.1200.040
	50					311.1200.050
	60					311.1200.060
	80					311.1200.080
	100					311.1200.100
	120					311.1200.120
14	40	M8	16	12	3,5	311.1400.040
	50					311.1400.050
	60					311.1400.060
	80					311.1400.080
16	40	M8	16	12	4	311.1600.040
	50					311.1600.050
	60					311.1600.060
	80					311.1600.080
20	40	M8	16	12	4	311.1600.100
	50					311.1600.050
	60					311.1600.060
	80					311.1600.080
20	50	M10	20	16	5	311.2000.050
	60					311.2000.060
	80					311.2000.080
	100					311.2000.100
	120					311.2000.120

ISOSPRINGS®

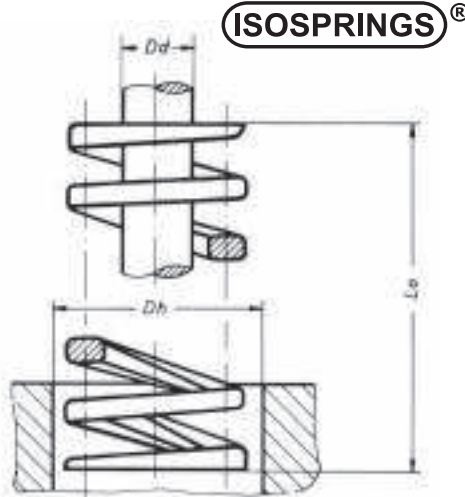


Dört değişik yükleme çeşidi ile tüm kalıp konusunda imalatın özel ihtiyaçlarına cevap verecek niteliktedir. Kolay ve çabuk farkedilebilmesi açısından değişik renklerle belirlenmiş olan, her dört cins yaylar çok geniş bir çap ve uzunluk çeşidi kapsamaktadır.

C - Yay oranı N/mm
Fn - Yay kuvveti N
Sn - Yaylanma mesafesi mm

501. / 502. / 503. / 504.

