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İÇİNDEKİLER

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EKS-K 496 x L	39
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İÇİNDEKİLER

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PKS 196 x L (K) - (KK)	47
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Bilyalı Pres Kalıp Setleri

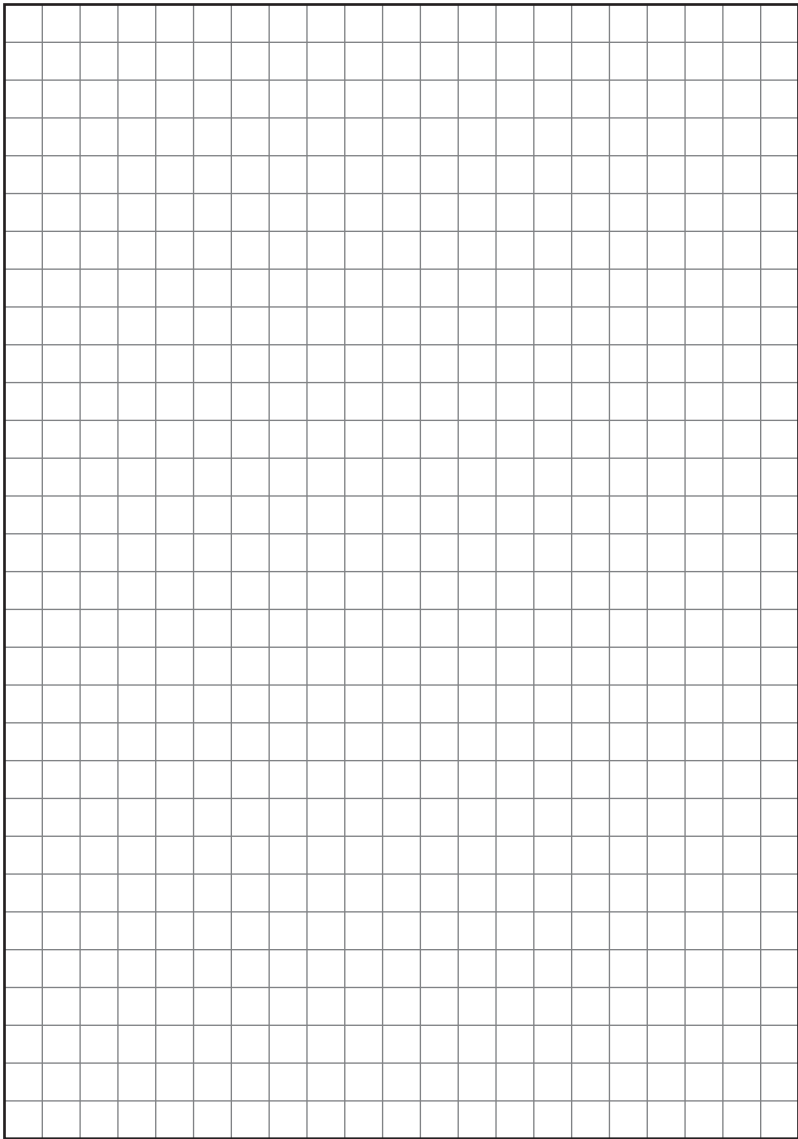
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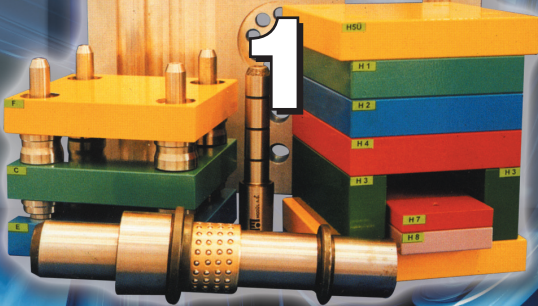




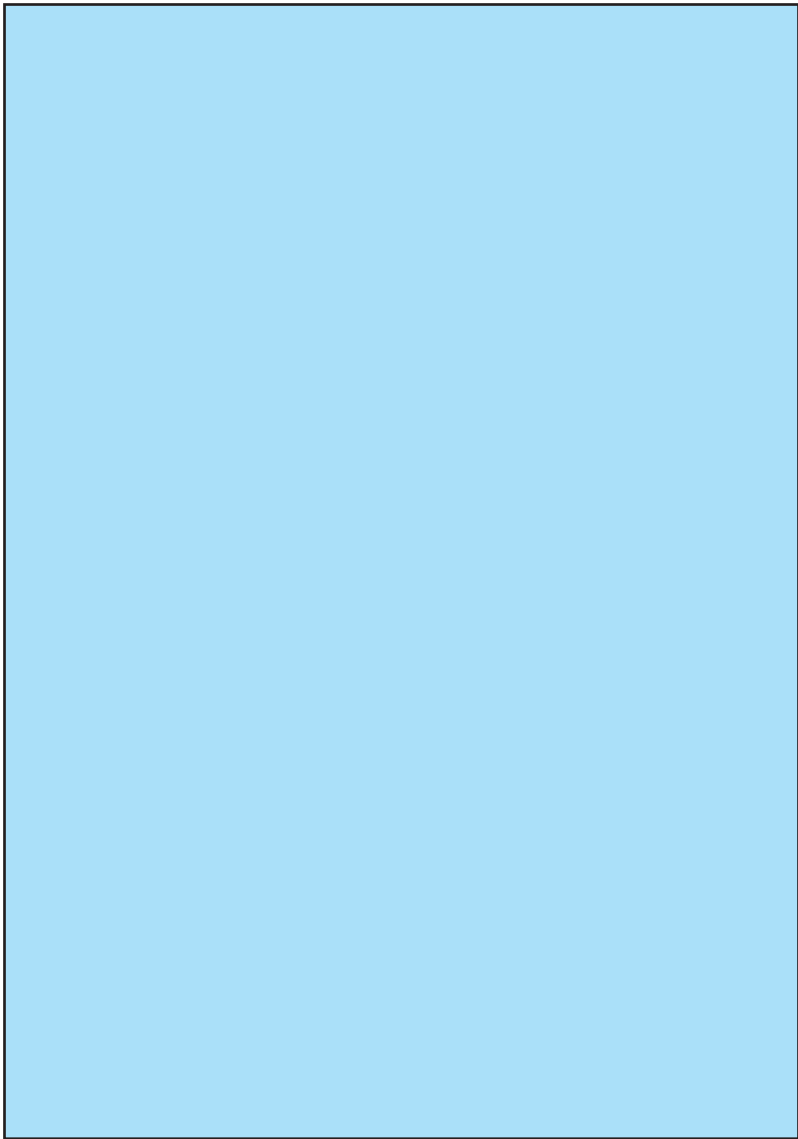
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BÖLÜM

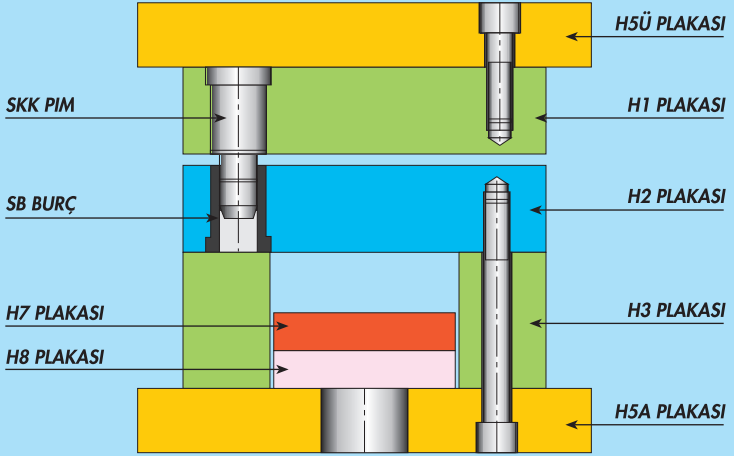
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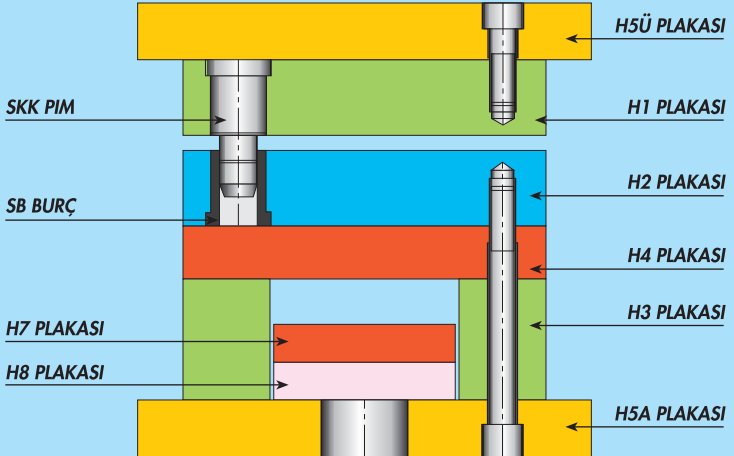
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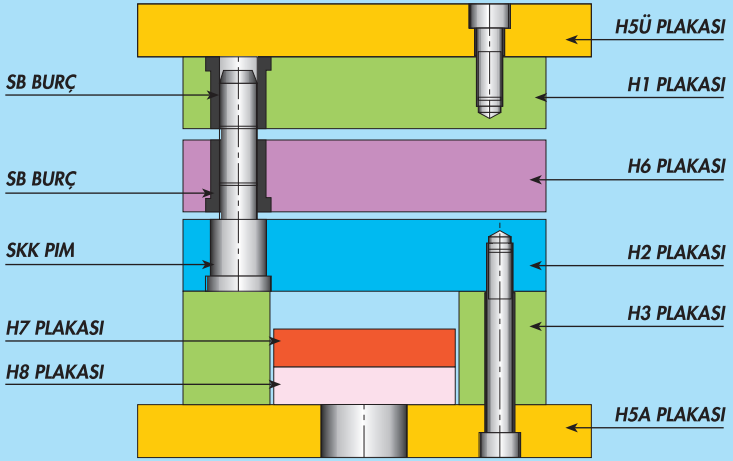
EKS E SERİSİ - EKS E SERIES



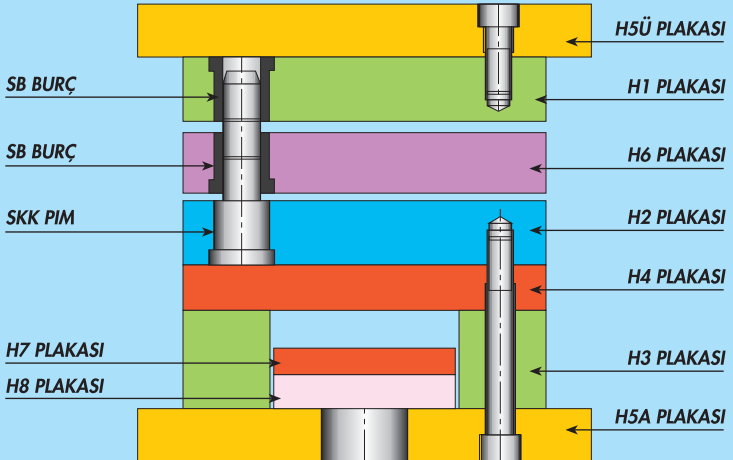
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EKS ES SERİSİ - EKS ES SERIES



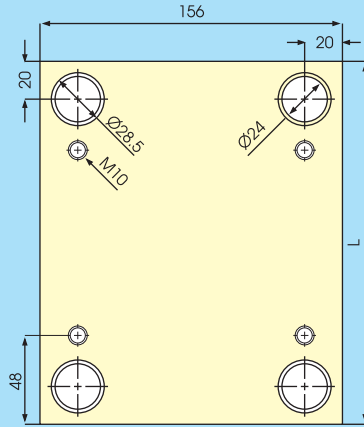
EKS ESD SERİSİ - EKS ESD SERIES



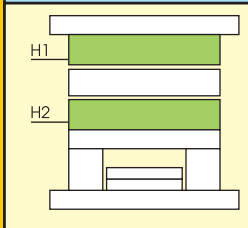
**EKS 156 x L SERİSİ
ENJEKSİYON
KALIP SETİ
(E/ES/ED/EDS)**

EKS-E = H1-H2
EKS-ED = H1-H2-H4
EKS-ES = H1-H2-H6
EKS-ESD = H1-H2-H4-H6

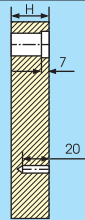
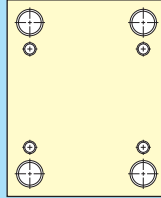
*EKS 156 x L SERIES
of INJECTION
MOLD BASE
(E/ES/ED/EDS)*



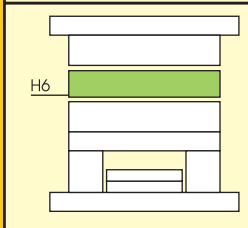
L
156
196
246
296
*



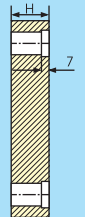
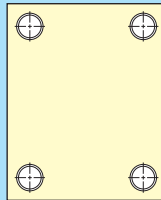
H1-H2



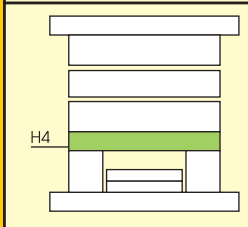
H
27
37
47
57
*



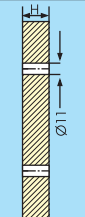
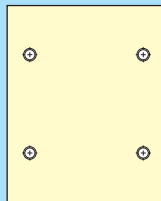
H6



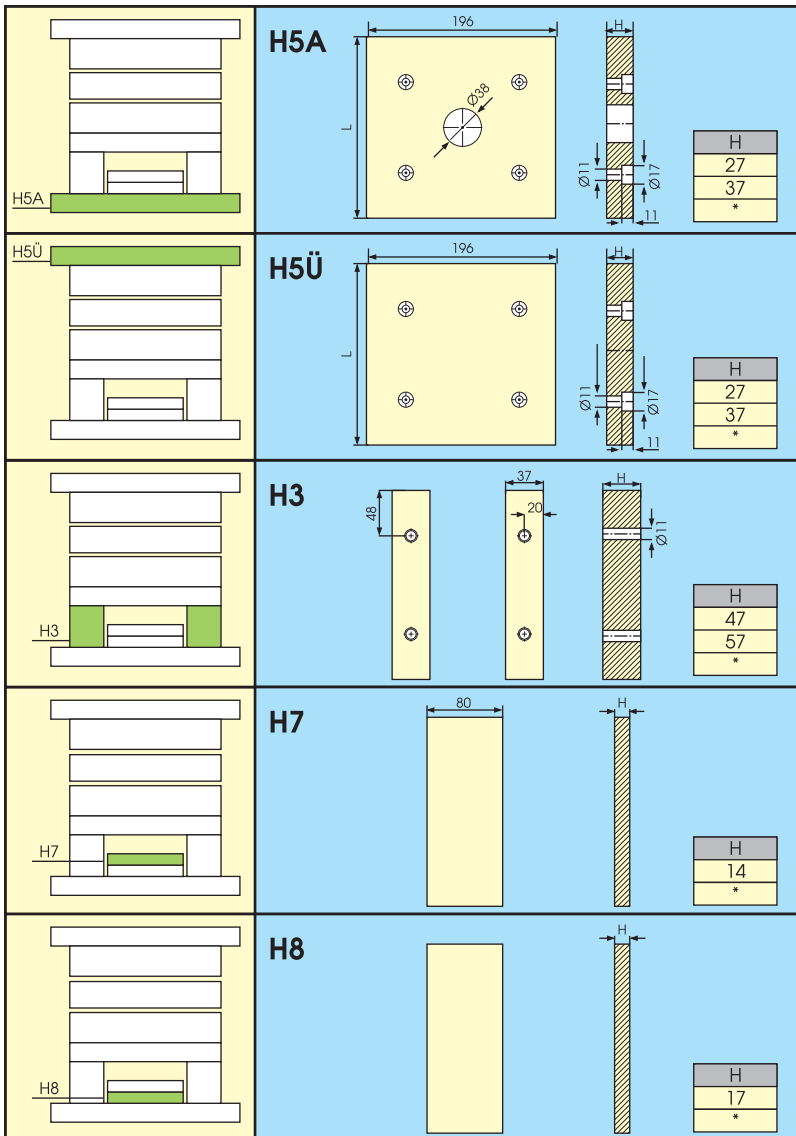
H
27
37
47
57
*



H4



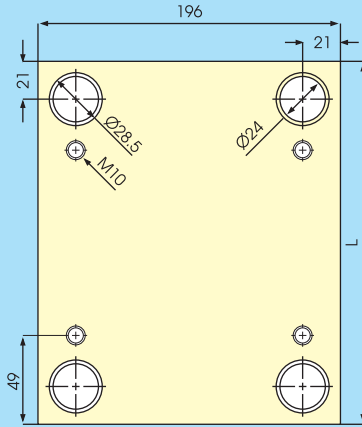
H
27
37
47
57
*



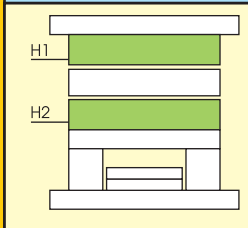
EKS 196 x L SERİSİ ENJEKSİYON KALIP SETİ (E/ES/ED/EDS)

EKS-E = H1-H2
EKS-ED = H1-H2-H4
EKS-ES = H1-H2-H6
EKS-ESD = H1-H2-H4-H6

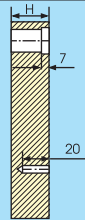
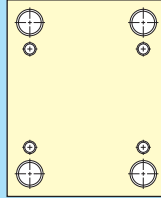
*EKS 196 x L SERIES
of INJECTION
MOLD BASE
(E/ES/ED/EDS)*



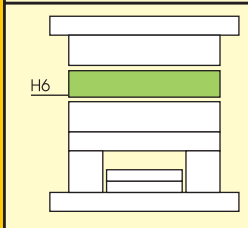
L
196
246
296
346
*



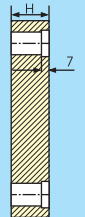
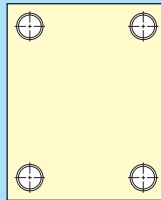
H1-H2



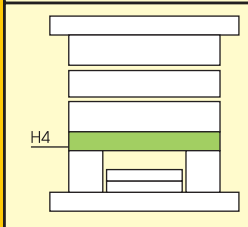
H
27
37
47
57
*



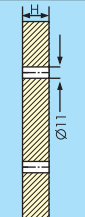
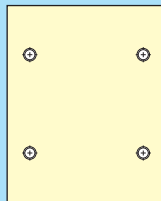
H6



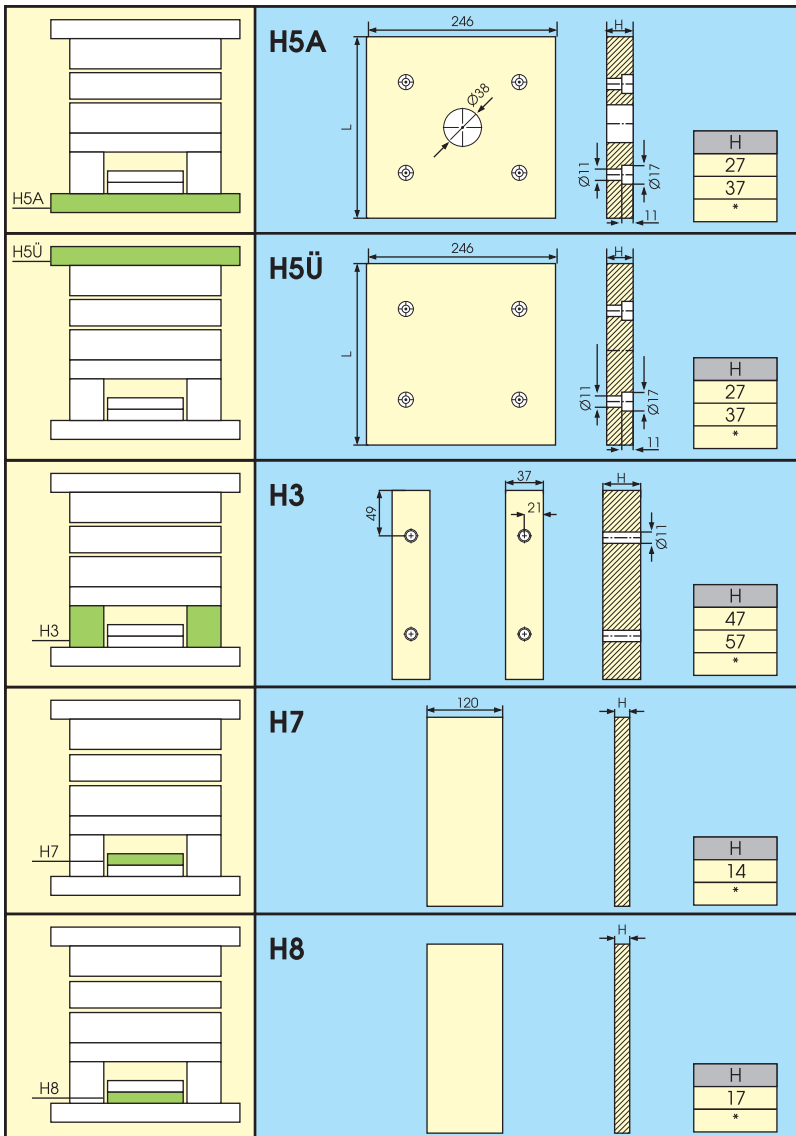
H
27
37
47
57
*



H4



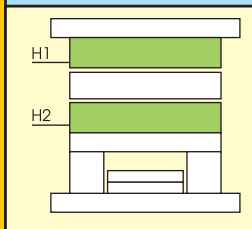
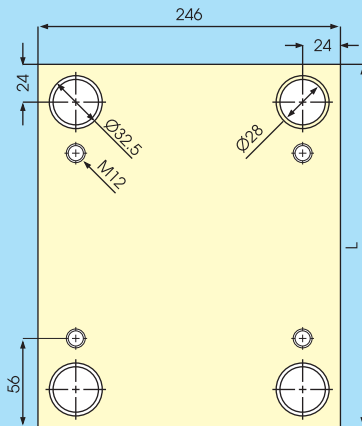
H
27
37
47
57
*



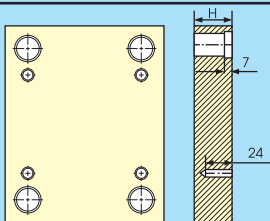
EKS 246 x L SERİSİ ENJEKSİYON KALIP SETİ (E/ES/ED/EDS)

EKS-E = H1-H2
EKS-ED = H1-H2-H4
EKS-ES = H1-H2-H6
EKS-ESD = H1-H2-H4-H6

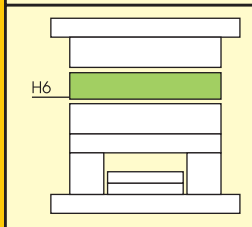
*EKS 246 x L SERIES
of INJECTION
MOLD BASE
(E/ES/ED/EDS)*



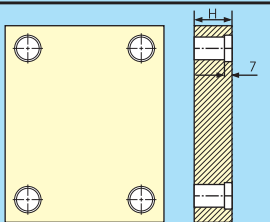
H1-H2



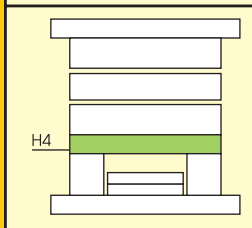
H
27
37
47
57
*



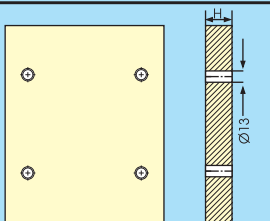
H6



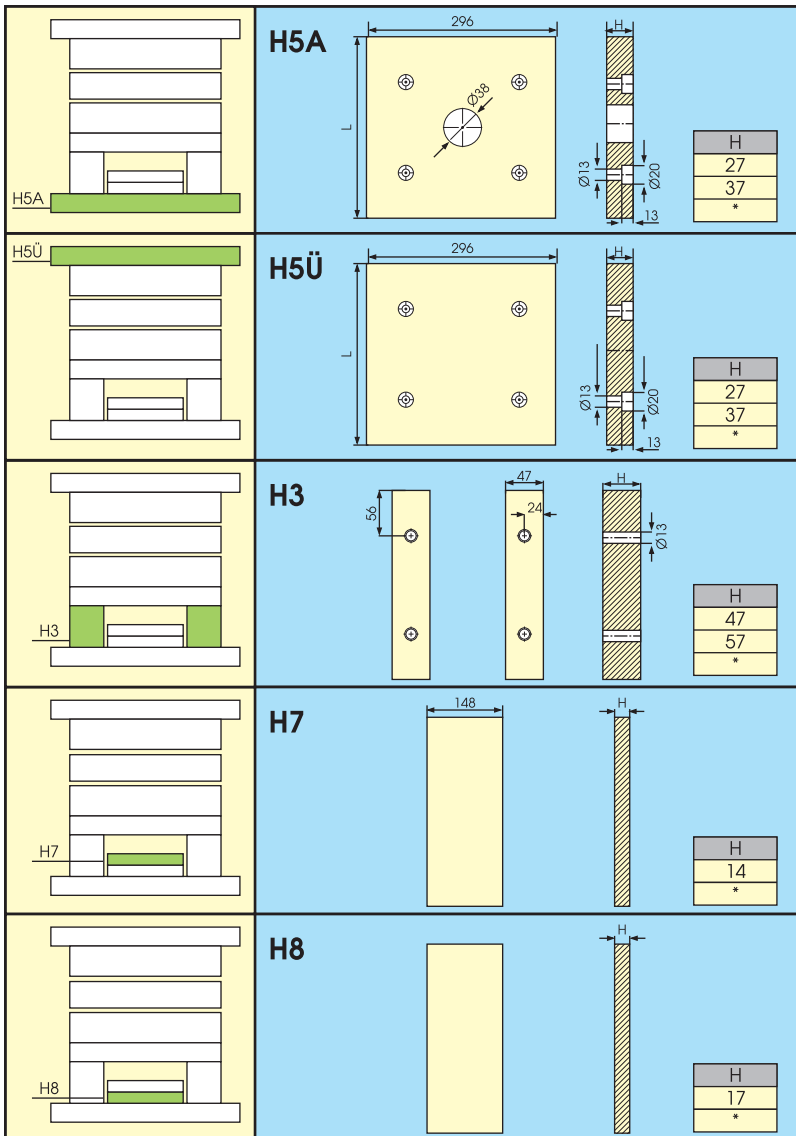
H
27
37
47
57
*



H4



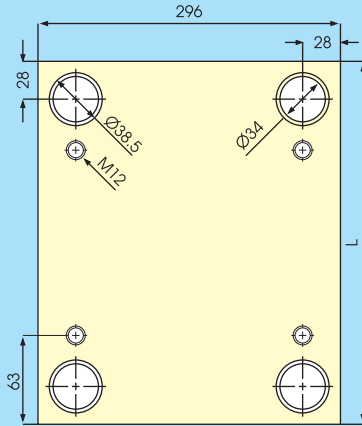
H
27
37
47
57
*



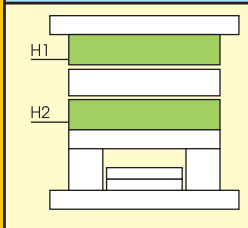
EKS 296 x L SERİSİ ENJEKSİYON KALIP SETİ (E/ES/ED/EDS)

- EKS-E = H1-H2
 EKS-ED = H1-H2-H4
 EKS-ES = H1-H2-H6
 EKS-ESD = H1-H2-H4-H6

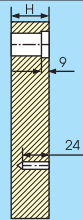
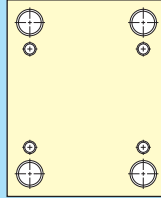
*EKS 296 x L SERIES
of INJECTION
MOLD BASE
(E/ES/ED/EDS)*



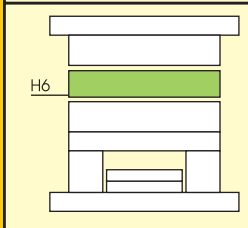
L
296
346
396
446
*



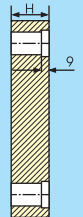
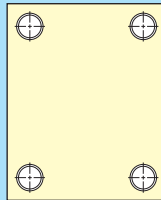
H1-H2



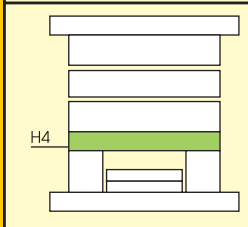
H
27
37
47
57
*



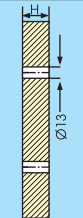
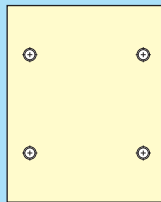
H6



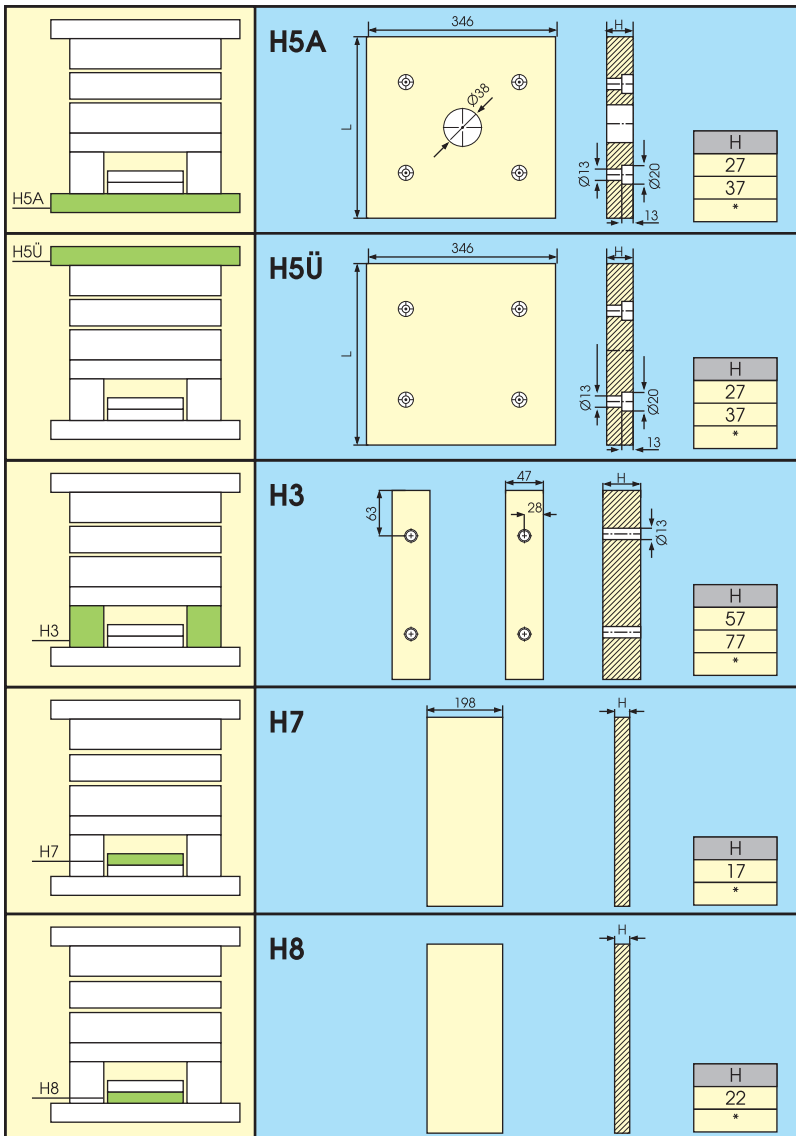
H
27
37
47
57
*



H4



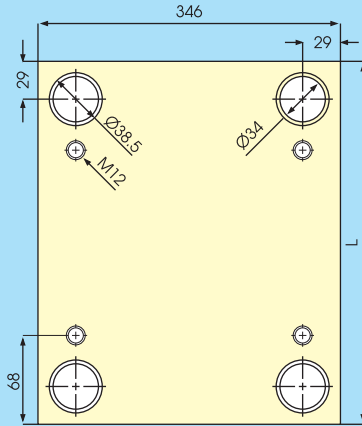
H
27
37
47
57
*



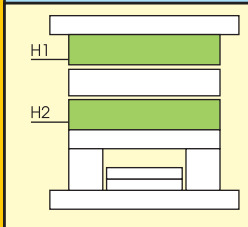
EKS 346 x L SERİSİ ENJEKSİYON KALIP SETİ (E/ES/ED/EDS)

- EKS-E = H1-H2
- EKS-ED = H1-H2-H4
- EKS-ES = H1-H2-H6
- EKS-ESD = H1-H2-H4-H6

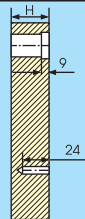
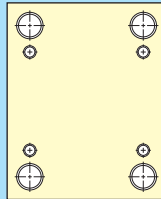
EKS 346 x L SERIES of INJECTION MOLD BASE (E/ES/ED/EDS)



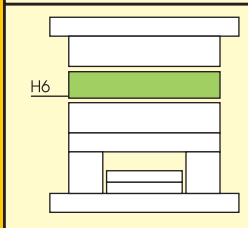
L
346
396
446
496
*



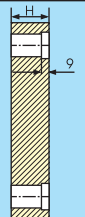
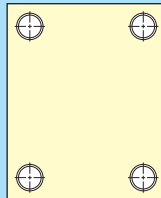
H1-H2



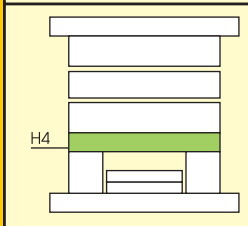
H
27
37
47
57
*



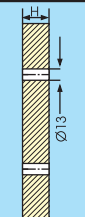
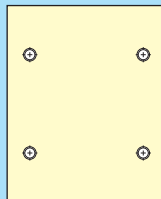
H6



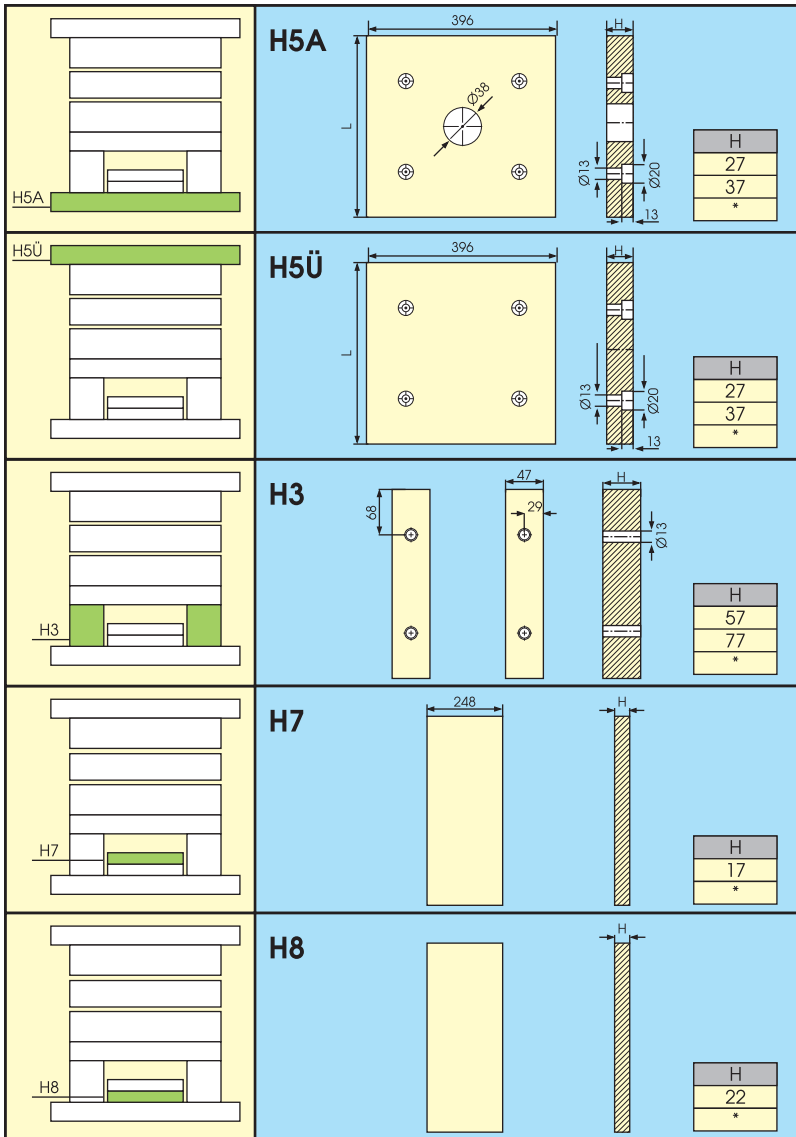
H
27
37
47
57
*



H4



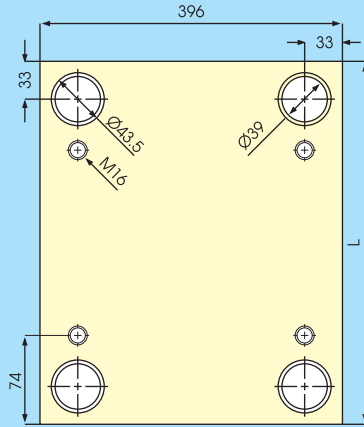
H
27
37
47
57
*



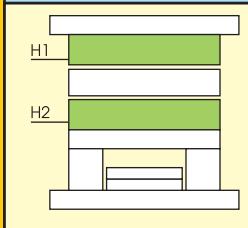
EKS 396 x L SERİSİ ENJEKSİYON KALIP SETİ (E/ES/ED/EDS)

EKS-E = H1-H2
EKS-ED = H1-H2-H4
EKS-ES = H1-H2-H6
EKS-ESD = H1-H2-H4-H6

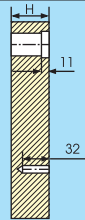
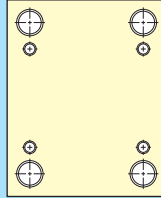
*EKS 396 x L SERIES
of INJECTION
MOLD BASE
(E/ES/ED/EDS)*



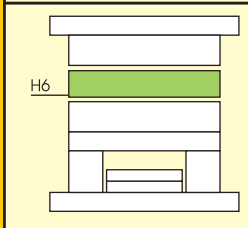
L
396
446
496
546
*



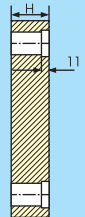
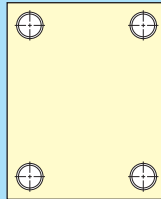
H1-H2



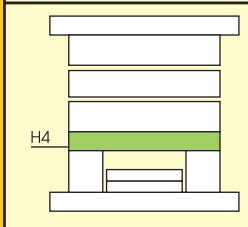
H
27
37
47
57
*



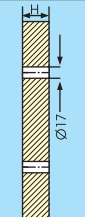
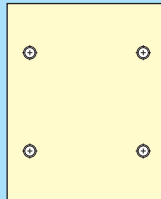
H6



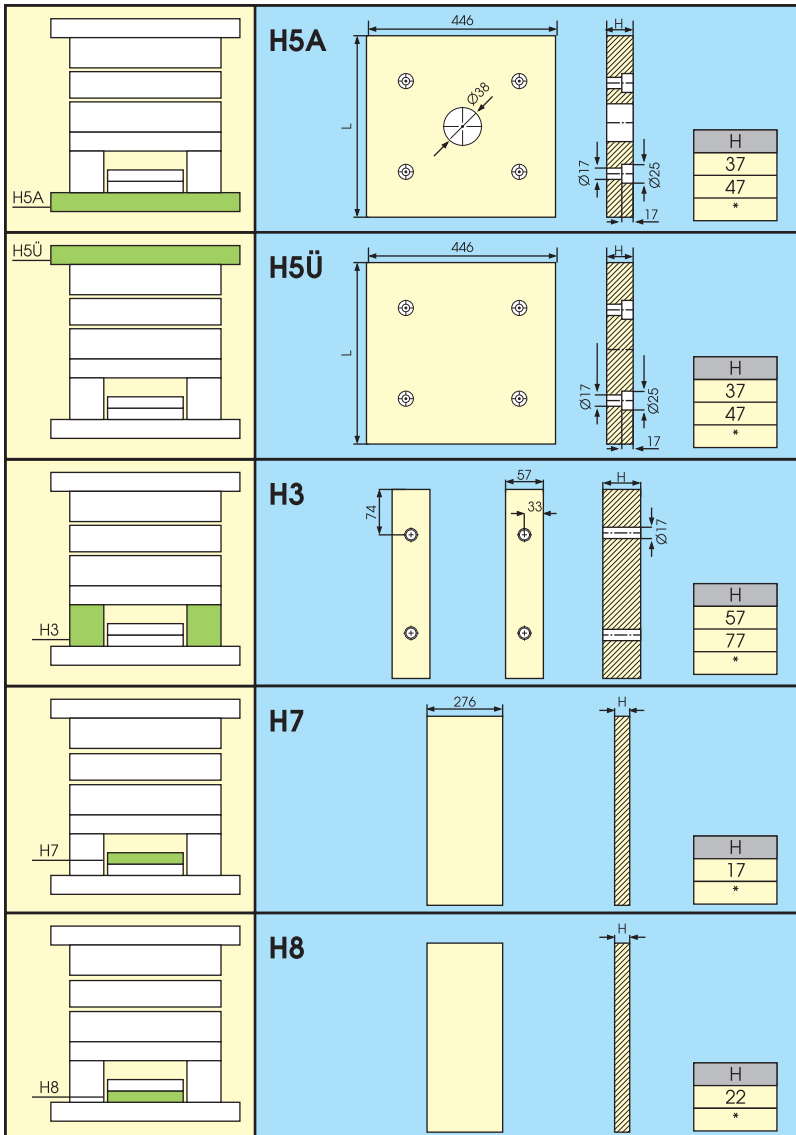
H
27
37
47
57
*



H4



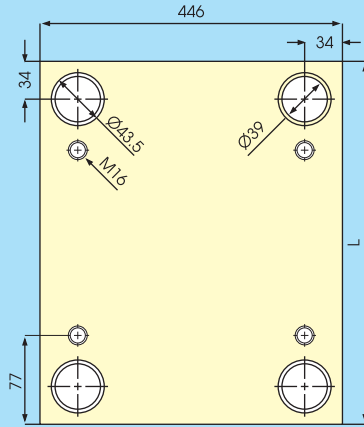
H
37
47
57
67
*



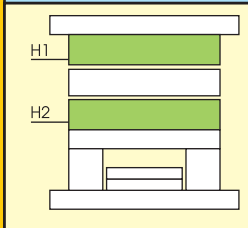
EKS 446 x L SERİSİ ENJEKSİYON KALIP SETİ (E/ES/ED/EDS)

- EKS-E = H1-H2
- EKS-ED = H1-H2-H4
- EKS-ES = H1-H2-H6
- EKS-ESD = H1-H2-H4-H6

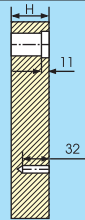
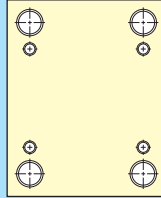
*EKS 446 x L SERIES
of INJECTION
MOLD BASE
(E/ES/ED/EDS)*



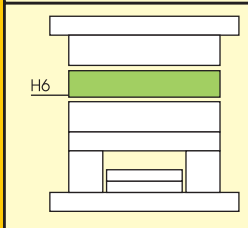
L
446
496
546
596
*



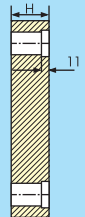
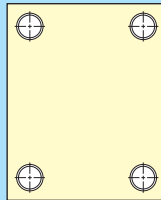
H1-H2



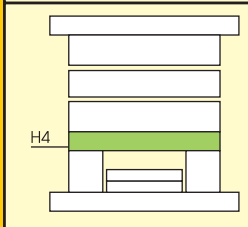
H
37
47
57
67
*



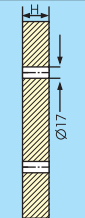
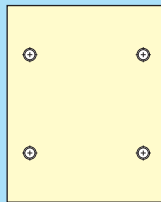
H6



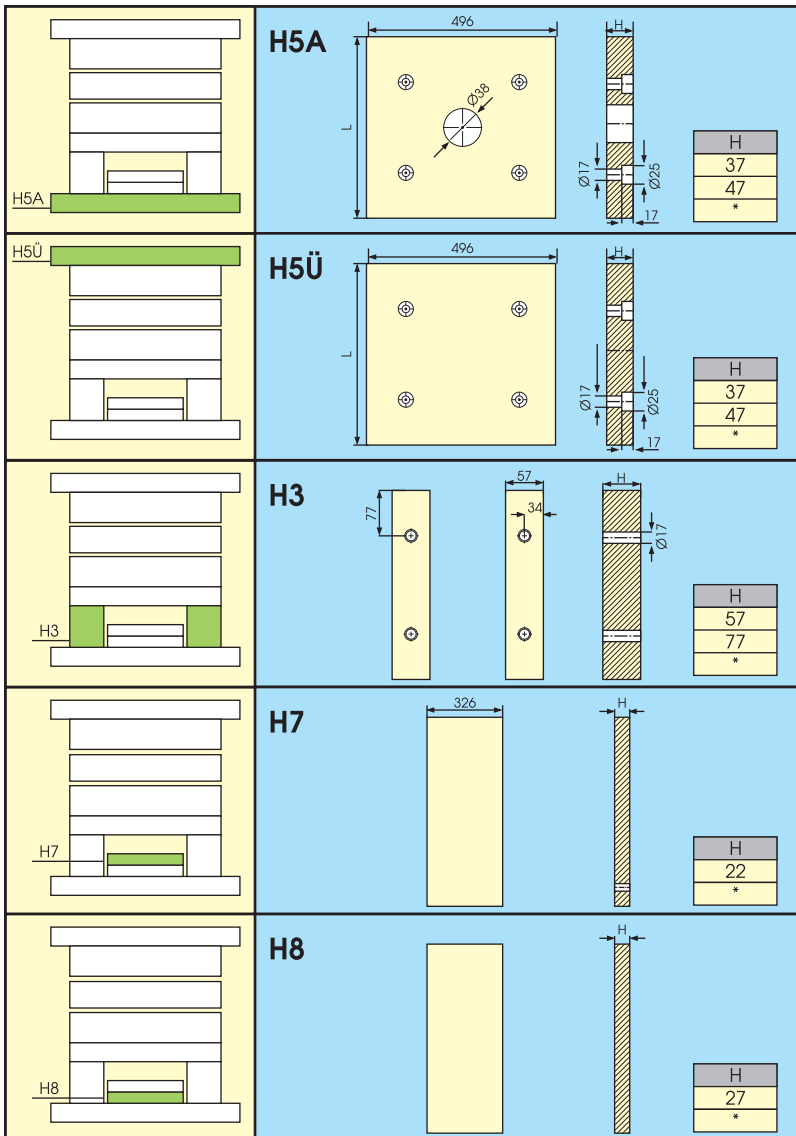
H
37
47
57
67
*



H4



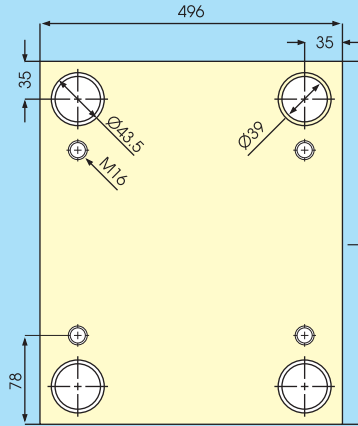
H
37
47
57
67
*



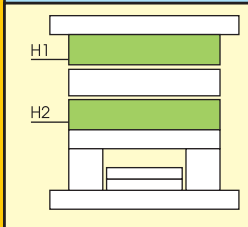
**EKS 496 x L SERİSİ
ENJEKSİYON
KALIP SETİ
(E/ES/ED/EDS)**