Dh mm	Dd mm	lo mm	Hafif Yükleme (Yeşil renkli) (Green Color)					Orta Yükleme (Mavi renkli) (Blue Color)					Ağır Yükleme (Kırmızı renkli) (Red Color)					Özellikle Ağır Yükleme (Sarı renkli) (Yellow Color)				
			Sipariş no.	Yay oranı C N/mm	%37,5 lo max. baskı			Sipariş no.	Yay oranı C N/mm	%35 lo max. baskı			Sipariş no.	Yay oranı C N/mm	%30 lo max. baskı			Sipariş no.	Yay oranı C N/mm	%25 lo max. baskı		
					Fn N	Sn mm	Fn N			Sn mm	Fn N	Sn mm			Fn N	Sn mm	Fn N			Sn mm	Fn N	Sn mm
10	5	25	501.10.025	12,0	110	9,4	502.10.025	17,5	160	8,7	503.10.025	22,0	170	7,5	504.10.025	35	215	6,2				
		32	501.10.032	9,8	110	12	502.10.032	15,0	160	11	503.10.032	20,0	170	9,6	504.10.032	26	205	8,0				
		38	501.10.038	7,6	110	14	502.10.038	13,0	160	13	503.10.038	15,0	170	11	504.10.038	22	205	9,5				
		45	501.10.045	6,8	110	16,5	502.10.045	11,0	160	15	503.10.045	13,0	170	13	504.10.045	18,2	200	11				
		50	501.10.050	6,0	110	19	502.10.050	10,0	160	18	503.10.050	11,0	170	15	504.10.050	15,4	200	13				
		65	501.10.065	4,6	110	24	502.10.065	7,5	160	22	503.10.065	9,0	170	19	504.10.065	12,5	200	16				
		75	501.10.075	3,6	110	28	502.10.075	6,0	160	27	503.10.075	7,0	170	23	504.10.075	10,4	200	19				
		300	501.10.300	1,0	110	114	502.10.300	1,5	160	107	503.10.300	1,8	170	91	504.10.300	2,5	190	76				
12,5	6,3	25	501.13.025	16,0	150	9,4	502.13.025	26,0	220	8,7	503.13.025	41,0	300	7,5	504.13.025	61	380	6,2				
		32	501.13.032	12,5	150	12	502.13.032	20,0	220	11	503.13.032	34,0	300	9,6	504.13.032	46	370	8,0				
		38	501.13.038	11,0	150	14	502.13.038	17,0	220	13	503.13.038	29,0	300	11	504.13.038	37	350	9,5				
		45	501.13.045	9,0	150	16,5	502.13.045	14,0	220	15	503.13.045	24,0	300	13	504.13.045	31	340	11				
		50	501.13.050	8,0	150	19	502.13.050	13,0	220	18	503.13.050	20	300	15	504.13.050	28	340	13				
		65	501.13.065	6,0	150	24	502.13.065	10,0	220	22	503.13.065	15,0	300	19	504.13.065	22,5	340	16				
		75	501.13.075	5,0	150	28	502.13.075	8,5	220	27	503.13.075	13,0	300	23	504.13.075	18,6	340	19				
		300	501.13.300	1,6	150	114	502.13.300	2,0	220	107	503.13.300	3,5	300	91	504.13.300	4,3	330	76				
16	8	25	501.16.025	29,0	270	9,4	502.16.025	48,0	390	8,7	503.16.025	72,0	540	7,5	504.16.025	127	790	6,2				
		32	501.16.032	23,0	270	12	502.16.032	38,0	390	11	503.16.032	60,0	540	9,6	504.16.032	95	760	8,0				
		38	501.16.038	20,0	270	14	502.16.038	31,0	390	13	503.16.038	49,0	540	11	504.16.038	78	740	9,5				
		45	501.16.045	16,0	270	16,5	502.16.045	25,0	390	15	503.16.045	40,0	540	13	504.16.045	66	720	11				
		50	501.16.050	14,0	270	19	502.16.050	24,0	390	18	503.16.050	36,0	540	15	504.16.050	56	710	13				
		65	501.16.065	11,0	270	24	502.16.065	17,0	390	22	503.16.065	26,0	540	19	504.16.065	44	700	16				
		75	501.16.075	9,0	270	28	502.16.075	15,0	390	27	503.16.075	23,0	540	23	504.16.075	37	700	19				
		90	501.16.090	8,0	270	33	502.16.090	12,5	390	31	503.16.090	20,0	540	27	504.16.090	31	690	22				
		100	501.16.100	7,0	270	38	502.16.100	12,0	390	36	503.16.100	18,0	540	31	504.16.100	27,5	690	26				