EKS-E = H1-H2
EKS-ED = H1-H2-H4
EKS-ES = H1-H2-H6
EKS-ESD = H1-H2-H4-H6

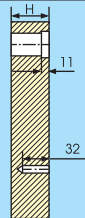
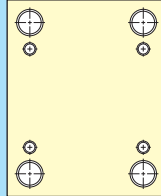
*EKS 496 x L SERIES
of INJECTION
MOLD BASE
(E/ES/ED/EDS)*



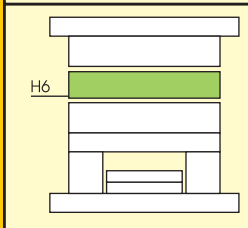
L
496
546
596
646
*



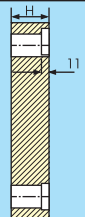
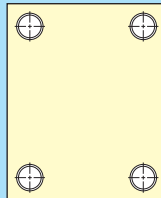
H1-H2



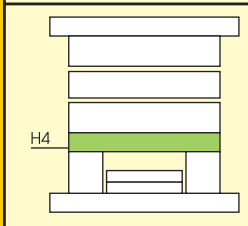
H
37
47
57
67
*



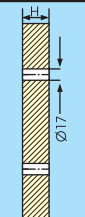
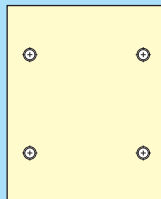
H6



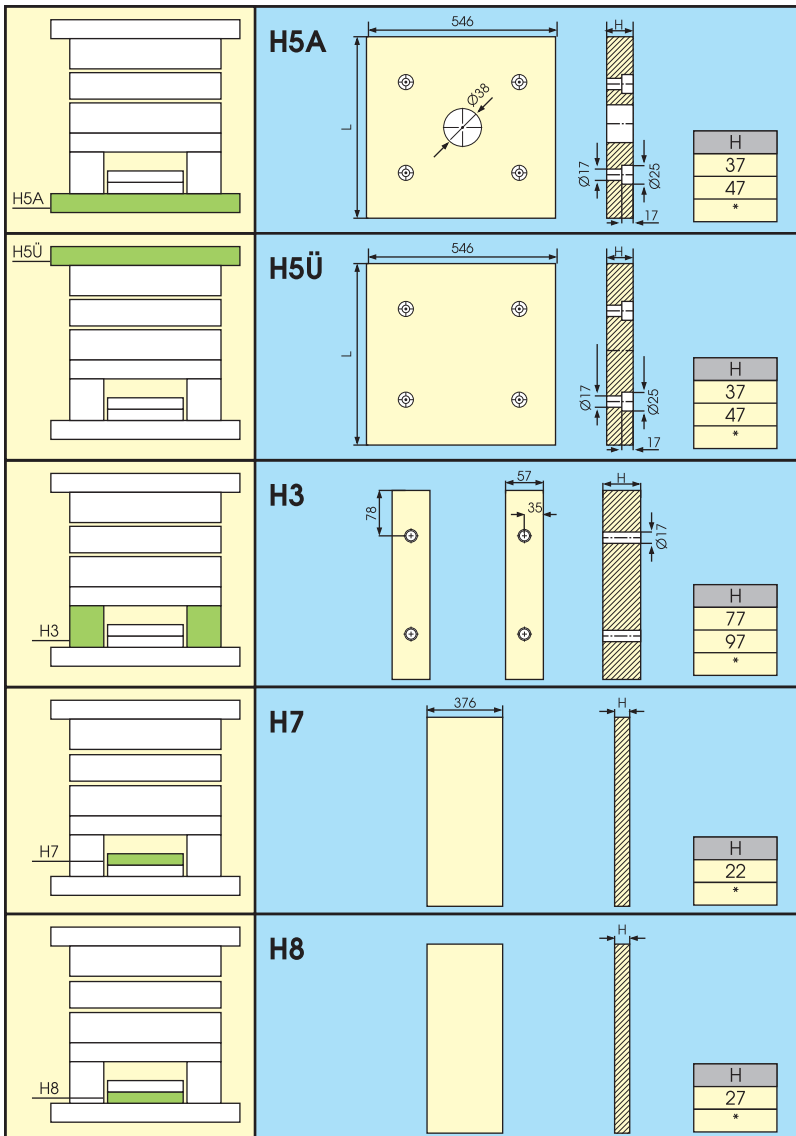
H
37
47
57
67
*



H4



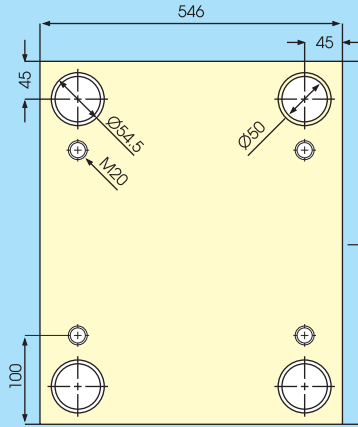
H
37
47
57
67
*



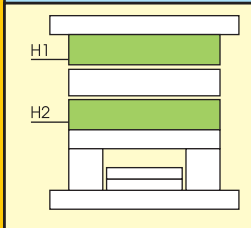
EKS 546 x L SERİSİ ENJEKSİYON KALIP SETİ (E/ES/ED/EDS)

- EKS-E = H1-H2
- EKS-ED = H1-H2-H4
- EKS-ES = H1-H2-H6
- EKS-ESD = H1-H2-H4-H6

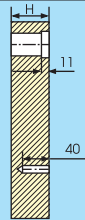
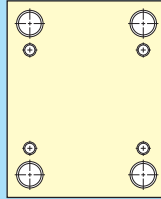
EKS 546 x L SERIES of INJECTION MOLD BASE (E/ES/ED/EDS)



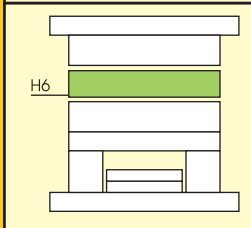
L
546
596
646
696
*



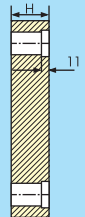
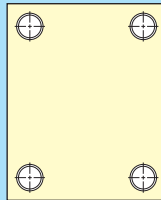
H1-H2



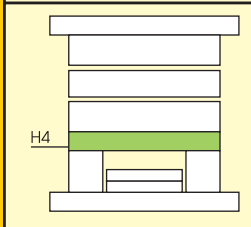
H
47
57
67
77
*



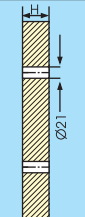
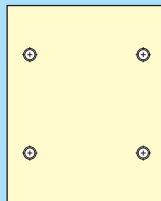
H6



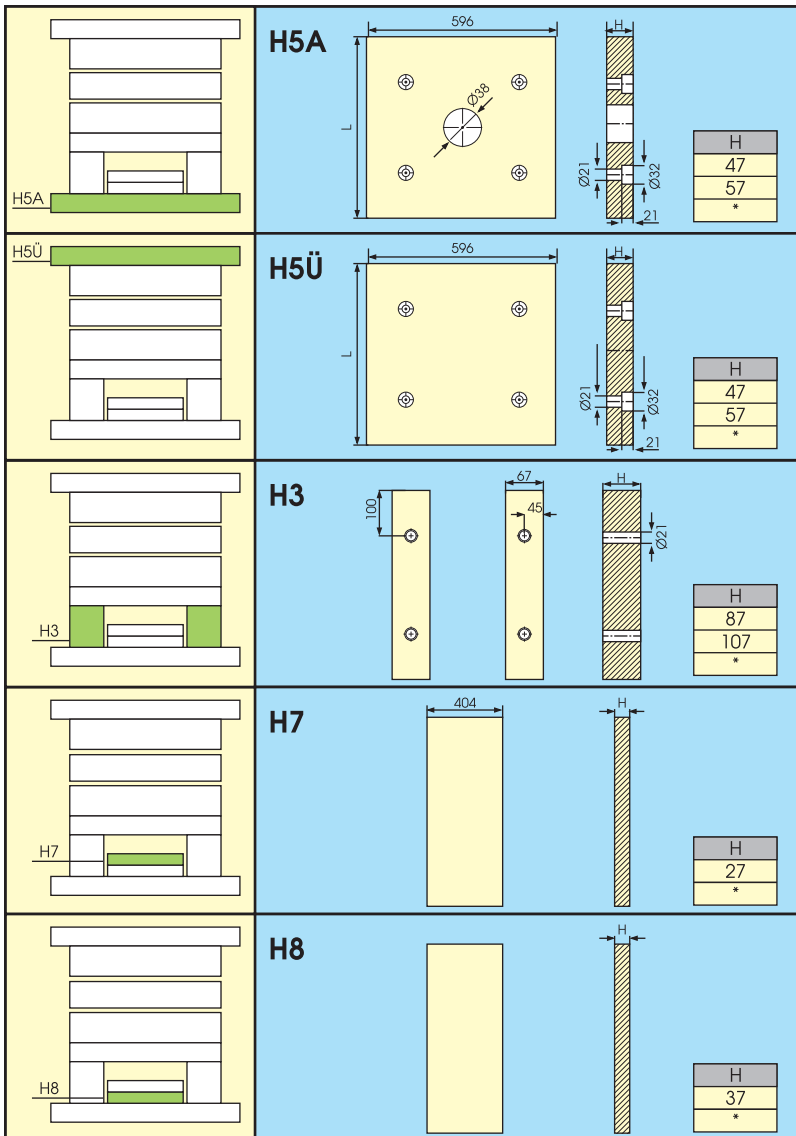
H
47
57
67
77
*



H4



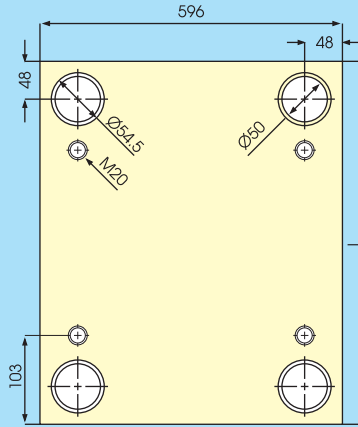
H
37
47
57
67
*



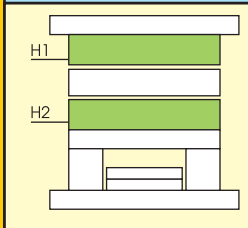
EKS 596 x L SERİSİ ENJEKSİYON KALIP SETİ (E/ES/ED/EDS)

EKS-E = H1-H2
EKS-ED = H1-H2-H4
EKS-ES = H1-H2-H6
EKS-ESD = H1-H2-H4-H6

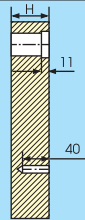
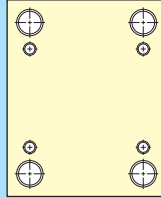
*EKS 596 x L SERIES
of INJECTION
MOLD BASE
(E/ES/ED/EDS)*



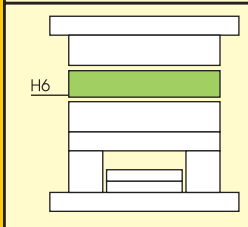
L
596
696
796
896
996
*



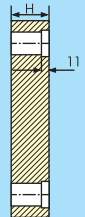
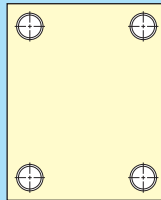
H1-H2



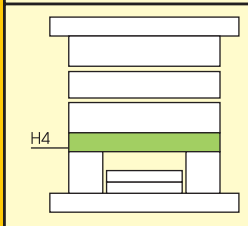
H
47
57
67
77
*



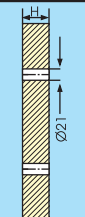
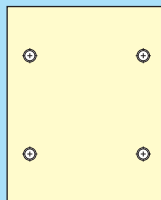
H6



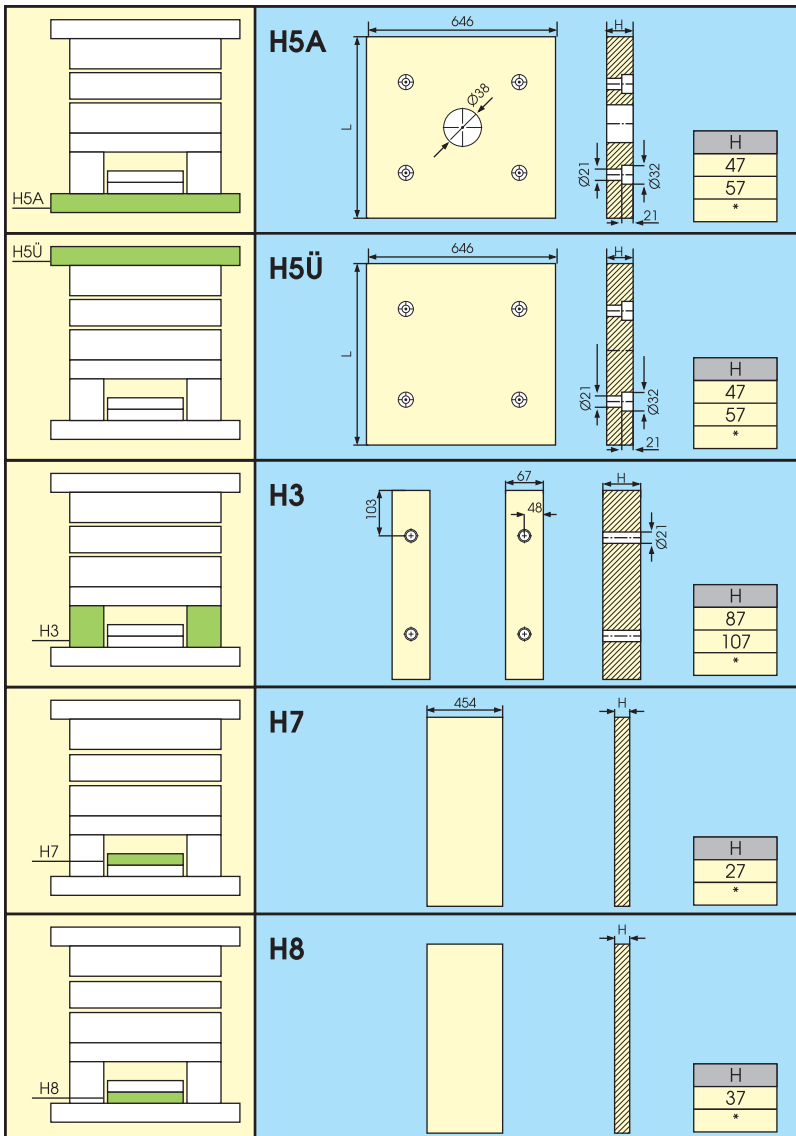
H
47
57
67
77
*



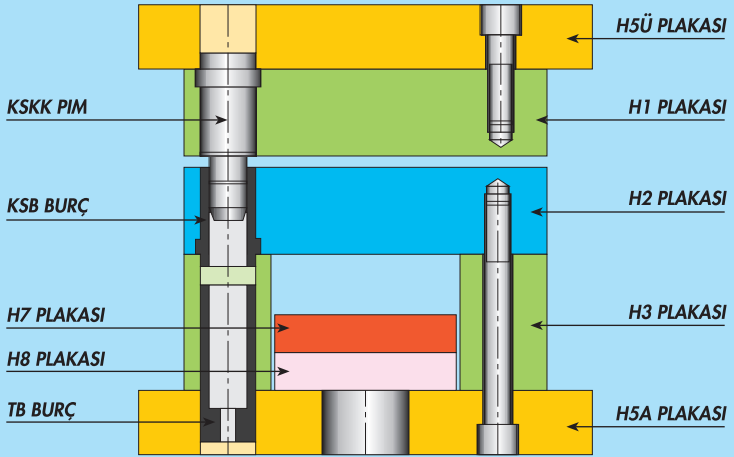
H4



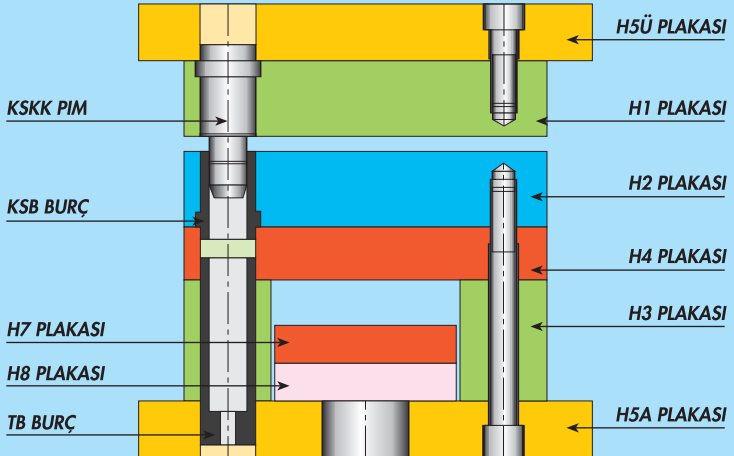
H
37
47
57
67
*



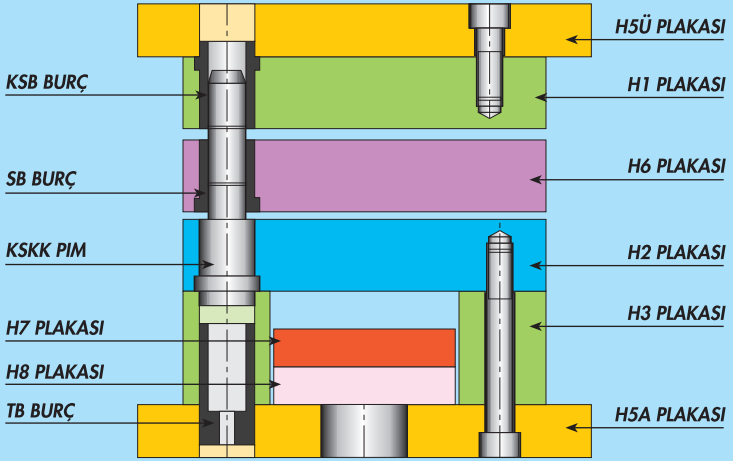
EKS-K E SERİSİ - EKS-K E SERIES



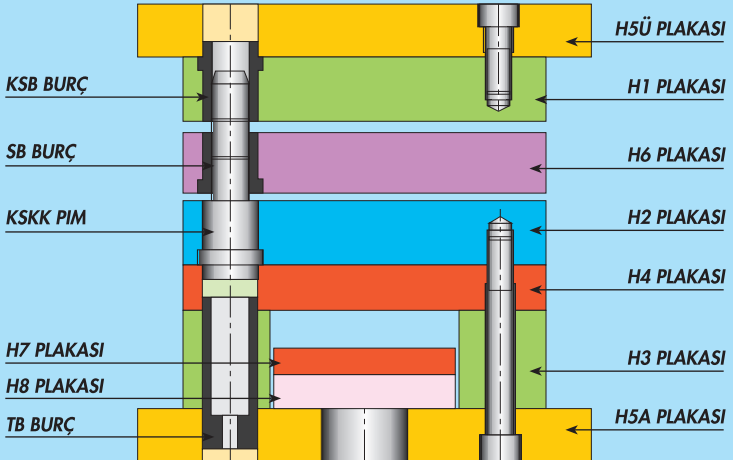
EKS-K ED SERİSİ - EKS-K ED SERIES



EKS-K ES SERİSİ - EKS-K ES SERIES



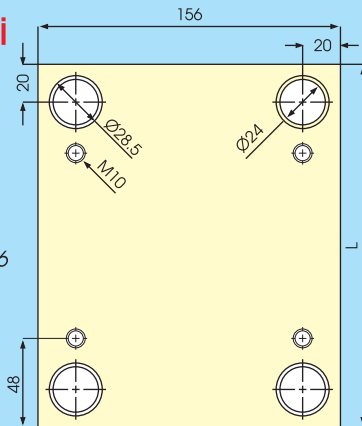
EKS-K ESD SERİSİ - EKS-K ESD SERIES



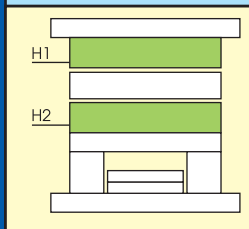
EKS-K 156 x L SERİSİ ENJEKSİYON KALIP SETİ (E/ES/ED/EDS)

EKS-K-E = H1-H2
EKS-K-ED = H1-H2-H4
EKS-K-ES = H1-H2-H6
EKS-K-ESD = H1-H2-H4-H6

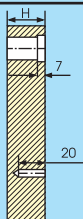
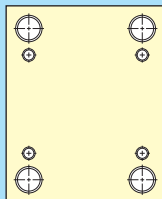
*EKS-K 156 x L SERIES
of INJECTION
MOLD BASE
(E/ES/ED/EDS)*



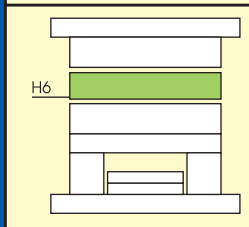
L
156
196
246
296
*



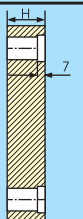
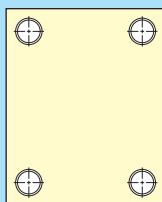
H1-H2



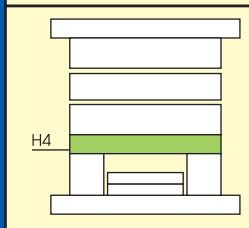
H
27
37
47
57
*



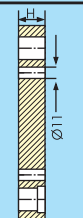
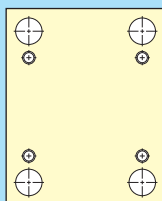
H6



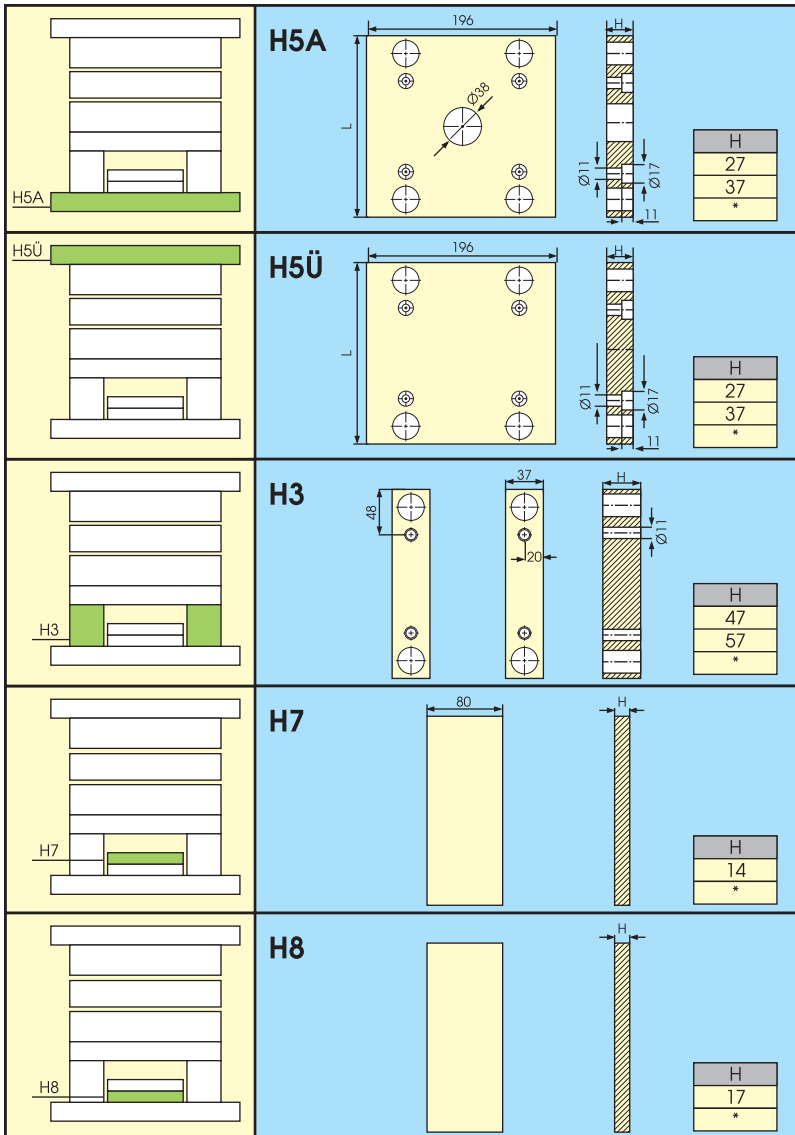
H
27
37
47
57
*



H4



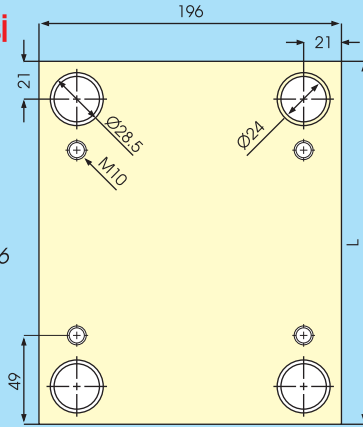
H
27
37
47
57
*



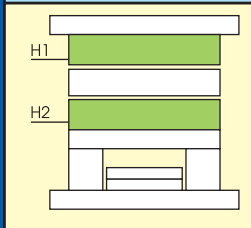
EKS-K 196 x L SERİSİ ENJEKSİYON KALIP SETİ (E/ES/ED/EDS)

EKS-K-E = H1-H2
EKS-K-ED = H1-H2-H4
EKS-K-ES = H1-H2-H6
EKS-K-ESD = H1-H2-H4-H6

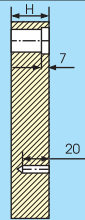
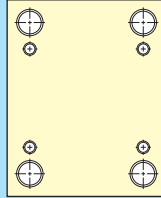
*EKS-K 196 x L SERIES
of INJECTION
MOLD BASE
(E/ES/ED/EDS)*



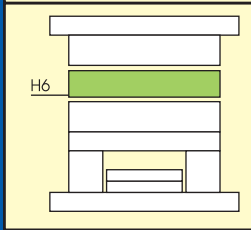
L
196
246
296
346
*



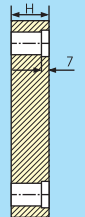
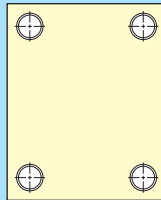
H1-H2



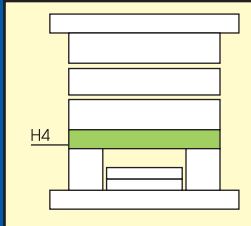
H
27
37
47
57
*



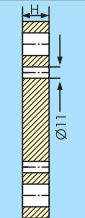
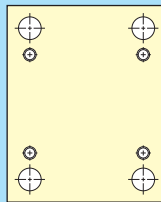
H6



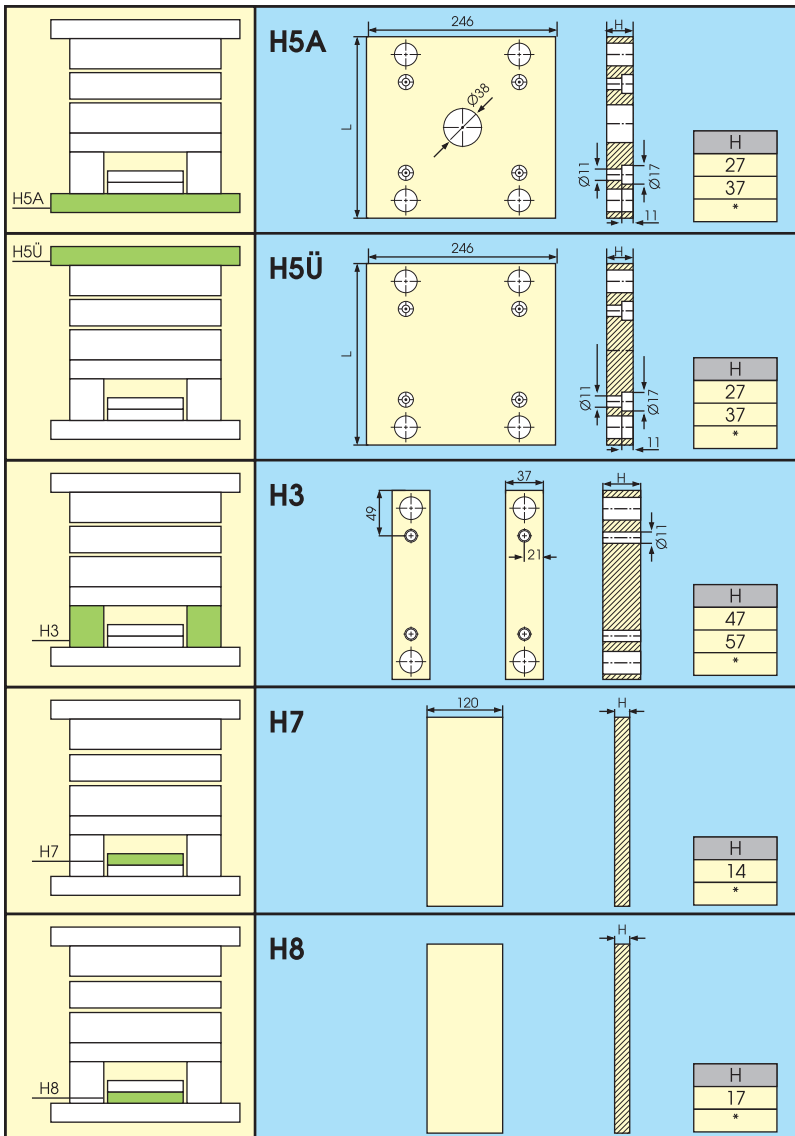
H
27
37
47
57
*



H4



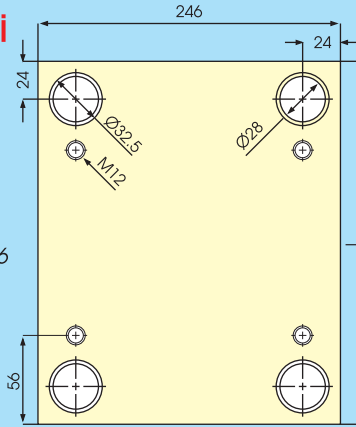
H
27
37
47
57
*



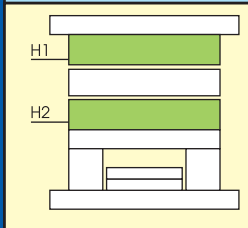
EKS-K 246 x L SERİSİ ENJEKSİYON KALIP SETİ (E/ES/ED/EDS)

EKS-K-E = H1-H2
EKS-K-ED = H1-H2-H4
EKS-K-ES = H1-H2-H6
EKS-K-ESD = H1-H2-H4-H6

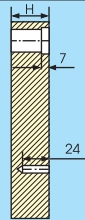
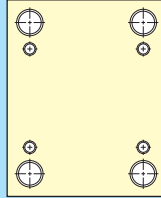
*EKS-K 246 x L SERIES
of INJECTION
MOLD BASE
(E/ES/ED/EDS)*



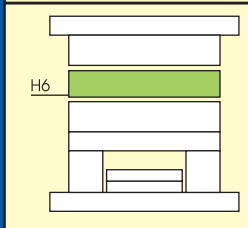
L
246
296
346
396
*



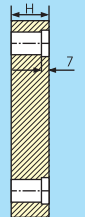
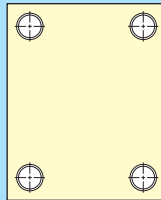
H1-H2



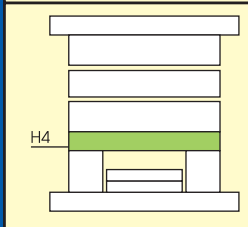
H
27
37
47
57
*



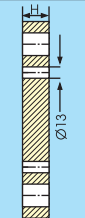
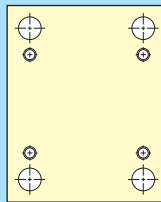
H6



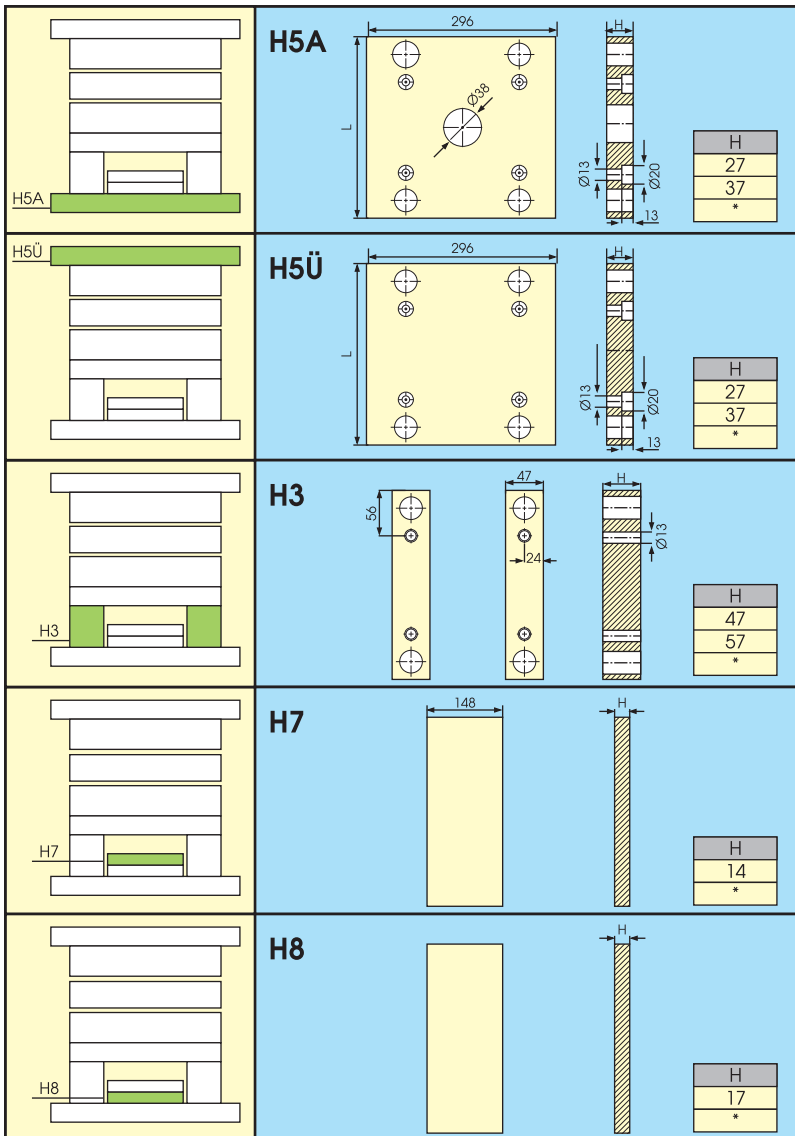
H
27
37
47
57
*



H4



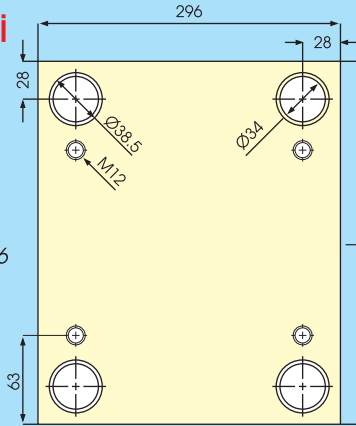
H
27
37
47
57
*



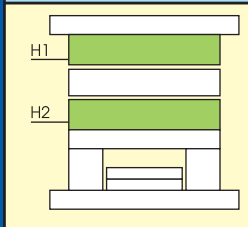
EKS-K 296 x L SERİSİ ENJEKSİYON KALIP SETİ (E/ES/ED/EDS)

EKS-K-E = H1-H2
EKS-K-ED = H1-H2-H4
EKS-K-ES = H1-H2-H6
EKS-K-ESD = H1-H2-H4-H6

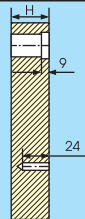
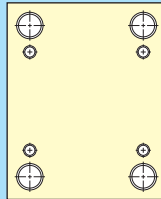
*EKS-K 296 x L SERIES
of INJECTION
MOLD BASE
(E/ES/ED/EDS)*



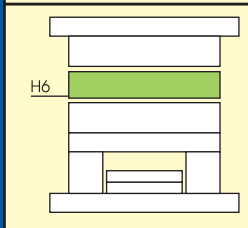
L
296
346
396
446
*



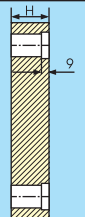
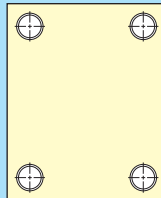
H1-H2



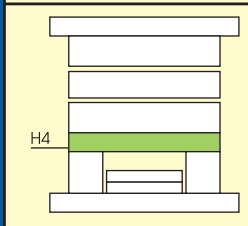
H
27
37
47
57
*



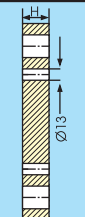
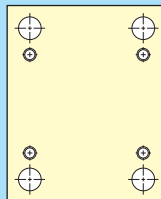
H6



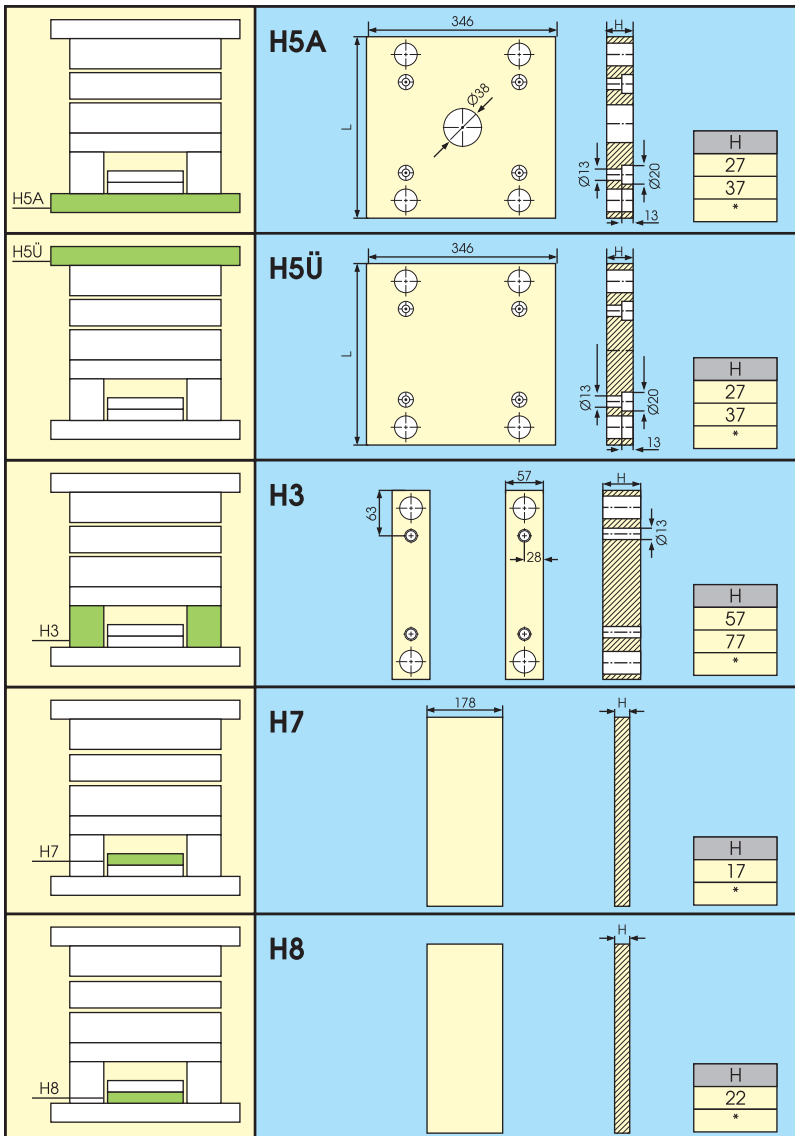
H
27
37
47
57
*



H4



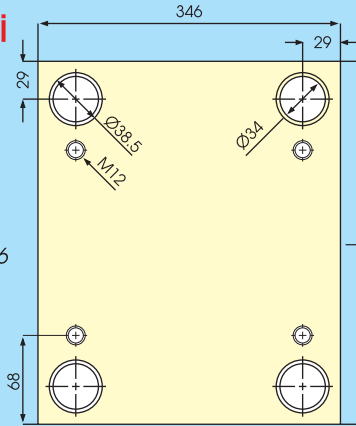
H
27
37
47
57
*



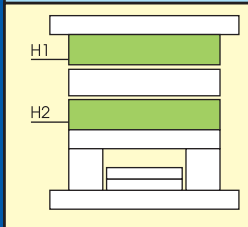
EKS-K 346 x L SERİSİ ENJEKSİYON KALIP SETİ (E/ES/ED/EDS)

EKS-K-E = H1-H2
EKS-K-ED = H1-H2-H4
EKS-K-ES = H1-H2-H6
EKS-K-ESD = H1-H2-H4-H6

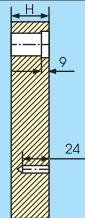
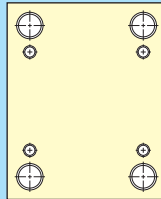
*EKS-K 346 x L SERIES
of INJECTION
MOLD BASE
(E/ES/ED/EDS)*



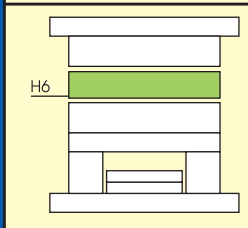
L
346
396
446
496
*



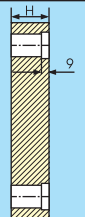
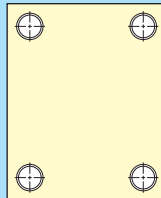
H1-H2



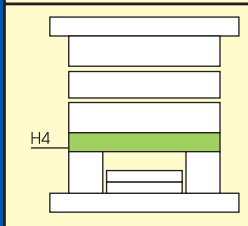
H
27
37
47
57
*



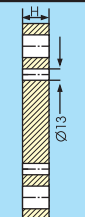
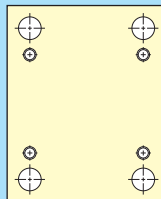
H6



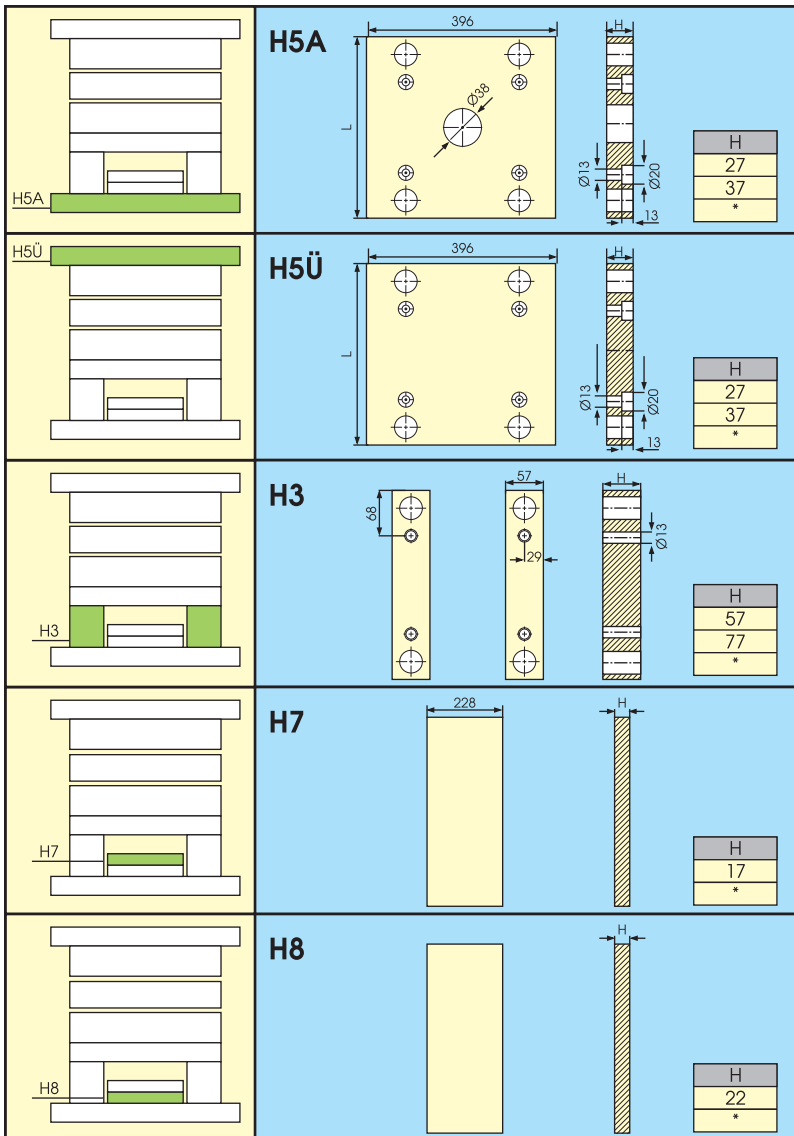
H
27
37
47
57
*



H4



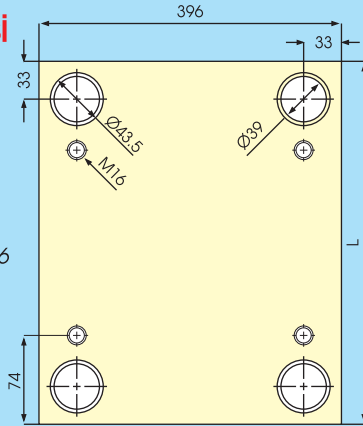
H
27
37
47
57
*



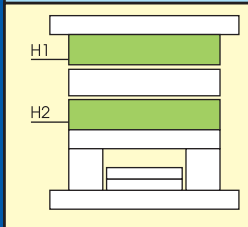
EKS-K 396 x L SERİSİ ENJEKSİYON KALIP SETİ (E/ES/ED/EDS)

EKS-K-E = H1-H2
EKS-K-ED = H1-H2-H4
EKS-K-ES = H1-H2-H6
EKS-K-ESD = H1-H2-H4-H6

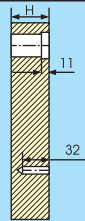
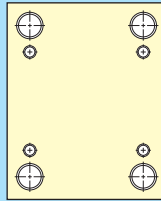
*EKS-K 396 x L SERIES
of INJECTION
MOLD BASE
(E/ES/ED/EDS)*



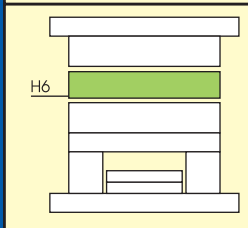
L
396
446
496
546
*



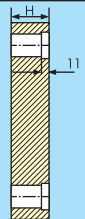
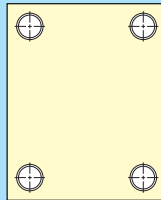
H1-H2