		300	501.16.300	2,0	270	114	502.16.300	4,0	390	107	503.16.300	6,0	540	91	504.16.300	8,9	670	76				
20	10	25	501.20.025	52,0	490	9,4	502.20.025	89,0	780	8,7	503.20.025	231,0	1730	7,5	504.20.025	354	2200	6,2				
		32	501.20.032	39,0	480	12	502.20.032	70,0	770	11	503.20.032	178,0	1710	9,6	504.20.032	255	2040	8,0				
		38	501.20.038	31,0	470	14	502.20.038	56,0	730	13	503.20.038	142,0	1600	11	504.20.038	202	1920	9,5				
		45	501.20.045	27,2	470	16,5	502.20.045	47,0	710	15	503.20.045	118,0	1530	13	504.20.045	170	1870	11				
		50	501.20.050	24,2	470	19	502.20.050	39,0	700	18	503.20.050	102,0	1500	15	504.20.050	145	1850	13				
		65	501.20.065	18,8	470	24	502.20.065	31,0	680	22	503.20.065	80,0	1500	19	504.20.065	114	1820	16				
		75	501.20.075	15,9	470	28	502.20.075	26,0	680	27	503.20.075	65,0	1500	23	504.20.075	95	1810	19				
		90	501.20.090	13,6	470	33	502.20.090	22,4	680	31	503.20.090	55,0	1480	27	504.20.090	80	1770	22				
		100	501.20.100	12,0	470	38	502.20.100	19,7	680	36	503.20.100	48,0	1450	31	504.20.100	69	1750	26				
		115	501.20.115	10,6	470	43	502.20.115	17,3	680	40	503.20.115	43,0	1450	35	504.20.115	60	1730	29				
		125	501.20.125	9,6	470	49	502.20.125	15,7	680	44	503.20.125	38,0	1450	38	504.20.125	54	1700	32				
		150	501.20.150	8,0	470	57	502.20.150	13,0	680	53	503.20.150	31,5	1450	46	504.20.150	44	1660	38				
		300	501.20.300	3,9	470	114	502.20.300	6,4	680	107	503.20.300	15,4	1400	91	504.20.300	21,5	1630	76				
		25	12,5	25	501.26.025	100,0	950	9,4	502.26.025	165,0	1450	8,7	—	—	—	—	—	—	—	—		
32	501.26.032			75,0	900	12	502.26.032	125,0	1400	11	503.26.032	286,0	2740	9,6	504.26.032	389	3110	8,0				
38	501.26.038			75,0	880	14	502.26.038	98,0	1330	13	503.26.038	230,0	2530	11	504.26.038	307	2910	9,5				
45	501.26.045			50,0	830	16,5	502.26.045	82,0	1290	15	503.26.045	193,0	2500	13	504.26.045	252	2770	11				
50	501.26.050			45,0	830	19	502.26.050	72,0	1270	18	503.26.050	162,0	2450	15	504.26.050	211	2750	13				
65	501.26.065			36,0	830	24	502.26.065	56,0	1240	22	503.26.065	128,0	2450	19	504.26.065	164	2630	16				
75	501.26.075			29,5	830	28	502.26.075	45,0	1200	27	503.26.075	103,0	2350	23	504.26.075	134	2550	19				
90	501.26.090			25,0	830	33	502.26.090	38,0	1200	31	503.26.090	88,0	2350	27	504.26.090	113	2480	22				
100	501.26.100			21,5	830	38	502.26.100	34,0	1200	36	503.26.100	76,0	2350	31	504.26.100	98	2480	26				
115	501.26.115			18,6	830	43	502.26.115	29,5	1200	40	503.26.115	68,0	2350	35	504.26.115	87	2480	29				
125	501.26.125			17,5	830	49	502.26.125	26,8	1200	44	503.26.125	61,0	2300	38	504.26.125	78	2480	32				
150	501.26.150			14,7	830	57	502.26.150	22,4	1200	53	503.26.150	50,0	2300	46	504.26.150	64	2450	38				
175	501.26.175			12,5	830	67	502.26.175	18,8	1200	62	503.26.175	43,0	2280	53	504.26.175	55	2430	44				
200	501.26.200			11,1	830	76	502.26.200	16,8	1200	71	503.26.200	37,0	2280	61	504.26.200	48	2400	51				
300	501.26.300	7,4	830	114	502.26.300	11,3	1200	107	503.26.300	25,0	2280	91	504.26.300	31	2360	76						