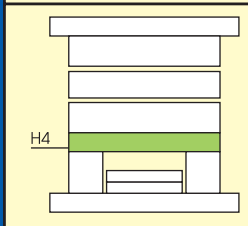
H
27
37
47
57
*



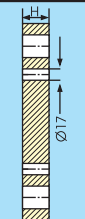
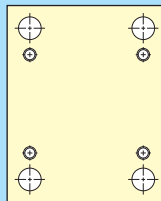
H6



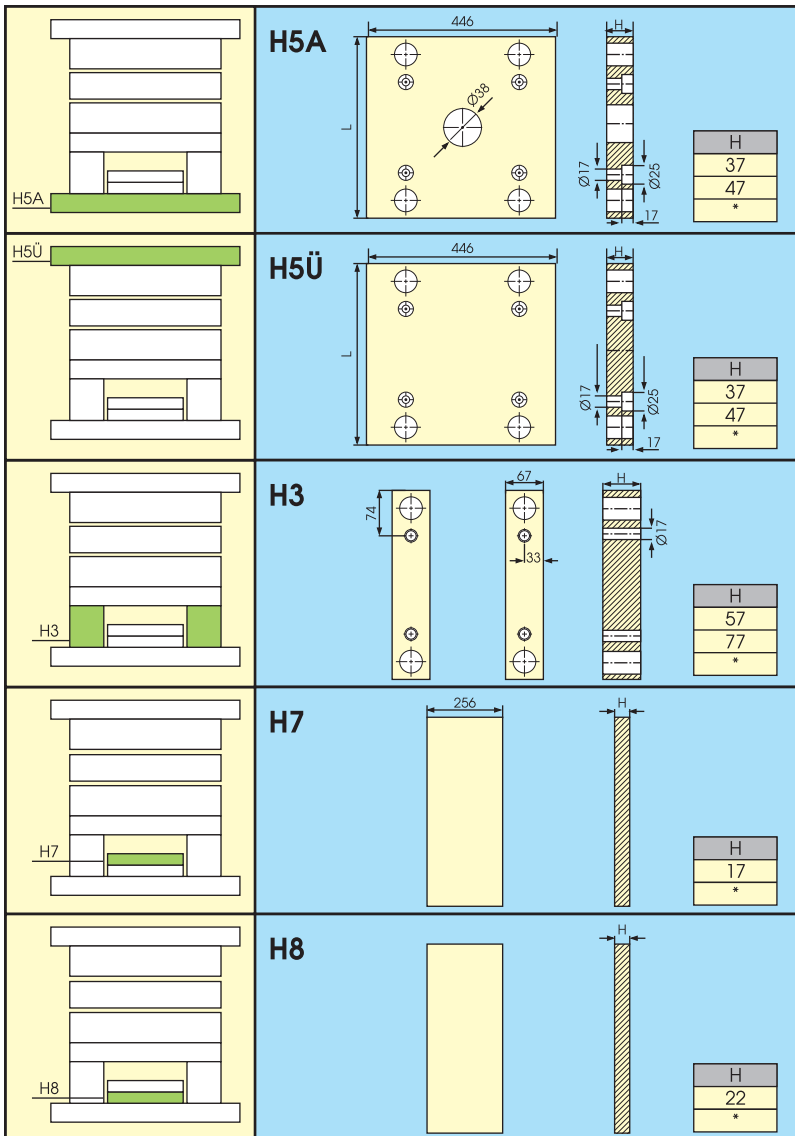
H
27
37
47
57
*



H4



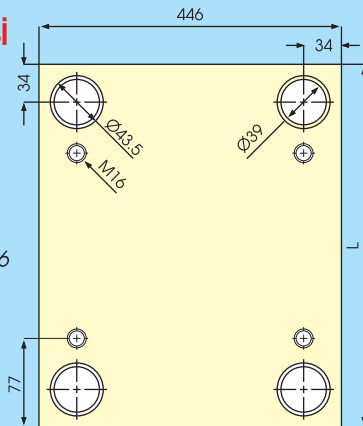
H
37
47
57
67
*



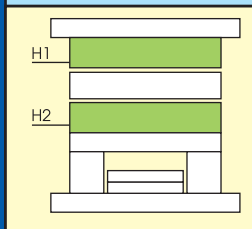
EKS-K 446 x L SERİSİ ENJEKSİYON KALIP SETİ (E/ES/ED/EDS)

EKS-K-E = H1-H2
EKS-K-ED = H1-H2-H4
EKS-K-ES = H1-H2-H6
EKS-K-ESD = H1-H2-H4-H6

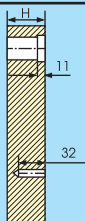
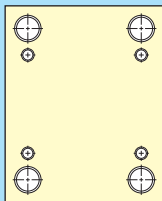
*EKS-K 446 x L SERIES
of INJECTION
MOLD BASE
(E/ES/ED/EDS)*



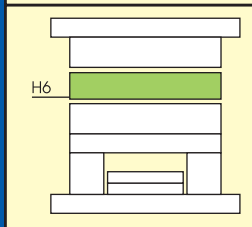
L
446
496
546
596
*



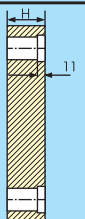
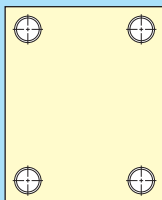
H1-H2



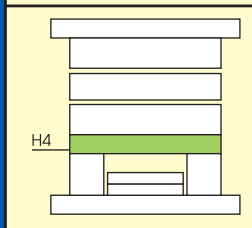
H
37
47
57
67
*



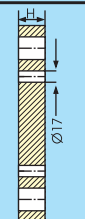
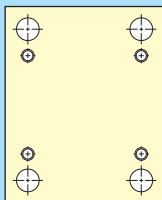
H6



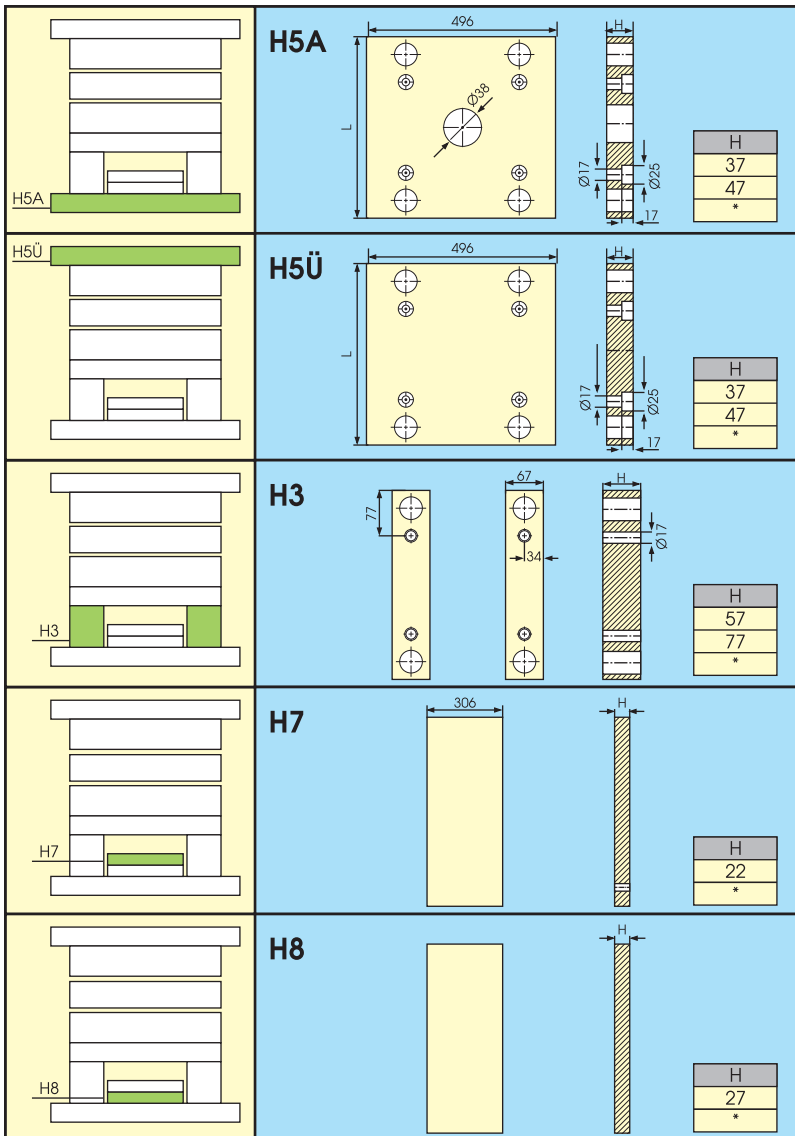
H
37
47
57
67
*



H4



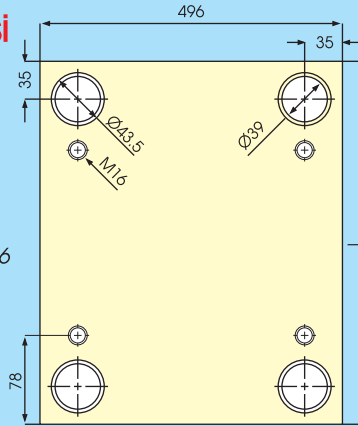
H
37
47
57
67
*



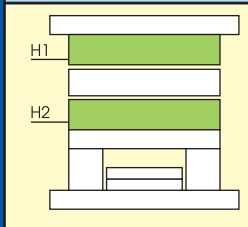
EKS-K 496 x L SERİSİ ENJEKSİYON KALIP SETİ (E/ES/ED/EDS)

EKS-K-E = H1-H2
EKS-K-ED = H1-H2-H4
EKS-K-ES = H1-H2-H6
EKS-K-ESD = H1-H2-H4-H6

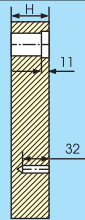
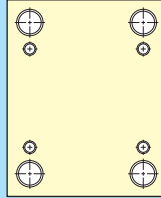
*EKS-K 496 x L SERIES
of INJECTION
MOLD BASE
(E/ES/ED/EDS)*



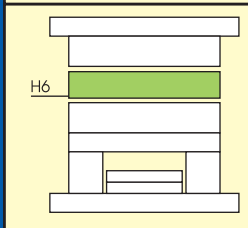
L
496
546
596
646
*



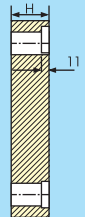
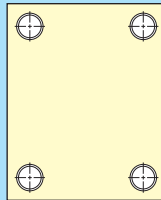
H1-H2



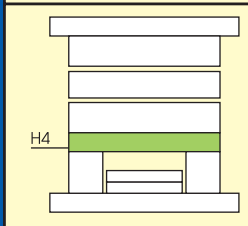
H
37
47
57
67
*



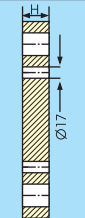
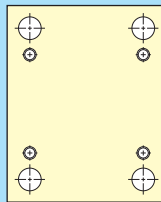
H6



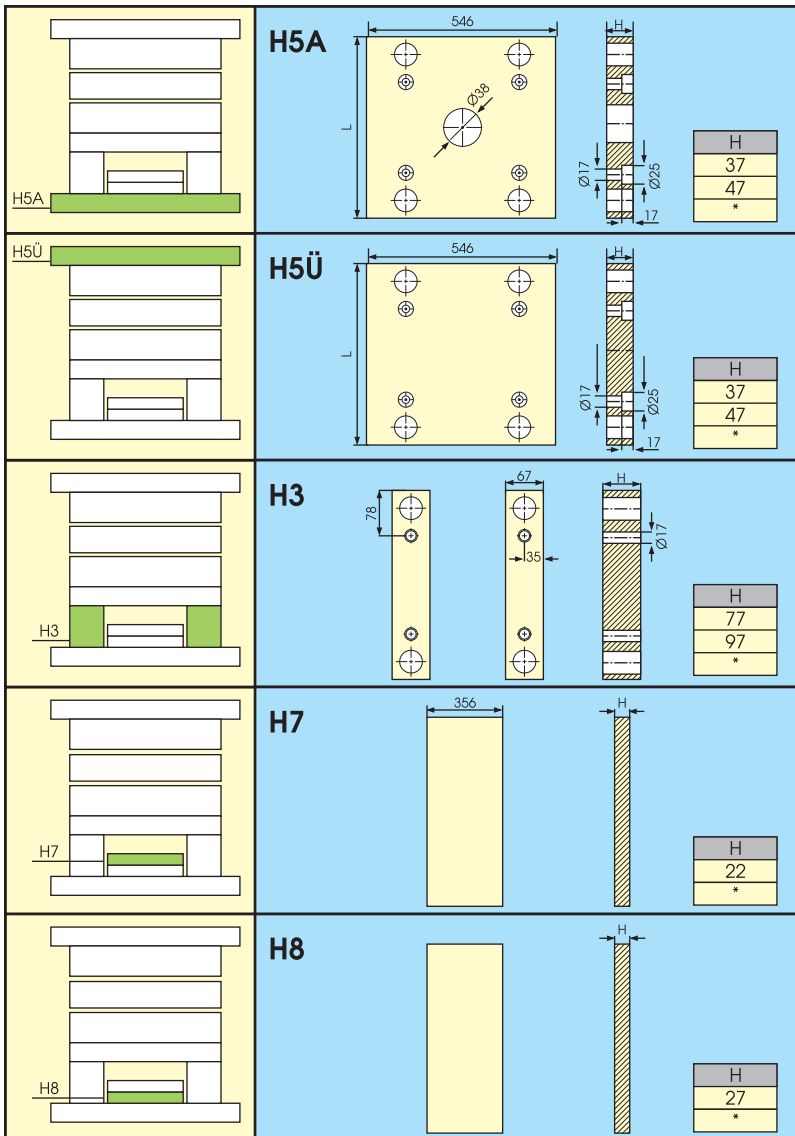
H
37
47
57
67
*



H4



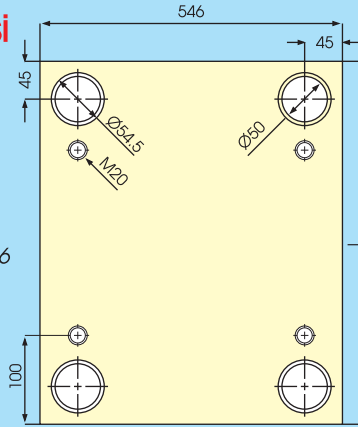
H
37
47
57
67
*



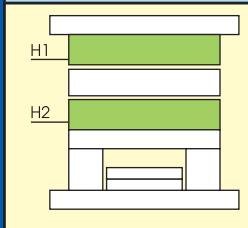
EKS-K 546 x L SERİSİ ENJEKSİYON KALIP SETİ (E/ES/ED/EDS)

EKS-K-E = H1-H2
EKS-K-ED = H1-H2-H4
EKS-K-ES = H1-H2-H6
EKS-K-ESD = H1-H2-H4-H6

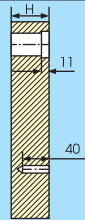
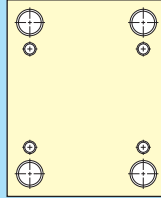
*EKS-K 546 x L SERIES
of INJECTION
MOLD BASE
(E/ES/ED/EDS)*



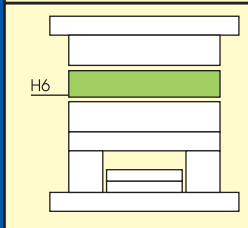
L
546
596
646
696
*



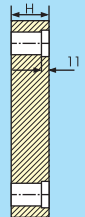
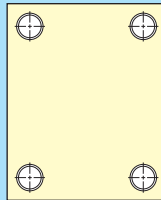
H1-H2



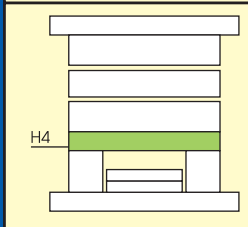
H
47
57
67
77
*



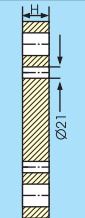
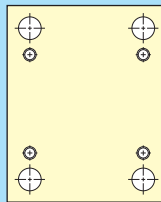
H6



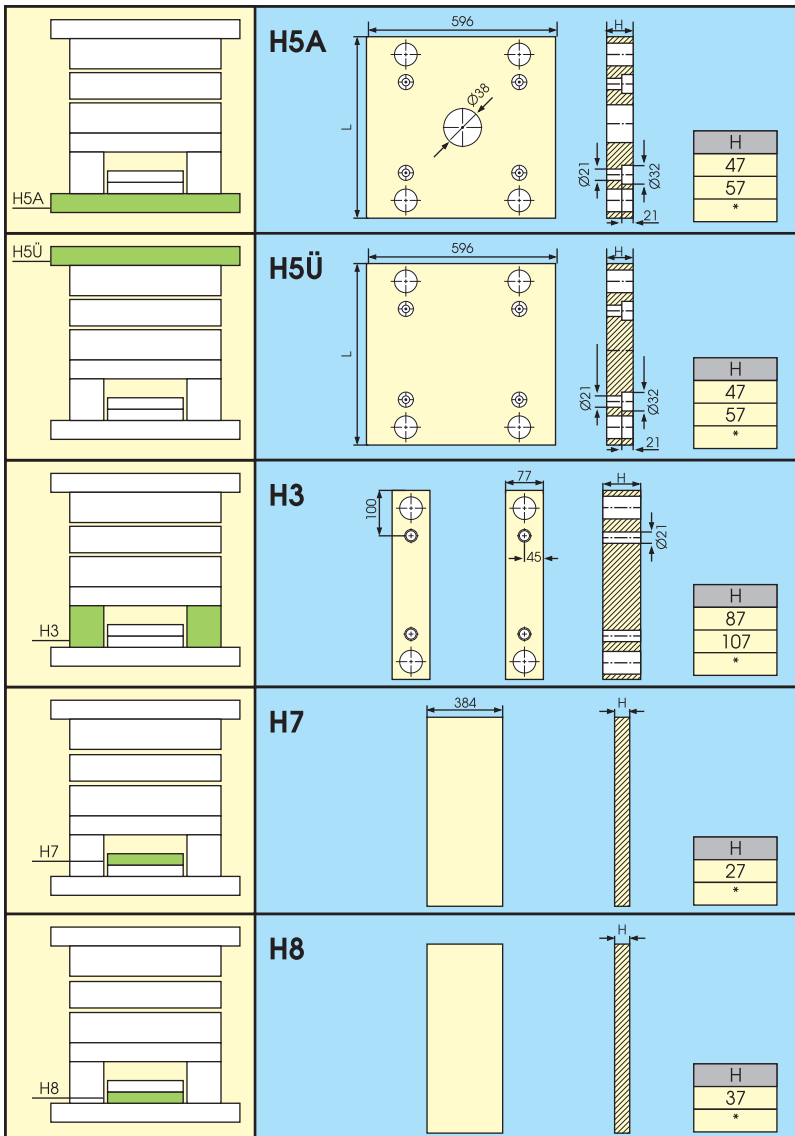
H
47
57
67
77
*



H4



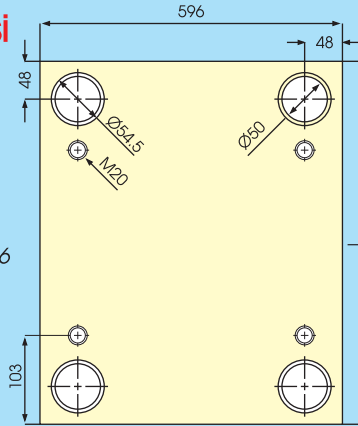
H
37
47
57
67
*



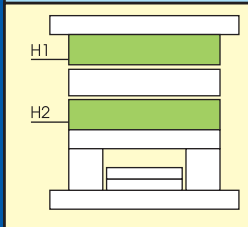
EKS-K 596 x L SERİSİ ENJEKSİYON KALIP SETİ (E/ES/ED/EDS)

EKS-K-E = H1-H2
EKS-K-ED = H1-H2-H4
EKS-K-ES = H1-H2-H6
EKS-K-ESD = H1-H2-H4-H6

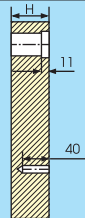
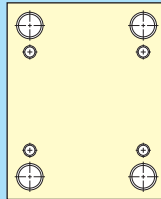
*EKS-K 596 x L SERIES
of INJECTION
MOLD BASE
(E/ES/ED/EDS)*



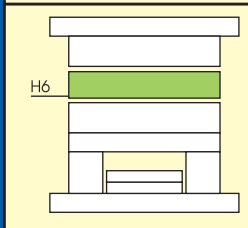
L
596
696
796
896
996
*



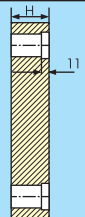
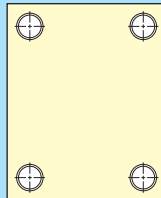
H1-H2



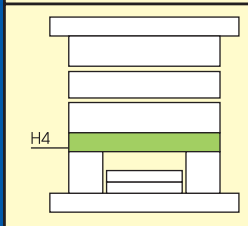
H
47
57
67
77
*



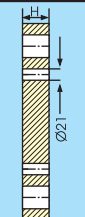
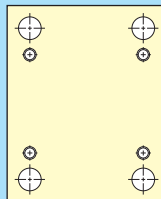
H6



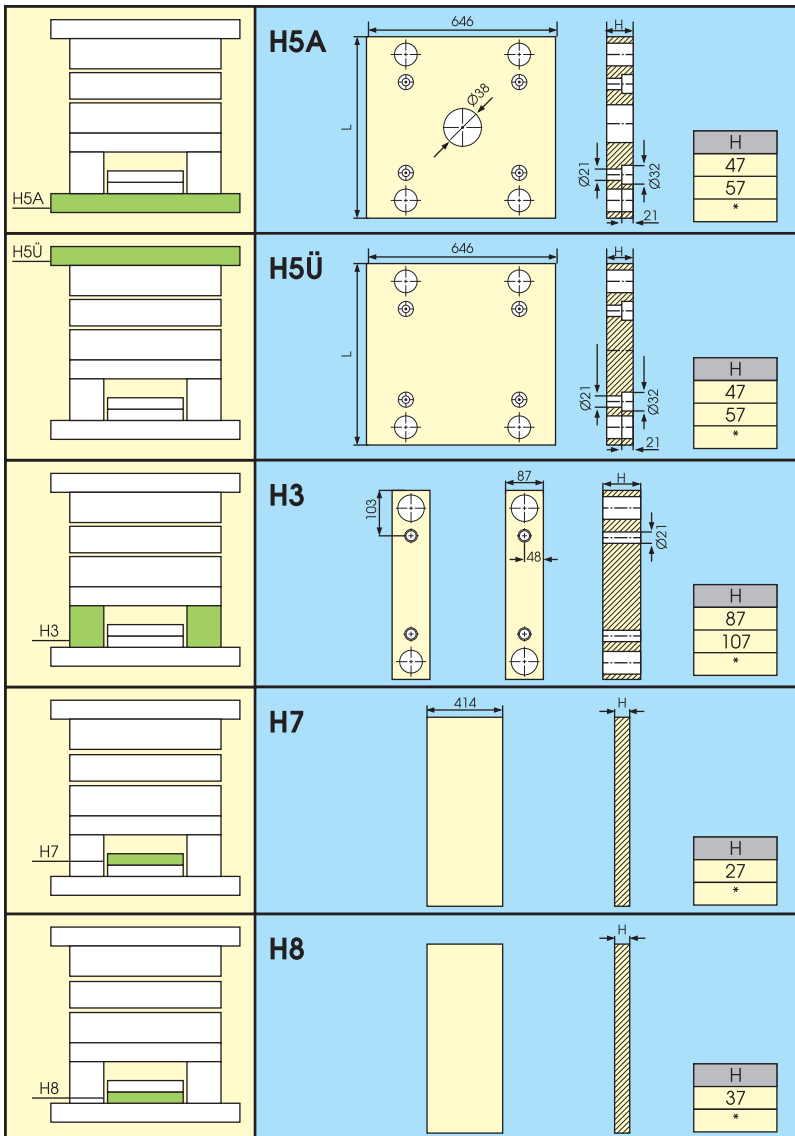
H
47
57
67
77
*



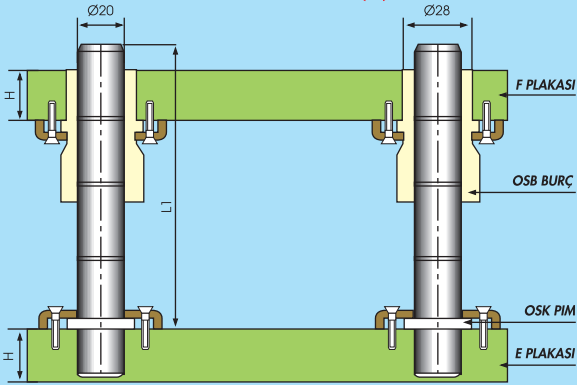
H4



H
37
47
57
67
*



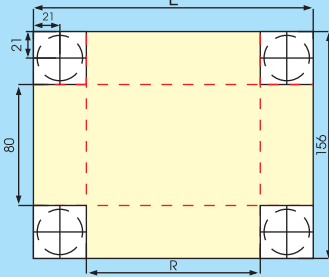
PKS 156xL SERİSİ PRES KALIP SETLERİ (K)
 PKS 156xL SERIES OF DIE SET (K)