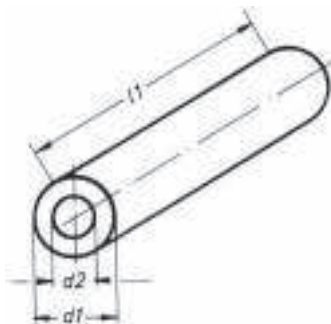
Yaylar için verilen çap ve uzunluklara göre ölçüm tablosundan arzu edilen basınç kuvvetinde seçim yapılır. Yaylar sekiz değişik delik ve malafa çapına göre düzenlenmiştir. Yay çapları özel ebadlarda olup sözü edilen delik ve malafa çaplarına uyusmaktadır.

C - Yay oranı N/mm
Fn - Yay kuvveti N
Sn - Yaylama mesafesi mm

501. / 502. / 503. / 504.

Dh mm	Dd mm	lo mm	Hafif Yükleme (Yeşil renkli) (Green Color)					Orta Yükleme (Mavi renkli) (Blue Color)					Ağır Yükleme (Kırmızı renkli) (Red Color)					Özellikle Ağır Yükleme (Sarı renkli) (Yellow Color)				
			Sipariş no.	Yay oranı C N/mm	%37,5 lo max. baskı		Sipariş no.	Yay oranı C N/mm	%35 lo max. baskı		Sipariş no.	Yay oranı C N/mm	%30 lo max. baskı		Sipariş no.	Yay oranı C N/mm	%25 lo max. baskı					
					Fn N	Sn mm			Fn N	Sn mm			Fn N	Sn mm			Fn N	Sn mm				
32	16	38	501.32.038	93,0	1330	14	502.32.038	163,0	2180	13	503.32.038	392,0	4200	11	504.32.038	530	5050	9,5				
		45	501.32.045	81,0	1330	16,5	502.32.045	136,0	2100	15	503.32.045	324,0	4200	13	504.32.045	436	4800	11				
		50	501.32.050	68,0	1300	19	502.32.050	114,0	2060	18	503.32.050	277,0	4150	15	504.32.050	368	4750	13				
		65	501.32.065	54,0	1300	24	502.32.065	88,0	1990	22	503.32.065	216,0	410	19	504.32.065	288	4600	16				
		75	501.32.075	45,0	1280	28	502.32.075	72,0	1930	27	503.32.075	176,0	4050	23	504.32.075	230	4400	19				
		90	501.32.090	38,0	1250	33	502.32.090	63,0	1930	31	503.32.090	148,0	4000	27	504.32.090	193	4250	22				
		100	501.32.100	32,0	1220	38	502.32.100	52,0	1910	36	503.32.100	128,0	4000	31	504.32.100	164	4200	26				
		115	501.32.115	28,6	1220	43	502.32.115	47,0	1910	40	503.32.115	112,0	3900	35	504.32.115	145	4000	29				
		125	501.32.125	26,0	1220	49	502.32.125	43,0	1910	44	503.32.125	101,0	3900	38	504.32.125	131	4000	32				
		150	501.32.150	21,5	1220	57	502.32.150	36,0	1910	53	503.32.150	83,0	3850	46	504.32.150	107	4000	38				
		175	501.32.175	17,9	1200	67	502.32.175	30,0	1910	62	503.32.175	70,0	3750	53	504.32.175	91	4000	44				
		200	501.32.200	15,7	1200	76	502.32.200	25,9	1870	71	503.32.200	62,0	3750	61	504.32.200	80	4000	51				
250	501.32.250	12,5	1200	95	502.32.250	20,6	1870	89	503.32.250	49,0	3700	76	504.32.250	63	4000	64						
300	501.32.300	10,4	1200	114	502.32.300	17,4	1870	107	503.32.300	40,0	3650	91	504.32.300	52	4000	76						
40	20	50	501.40.050	100,0	1900	19	502.40.050	165,0	2940	18	503.40.050	354,0	5350	15	504.40.050	590	7650	13				
		65	501.40.065	79,0	1900	24	502.40.065	125,0	2800	22	503.40.065	273,0	5200	19	504.40.065	459	7350	16				
		75	501.40.075	64,0	1850	28	502.40.075	104,0	2740	27	503.40.075	225,0	5150	23	504.40.075	364	6900	19				
		90	501.40.090	56,0	1850	33	502.40.090	86,0	2700	31	503.40.090	191,0	5150	27	504.40.090	298	6700	22				
		100	501.40.100	48,0	1850	38	502.40.100	75,0	2700	36	503.40.100	167,0	5100	31	504.40.100	263	6600	26				
		115	501.40.115	43,0	1850	43	502.40.115	66,0	2700	40	503.40.115	145,0	5000	35	504.40.115	232	6600	29				
		125	501.40.125	39,0	1850	49	502.40.125	59,0	2700	44	503.40.125	131,0	4950	38	504.40.125	205	6550	32				
		150	501.40.150	31,0	1730	57	502.40.150	48,0	2700	53	503.40.150	108,0	4950	46	504.40.150	168	6400	38				
		175	501.40.175	26,0	1730	67	502.40.175	43,0	2700	62	503.40.175	91,0	4900	53	504.40.175	143	6300	44				
		200	501.40.200	23,3	1730	76	502.40.200	38,0	2700	71	503.40.200	79,0	4850	61	504.40.200	123	6250	51				
		250	501.40.250	18,8	1730	95	502.40.250	29,5	2700	89	503.40.250	63,0	4800	76	504.40.250	96	6150	64				
		300	501.40.300	15,2	1730	114	502.40.300	24,2	2700	107	503.40.300	52,0	4750	91	504.40.300	80	6100	76				
50	25	65	501.51.065	152,0	3650	24	502.51.065	206,0	4620	22	503.51.065	420,0	8000	19	504.51.065	752	12000	16				
		75	501.51.075	123,0	3540	28	502.51.075	166,0	4420	27	503.51.075	339,0	7800	23	504.51.075	600	11400	19				
		90	501.51.090	102,0	3440	33	502.51.090	138,0	4340	31	503.51.090	290,0	7800	27	504.51.090	506	11100	22				
		100	501.51.100	90,0	3440	38	502.51.100	120,0	4300	36	503.51.100	248,0	7750	31	504.51.100	426	11050	26				
		115	501.51.115	79,0	3440	43	502.51.115	106,0	4300	40	503.51.115	217,0	7700	35	504.51.115	376	10900	29				
		125	501.51.125	70,0	3320	49	502.51.125	95,0	4220	44	503.51.125	193,0	7600	38	504.51.125	331	10500	32				
		150	501.51.150	57,0	3320	57	502.51.150	79,0	4220	53	503.51.150	156,0	7400	46	504.51.150	269	10300	38				
		175	501.51.175	50,0	3320	67	502.51.175	68,0	4220	62	503.51.175	134,0	7200	53	504.51.175	231	10200	44				
		200	501.51.200	41,0	3150	76	502.51.200	57,0	4170	71	503.51.200	117,0	7200	61	504.51.200	201	10200	51				
		250	501.51.250	34,0	3150	95	502.51.250	47,0	4080	89	503.51.250	91,0	6900	76	504.51.250	159	10200	64				
		300	501.51.300	27,8	3100	114	502.51.300	38,0	4080	107	503.51.300	74,0	6750	91	504.51.300	129	9800	76				

605./606.



Çelik yayların kuvvet olarak yeterli olmadığı, yaylanma mesafesi fazla istenilmeyen kalıplarda kullanılırlar iki değişik sertliktedir.

605 = 80 Shore A= %35 esneme (Yeşil renkte)

606 = 90 Shore A= % 30 esneme (Sarı renkte)

Sipariş no	d1	d2	l1
60 .016	16	6,5	300
60 .020	20	8,5	300
60 .025	25	10,5	300
60 .032	32	13,5	300
60 .040	40	17,0	300
60 .050	50	17,0	300
60 .063	63	17,0	300
60 .080	80	21,0	300
60 .100	100	21,0	300





kalipyansan®

TOSB Otomotiv Yan Sanayi İhtisas Organize Sanayi Bölgesi
1.Cd.12.Sk. No:10 41420 Şekerpınar - Çayırova / Kocaeli / Türkiye
Tel : +90 262 658 95 40 Faks : +90 262 658 95 60
info@kalipyansan.com www.kalipyansan.com