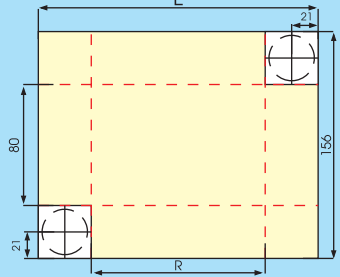
L ± 0.2	R
156	80
196	120
246	170
296	220
346	270

L1 $+0.2$	H $-0+0.2$
100	27
125	37
140	47
160	57
180	*

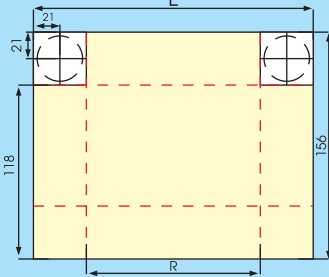
DSK



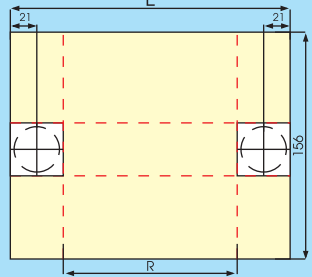
ÇSK



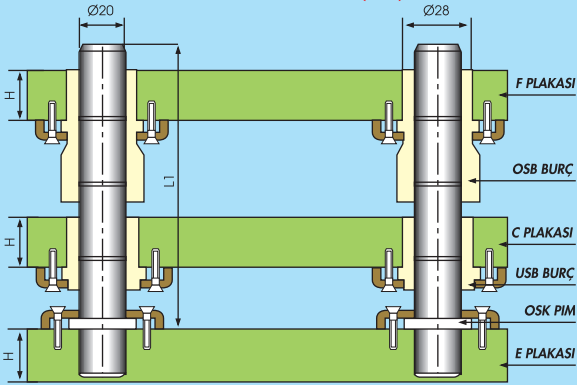
ASK



OSK



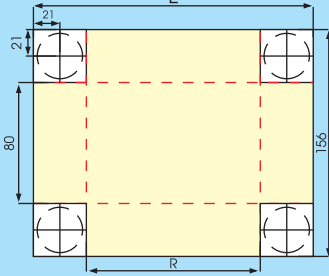
PKS 156xL SERİSİ PRES KALIP SETLERİ (KK)
PKS 156xL SERIES OF DIE SET (KK)



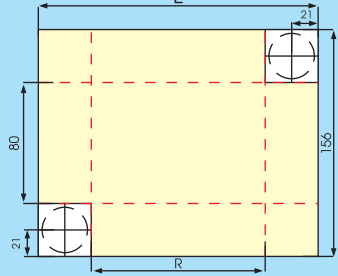
L ± 0.2	R
156	80
196	120
246	170
296	220
346	270

L $+0.0.2$	H $-0+0.2$
100	27
125	37
140	47
160	57
180	*

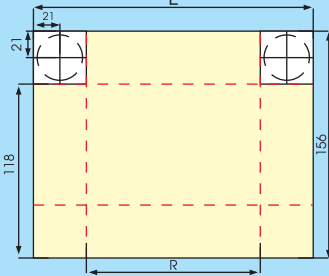
DSKK



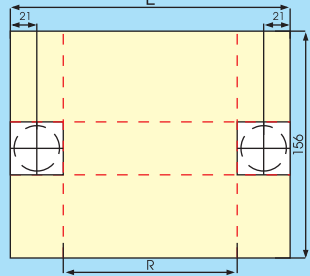
ÇSKK



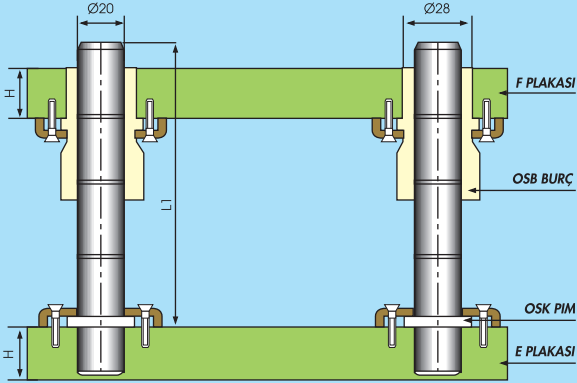
ASKK



OSKK



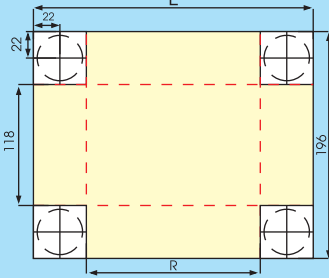
PKS 196xL SERİSİ PRES KALIP SETLERİ (K)
 PKS 196xL SERIES OF DIE SET (K)



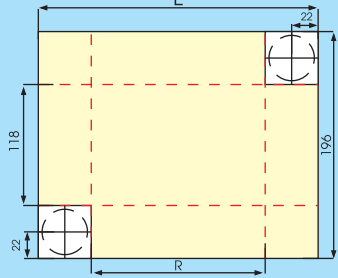
L ± 0.2	R
196	118
246	168
296	218
346	268
396	318

L $+0.2$	H $-0+0.2$
100	27
125	37
140	47
160	57
180	*

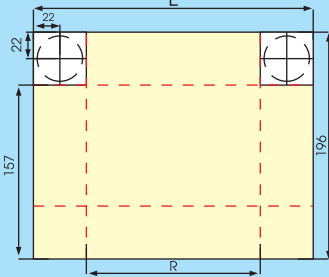
DSK



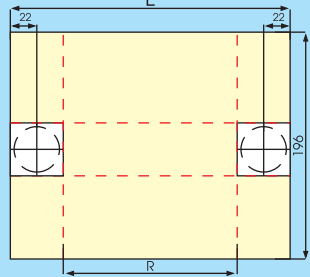
ÇSK



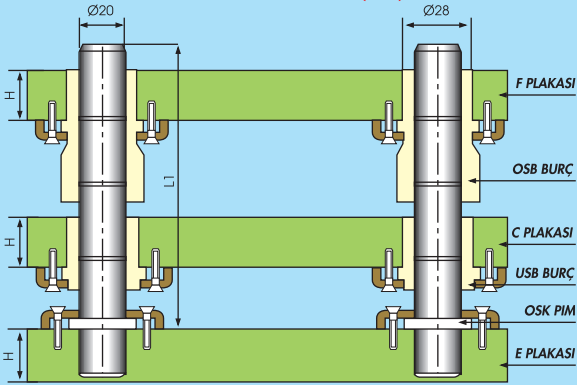
ASK



OSK



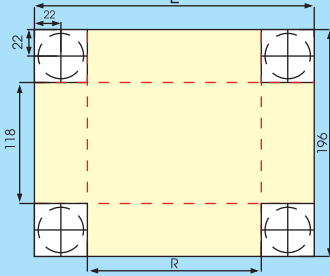
PKS 196xL SERİSİ PRES KALIP SETLERİ (KK)
 PKS 196xL SERIES OF DIE SET (KK)



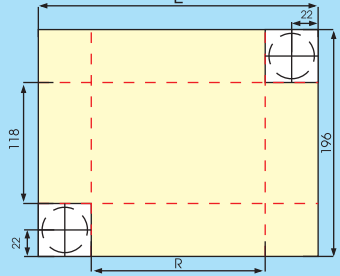
L ± 0.2	R
196	118
246	168
296	218
346	268
396	318

L $+0.0.2$	H $-0+0.2$
100	27
125	37
140	47
160	57
180	*

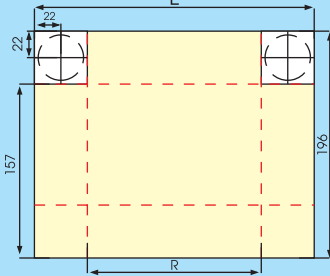
DSKK



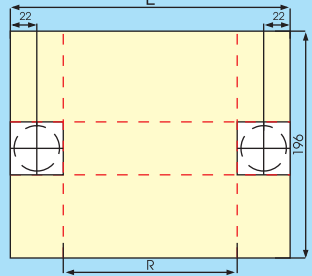
ÇSKK



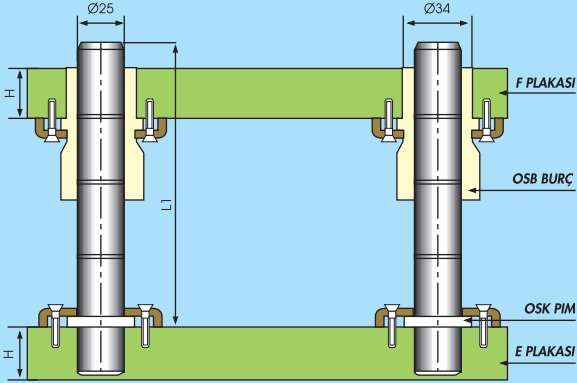
ASKK



OSKK



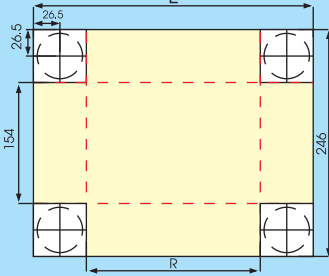
PKS 246xL SERİSİ PRES KALIP SETLERİ (K)
 PKS 246xL SERIES OF DIE SET (K)



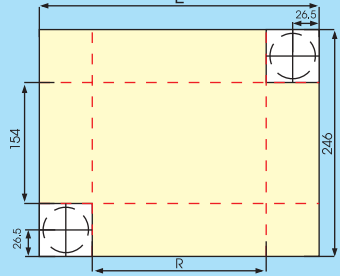
L ± 0.2	R
246	154
296	204
346	254
396	304
446	354

L $+0.0.2$	H $-0+0.2$
100	27
125	37
140	47
160	57
*	*

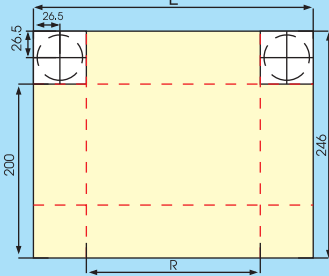
DSK



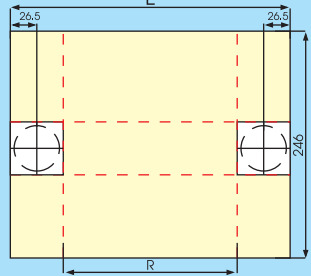
ÇSK



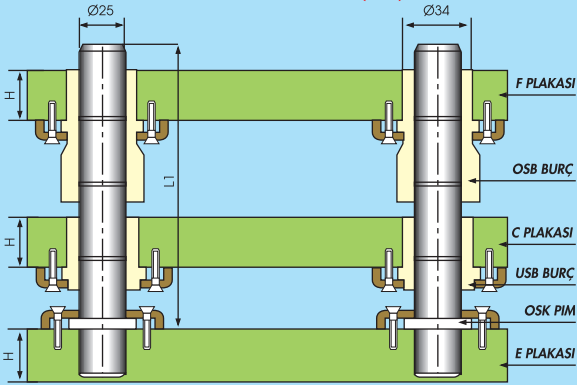
ASK



OSK



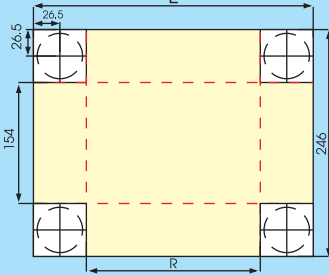
PKS 246xL SERİSİ PRES KALIP SETLERİ (KK)
 PKS 246xL SERIES OF DIE SET (KK)



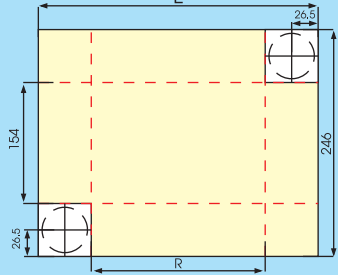
L ± 0.2	R
246	154
296	204
346	254
396	304
446	354

L $+0.0.2$	H $-0+0.2$
100	27
125	37
140	47
160	57
*	*

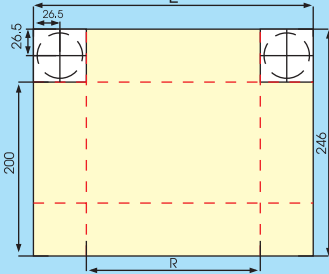
DSKK



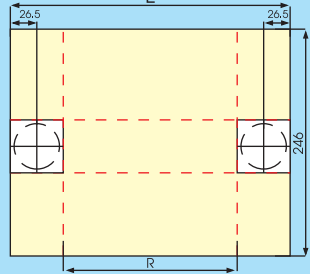
ÇSKK



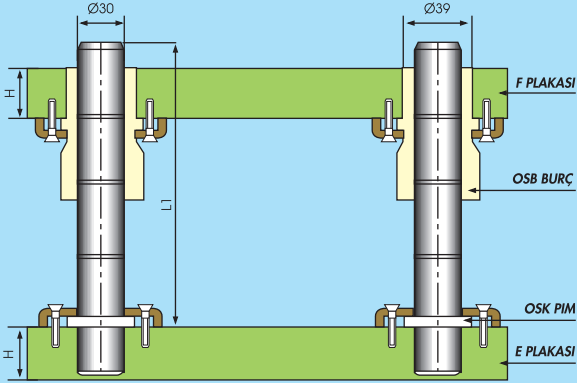
ASKK



OSKK



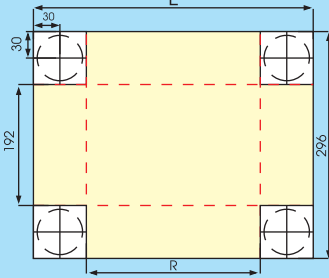
PKS 296xL SERİSİ PRES KALIP SETLERİ (K)
 PKS 296xL SERIES OF DIE SET (K)



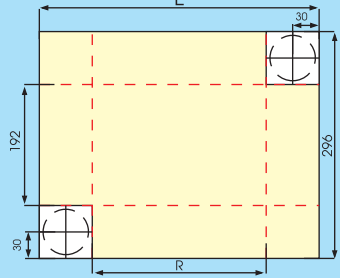
L ± 0.2	R
296	192
346	242
396	292
446	342
496	392

L1 $+0.0.2$	H $-0+0.2$
125	27
140	37
160	47
180	57
*	*

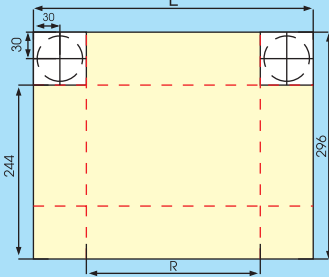
DSK



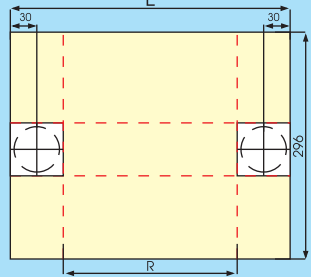
ÇSK



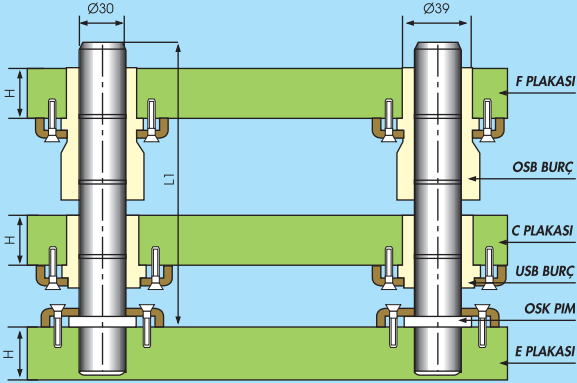
ASK



OSK



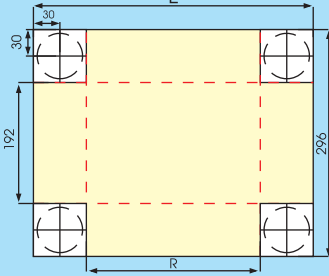
PKS 296xL SERİSİ PRES KALIP SETLERİ (KK)
 PKS 296xL SERIES OF DIE SET (KK)



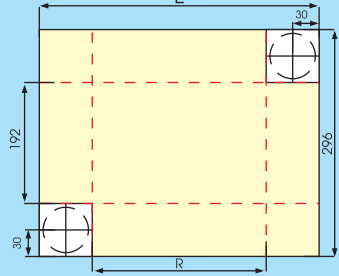
L ± 0.2	R
296	192
346	242
396	292
446	342
496	392

L $+0-0.2$	H $-0+0.2$
125	27
140	37
160	47
180	57
*	*

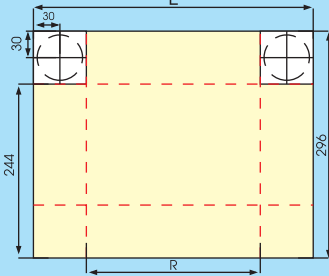
DSKK



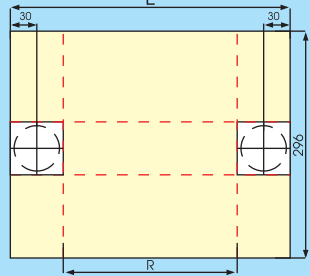
ÇSKK



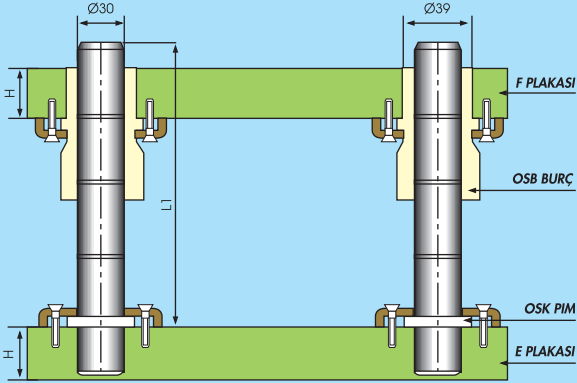
ASKK



OSKK



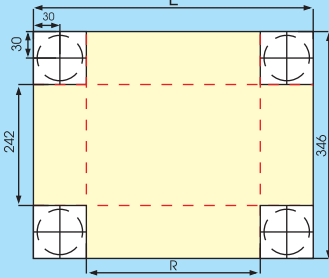
PKS 346xL SERİSİ PRES KALIP SETLERİ (K)
 PKS 346xL SERIES OF DIE SET (K)



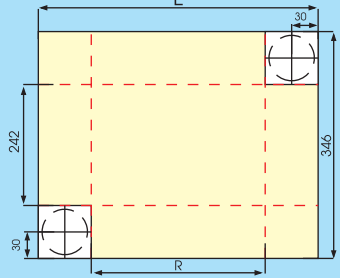
L ± 0.2	R
346	242
396	292
446	342
496	392
546	442

L $+0.0.2$	H $-0+0.2$
125	27
140	37
160	47
180	57
*	*

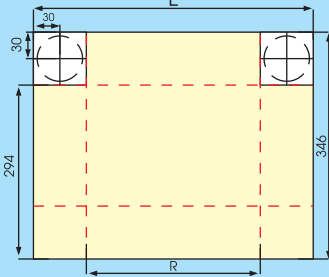
DSK



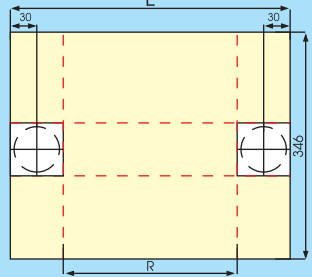
ÇSK



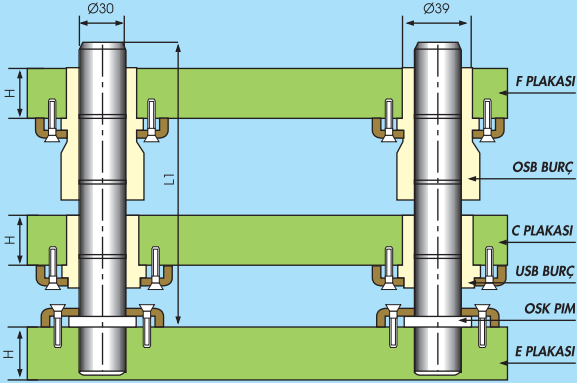
ASK



OSK



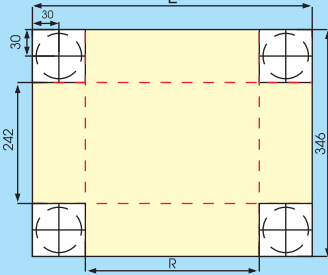
PKS 346xL SERİSİ PRES KALIP SETLERİ (KK)
 PKS 346xL SERIES OF DIE SET (KK)



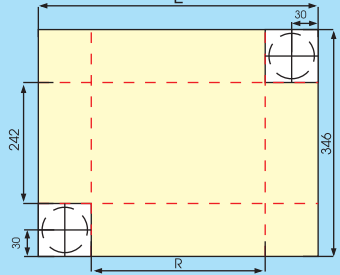
L ^{+0.2}	R
346	242
396	292
446	342
496	392
546	442

L ^{+0.2}	H ^{-0+0.2}
125	27
140	37
160	47
180	57
*	*

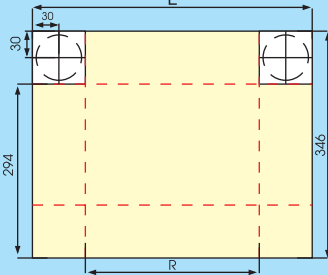
DSKK



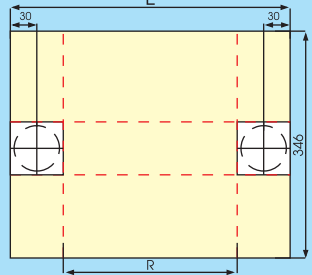
ÇSKK



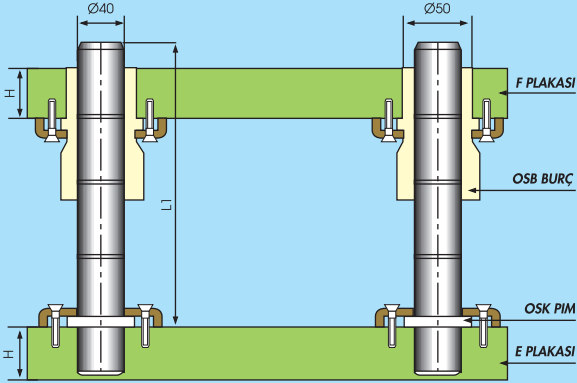
ASKK



OSKK



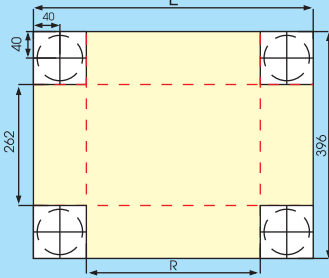
PKS 396xL SERİSİ PRES KALIP SETLERİ (K)
 PKS 396xL SERIES OF DIE SET (K)



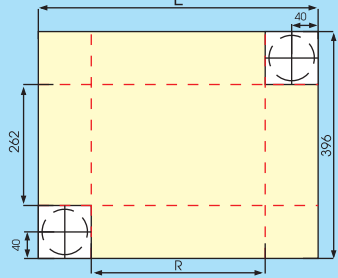
L ± 0.2	R
396	262
446	312
496	362
546	412
596	462

L $+0.0.2$	H $-0+0.2$
140	27
160	37
180	47
200	57
*	*

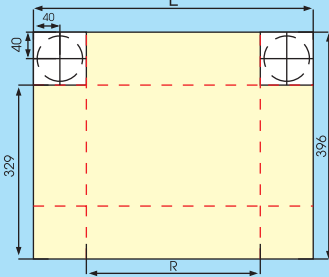
DSK



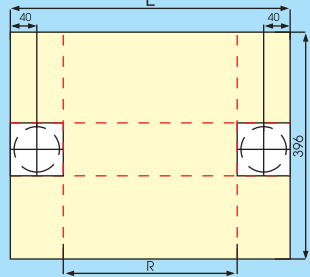
ÇSK



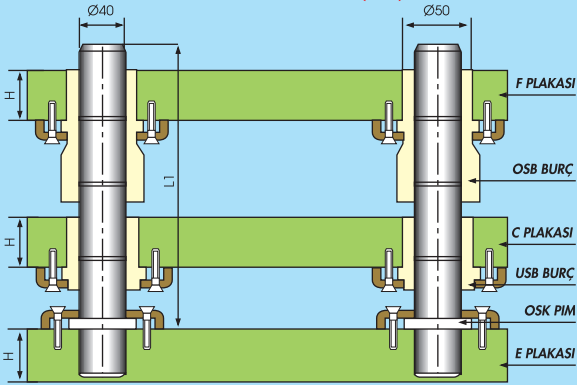
ASK



OSK



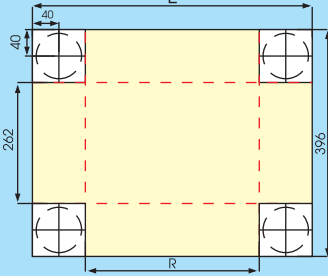
PKS 396xL SERİSİ PRES KALIP SETLERİ (KK)
PKS 396xL SERIES OF DIE SET (KK)



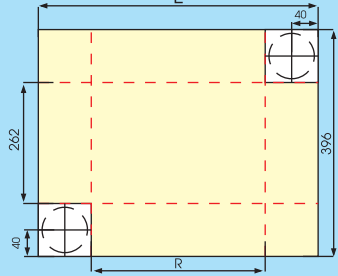
L ± 0.2	R
396	262
446	312
496	362
546	412
596	462

L $+0-0.2$	H $-0+0.2$
140	27
160	37
180	47
200	57
*	*

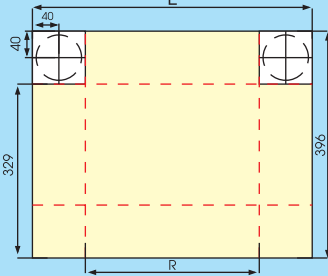
DSKK



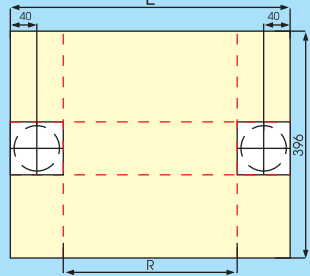
ÇSKK



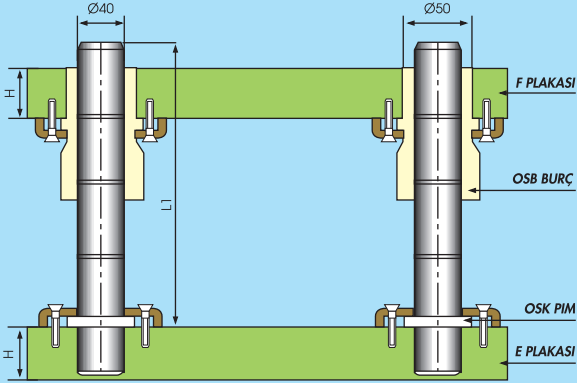
ASKK



OSKK



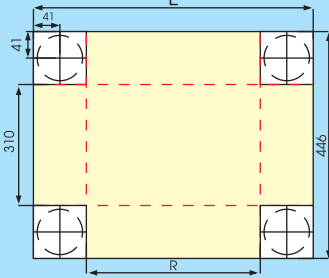
PKS 446xL SERİSİ PRES KALIP SETLERİ (K)
 PKS 446xL SERIES OF DIE SET (K)



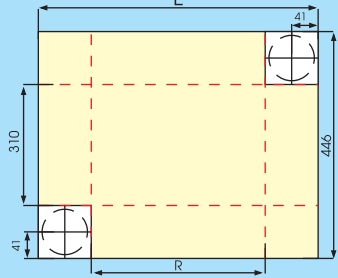
L ^{+0.2}	R
446	310
496	360
546	410
596	460
646	510

L ^{+0.2}	H ^{-0+0.2}
140	27
160	37
180	47
200	57
*	*

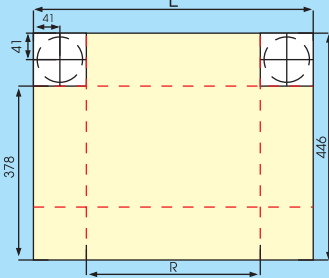
DSK



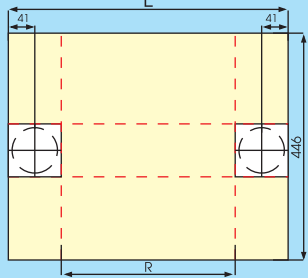
ÇSK



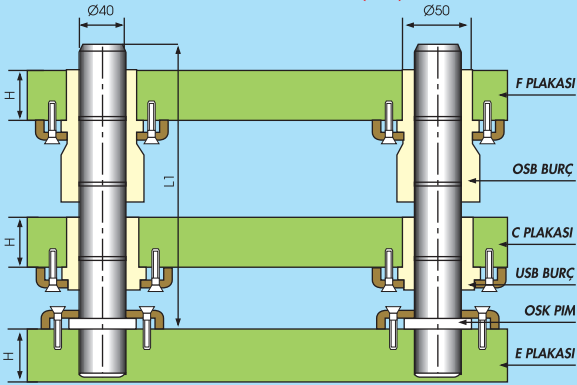
ASK



OSK



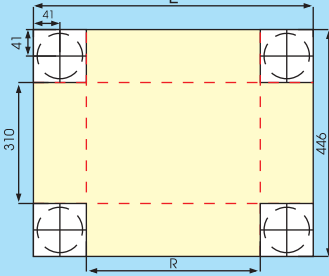
PKS 446xL SERİSİ PRES KALIP SETLERİ (KK)
 PKS 446xL SERIES OF DIE SET (KK)



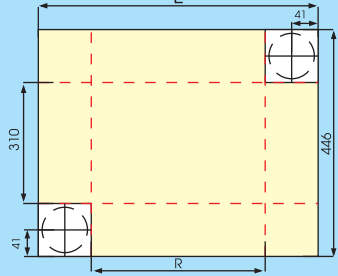
L ^{+0.2}	R
446	310
496	360
546	410
596	460
646	510

L ^{+0.2}	H ^{-0+0.2}
140	27
160	37
180	47
200	57
*	*

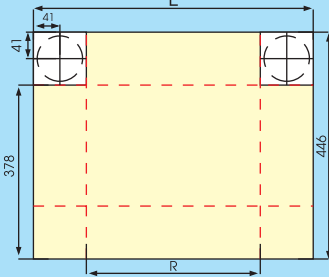
DSKK



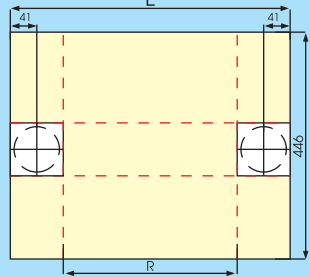
ÇSKK



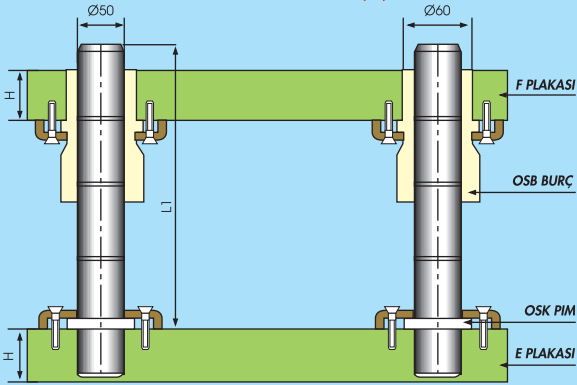
ASKK



OSKK



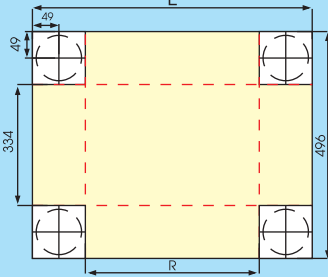
PKS 496xL SERİSİ PRES KALIP SETLERİ (K)
 PKS 496xL SERIES OF DIE SET (K)



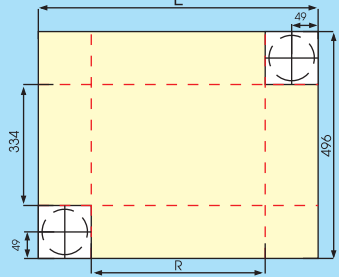
L ± 0.2	R
496	334
546	384
596	434
646	484
696	534

L $+0.2$	H $-0+0.2$
180	27
200	37
220	47
240	57
*	*

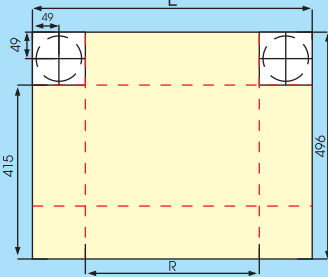
DSK



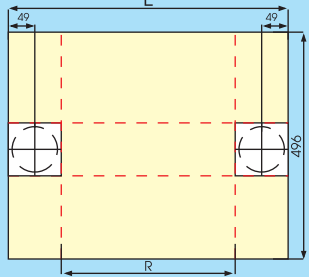
ÇSK



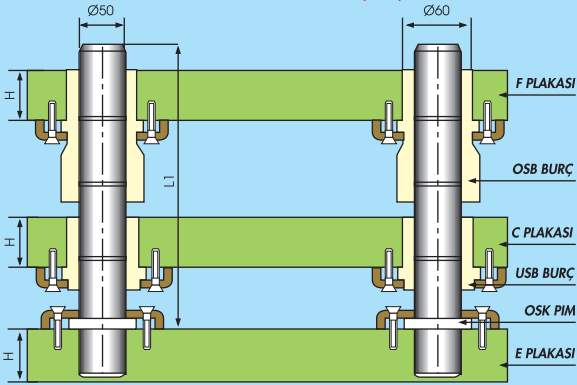
ASK



OSK



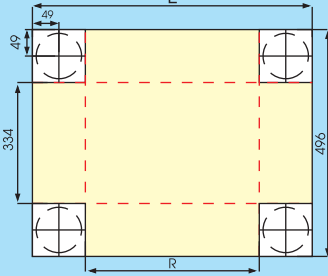
PKS 496xL SERİSİ PRES KALIP SETLERİ (KK)
PKS 496xL SERIES OF DIE SET (KK)



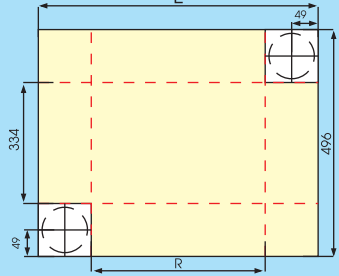
L ± 0.2	R
496	334
546	384
596	434
646	484
696	534

L $+0-0.2$	H $-0+0.2$
180	27
200	37
220	47
240	57
*	*

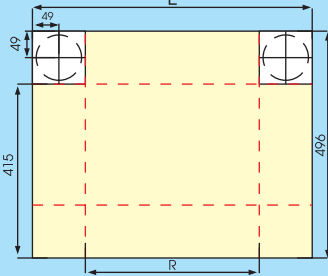
DSKK



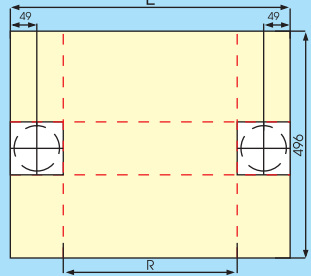
ÇSKK



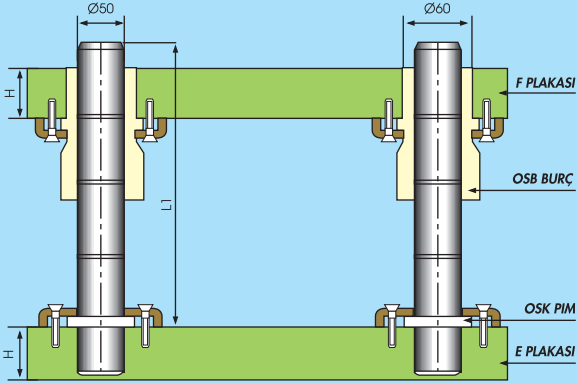
ASKK



OSKK



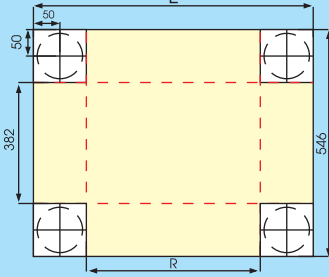
PKS 546xL SERİSİ PRES KALIP SETLERİ (K)
 PKS 546xL SERIES OF DIE SET (K)



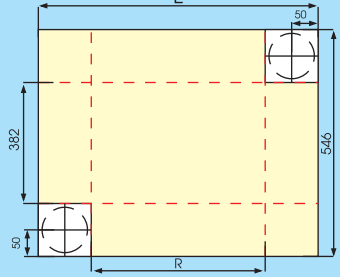
L ± 0.2	R
546	382
596	432
646	482
696	532
746	582

L $+0.0.2$	H $-0+0.2$
180	27
200	37
220	47
240	57
*	*

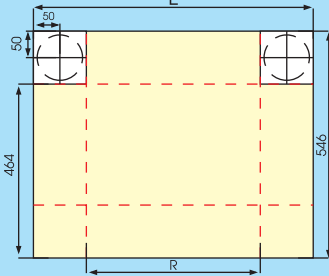
DSK



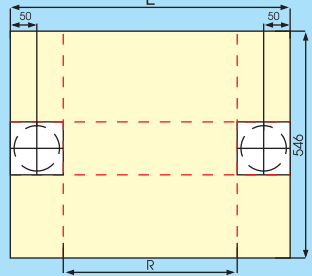
ÇSK



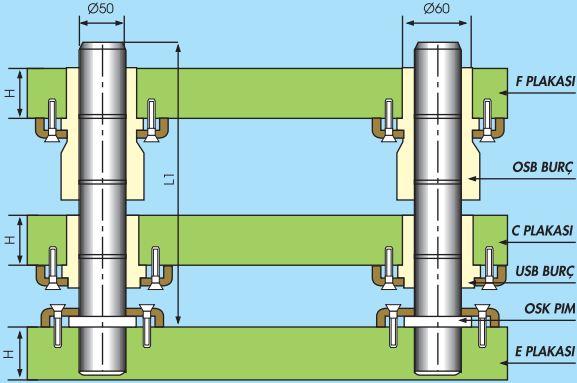
ASK



OSK



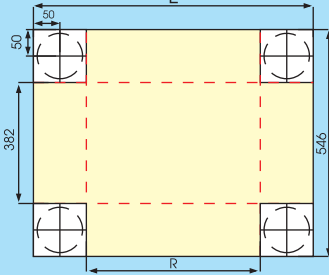
PKS 546xL SERİSİ PRES KALIP SETLERİ (KK)
 PKS 546xL SERIES OF DIE SET (KK)



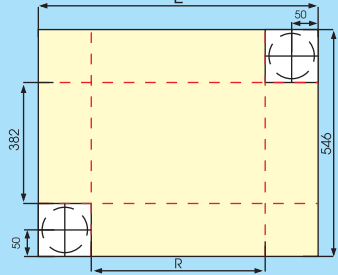
L ^{+0.2}	R
546	382
596	432
646	482
696	532
746	582

L ^{+0.2}	H ^{-0+0.2}
180	27
200	37
220	47
240	57
*	*

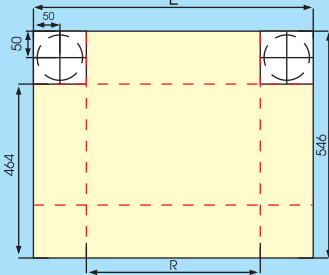
DSKK



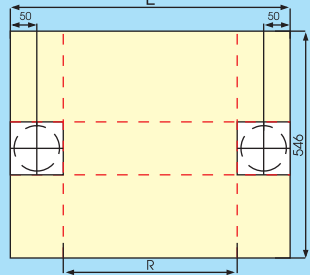
ÇSKK



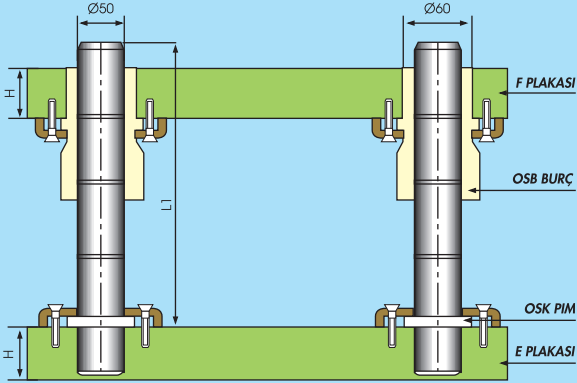
ASKK



OSKK



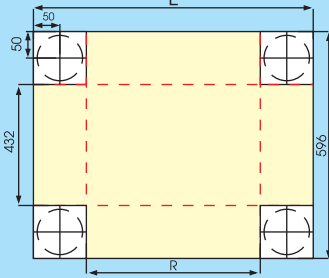
PKS 596xL SERİSİ PRES KALIP SETLERİ (K)
 PKS 596xL SERIES OF DIE SET (K)



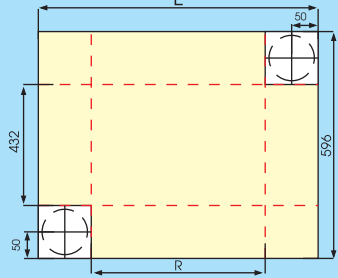
L ± 0.2	R
596	432
696	532
796	632
896	732
996	832

L $+0.2$	H $-0+0.2$
180	27
200	37
220	47
240	57
*	*

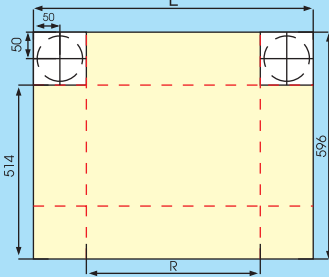
DSK



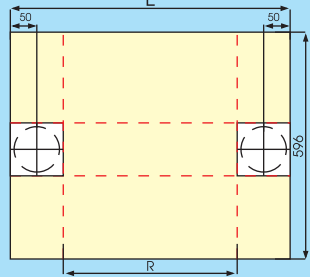
ÇSK



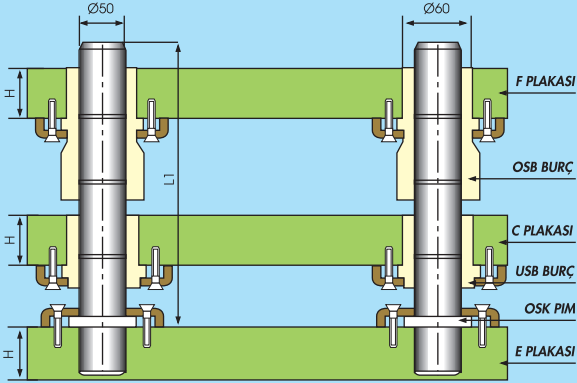
ASK



OSK



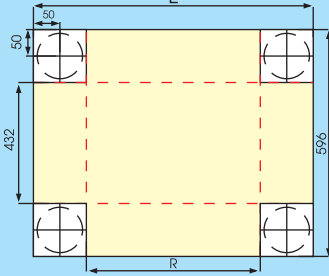
PKS 596xL SERİSİ PRES KALIP SETLERİ (KK)
 PKS 596xL SERIES OF DIE SET (KK)



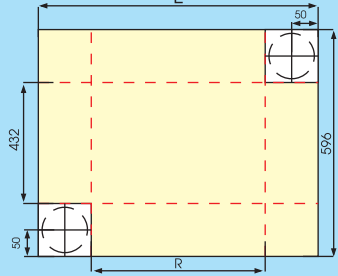
L ^{+0.2}	R
596	432
696	532
796	632
896	732
996	832

L ^{+0-0.2}	H ^{-0+0.2}
180	27
200	37
220	47
240	57
*	*

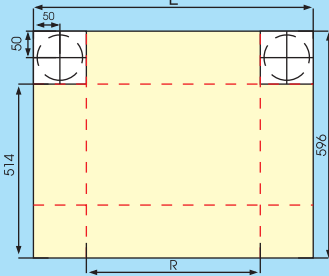
DSKK



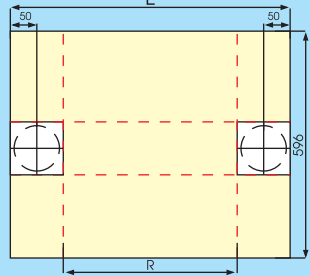
ÇSKK



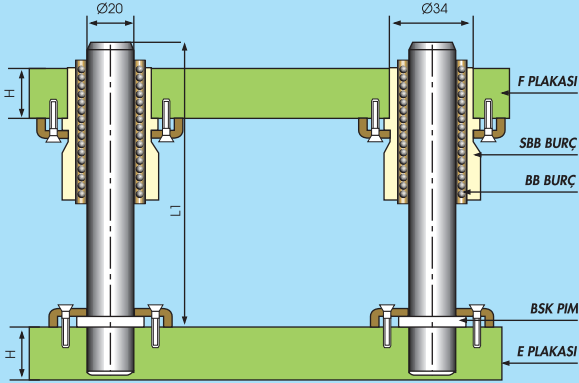
ASKK



OSKK



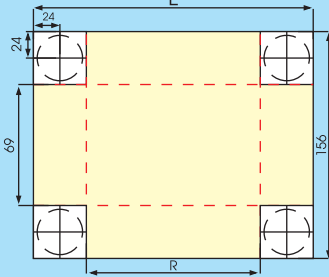
PKS 156xL SERİSİ PRES KALIP SETLERİ (BK)
 PKS 156xL SERIES OF DIE SET (BK)



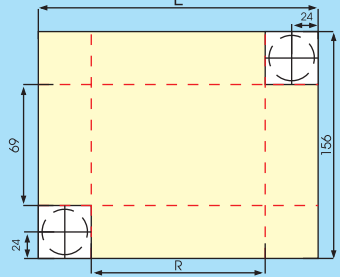
L ± 0.2	R
156	69
196	109
246	159
296	209
346	259

L $+0-0.2$	H $-0+0.2$
100	27
125	37
140	47
160	57
180	*

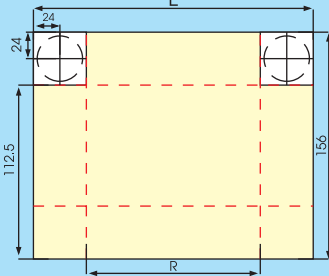
DBSK



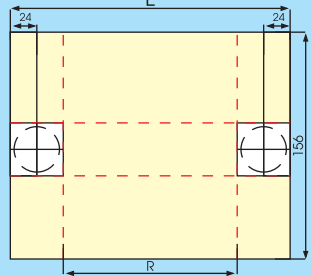
ÇBSK



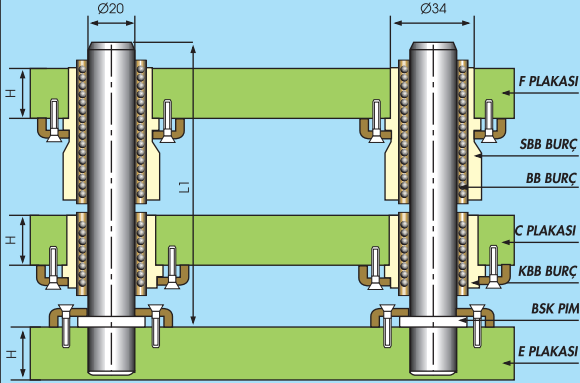
ABSK



OBSK



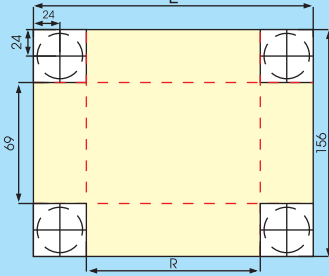
PKS 156xL SERİSİ PRES KALIP SETLERİ (BKK)
 PKS 156xL SERIES OF DIE SET (BKK)



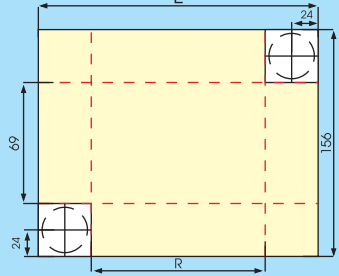
L ± 0.2	R
156	69
196	109
246	159
296	209
346	259

L $+0-0.2$	H $-0+0.2$
100	27
125	37
140	47
160	57
180	*

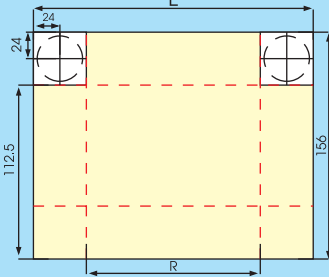
DBSKK



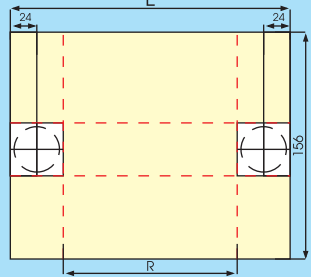
ÇBSKK



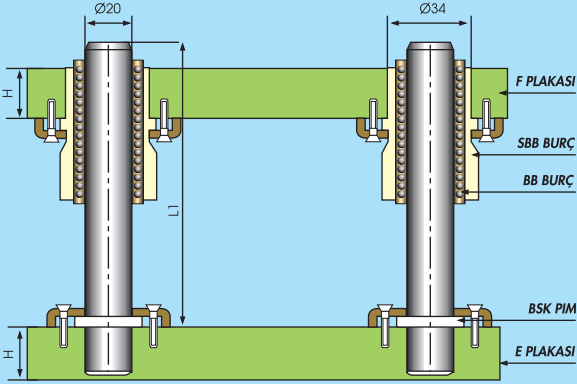
ABSKK



OBSKK



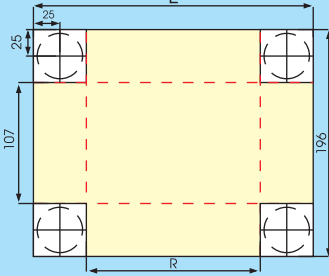
PKS 196xL SERİSİ PRES KALIP SETLERİ (BK)
 PKS 196xL SERIES OF DIE SET (BK)



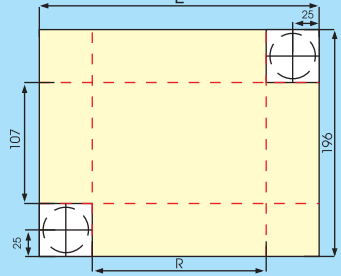
L ± 0.2	R
196	107
246	157
296	207
346	257
396	307

L $+0-0.2$	H $-0+0.2$
100	27
125	37
140	47
160	57
180	*

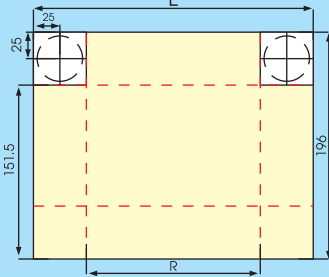
DBSK



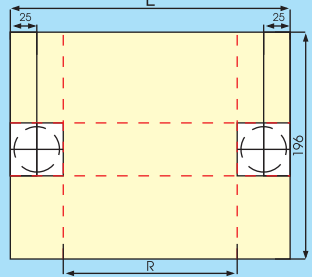
ÇBSK



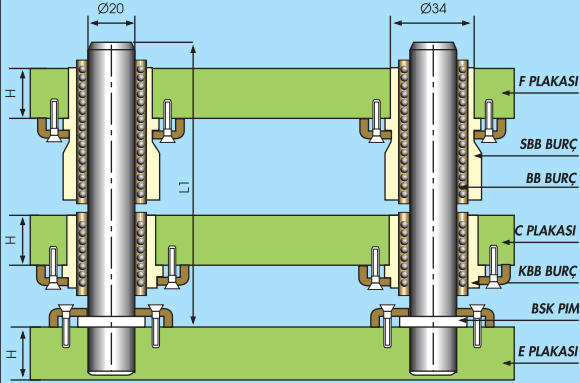
ABSK



OBSK



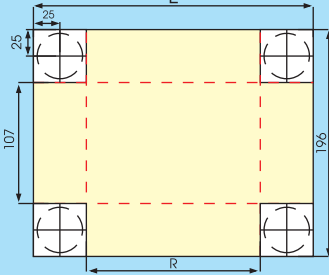
PKS 196xL SERİSİ PRES KALIP SETLERİ (BKK)
 PKS 196xL SERIES OF DIE SET (BKK)



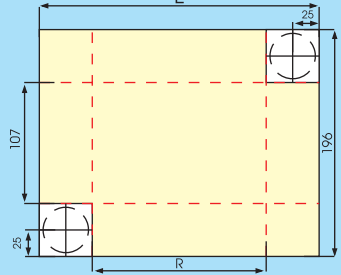
L ± 0.2	R
196	107
246	157
296	207
346	257
396	307

L $+0-0.2$	H $-0+0.2$
100	27
125	37
140	47
160	57
180	*

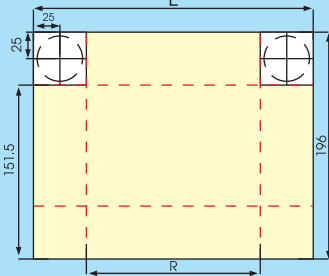
DBSKK



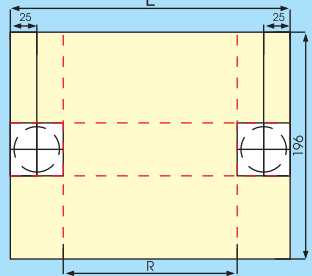
ÇBSKK



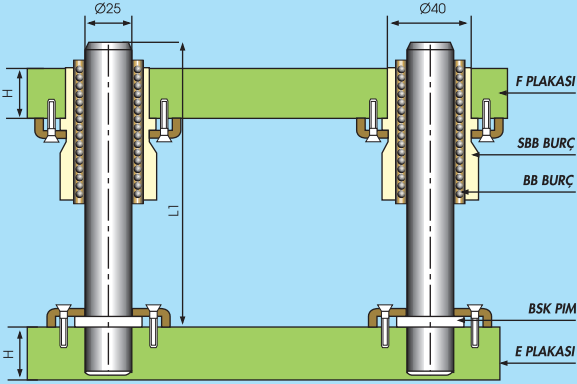
ABSKK



OBSKK



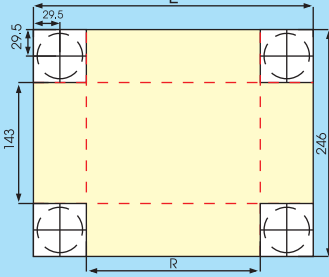
PKS 246xL SERİSİ PRES KALIP SETLERİ (BK)
 PKS 246xL SERIES OF DIE SET (BK)



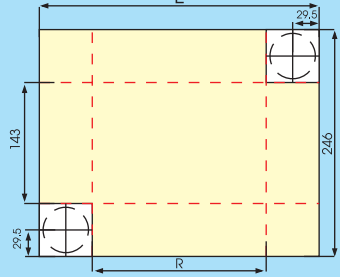
L ± 0.2	R
246	143
296	193
346	243
396	293
446	343

L $+0-0.2$	H $-0+0.2$
100	27
125	37
140	47
160	57
*	*

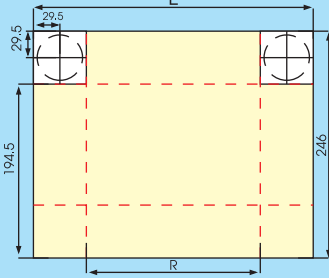
DBSK



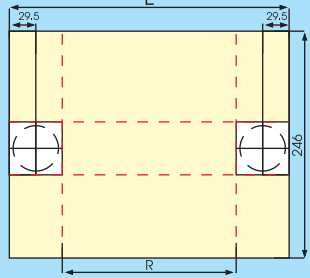
ÇBSK



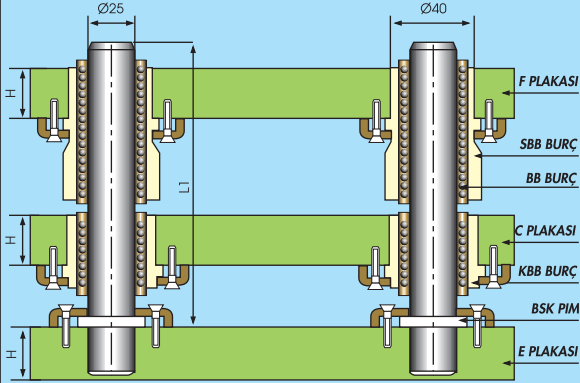
ABSK



OBSK



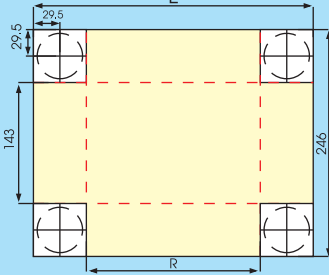
PKS 246xL SERİSİ PRES KALIP SETLERİ (BKK)
 PKS 246xL SERIES OF DIE SET (BKK)



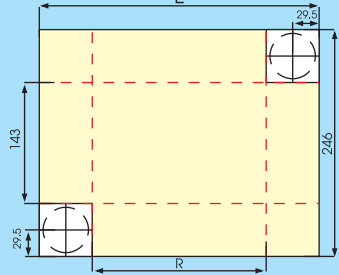
L ± 0.2	R
246	143
296	193
346	243
396	293
446	343

L $+0-0.2$	H $-0+0.2$
100	27
125	37
140	47
160	57
*	*

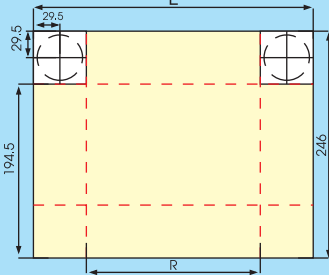
DBSKK



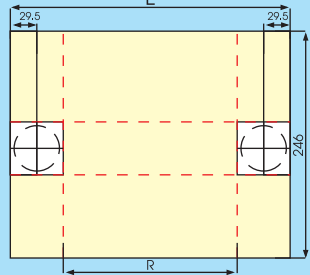
ÇBSKK



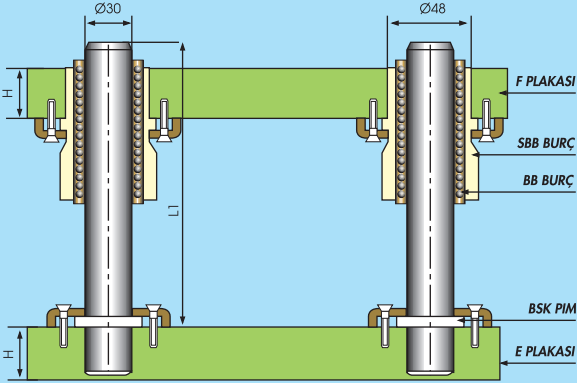
ABSKK



OBSKK



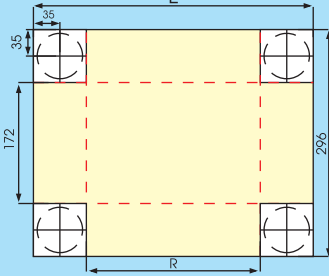
PKS 296xL SERİSİ PRES KALIP SETLERİ (BK)
 PKS 296xL SERIES OF DIE SET (BK)



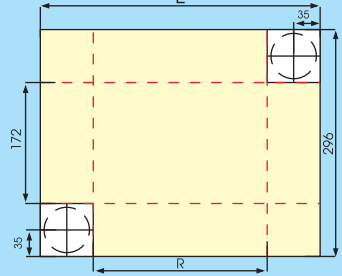
L ± 0.2	R
296	172
346	222
396	272
446	322
496	372

L1 $+0-0.2$	H $-0+0.2$
125	27
140	37
160	47
180	57
*	*

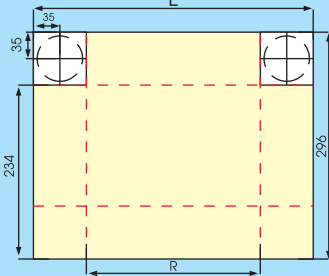
DBSK



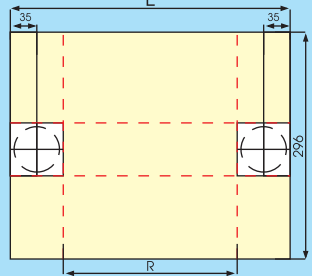
ÇBSK



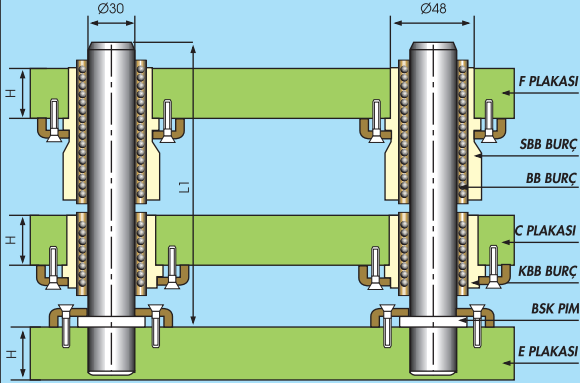
ABSK



OBSK



PKS 296xL SERİSİ PRES KALIP SETLERİ (BKK)
 PKS 296xL SERIES OF DIE SET (BKK)

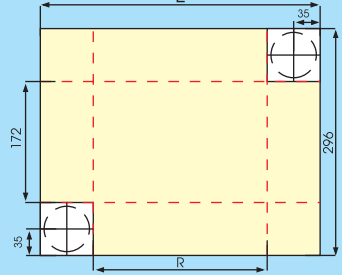
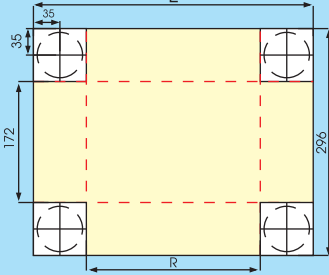


L ± 0.2	R
296	172
346	222
396	272
446	322
496	372

L $+0-0.2$	H $-0+0.2$
125	27
140	37
160	47
180	57
*	*

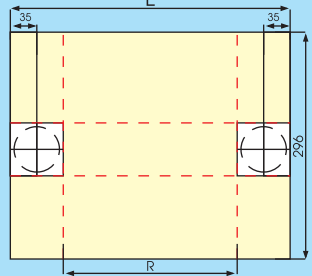
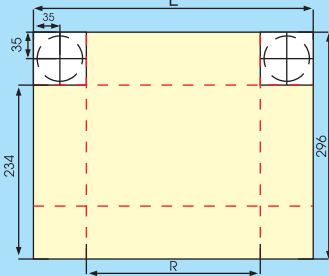
DBSKK

ÇBSKK

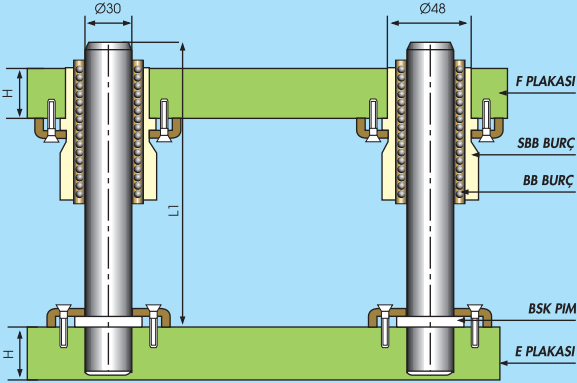


ABSKK

OBSKK



PKS 346xL SERİSİ PRES KALIP SETLERİ (BK)
 PKS 346xL SERIES OF DIE SET (BK)

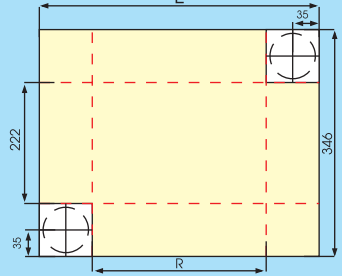
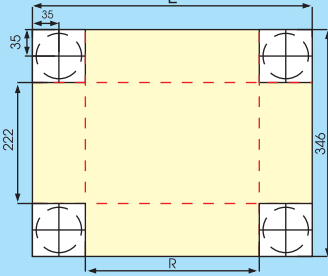


L ± 0.2	R
346	222
396	272
446	322
496	372
546	422

L $+0-0.2$	H $-0+0.2$
125	27
140	37
160	47
180	57
*	*

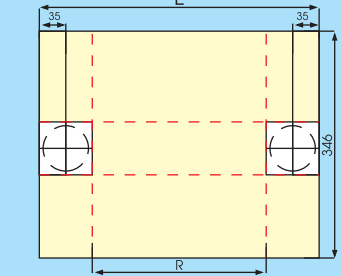
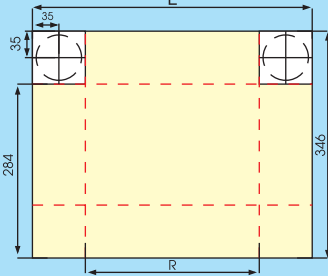
DBSK

ÇBSK

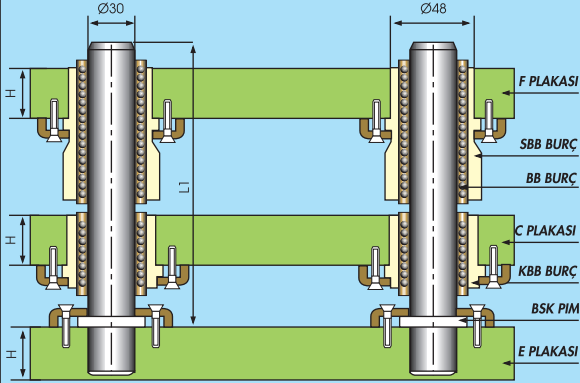


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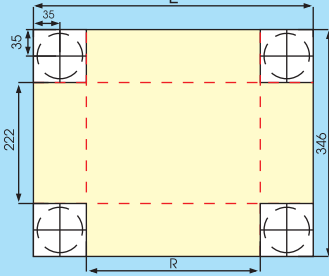
PKS 346xL SERİSİ PRES KALIP SETLERİ (BKK)
 PKS 346xL SERIES OF DIE SET (BKK)



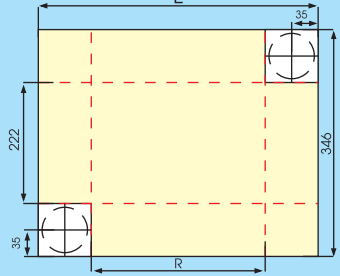
L ^{+0.2}	R
346	222
396	272
446	322
496	372
546	422

L ^{+0-0.2}	H ^{-0+0.2}
125	27
140	37
160	47
180	57
*	*

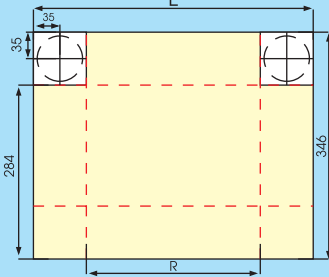
DBSKK



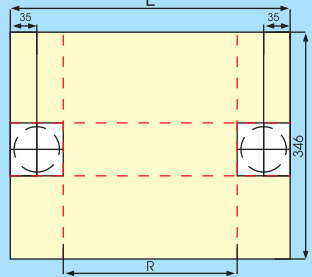
ÇBSKK



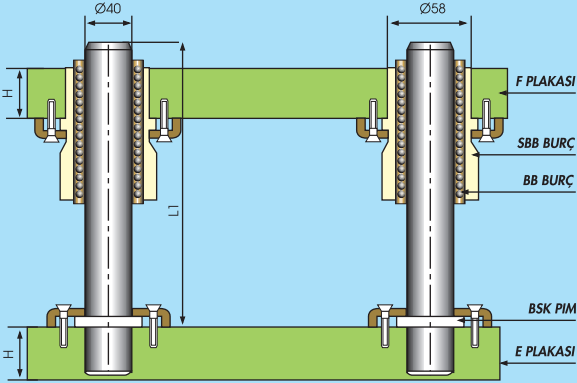
ABSKK



OBSKK



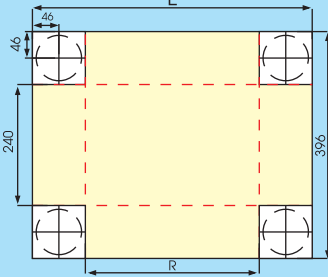
PKS 396xL SERİSİ PRES KALIP SETLERİ (BK)
PKS 396xL SERIES OF DIE SET (BK)



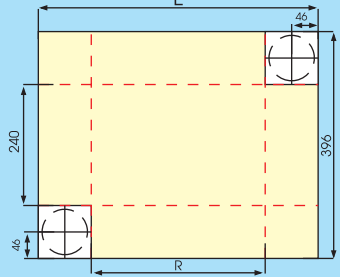
L ± 0.2	R
396	240
446	290
496	340
546	390
596	440

L $+0-0.2$	H $-0+0.2$
140	27
160	37
180	47
200	57
*	*

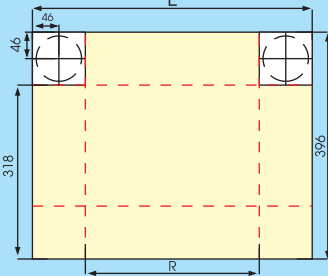
DBSK



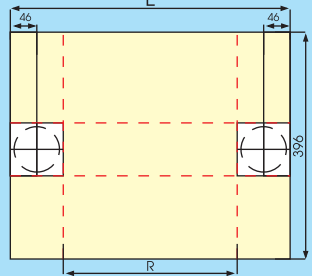
ÇBSK



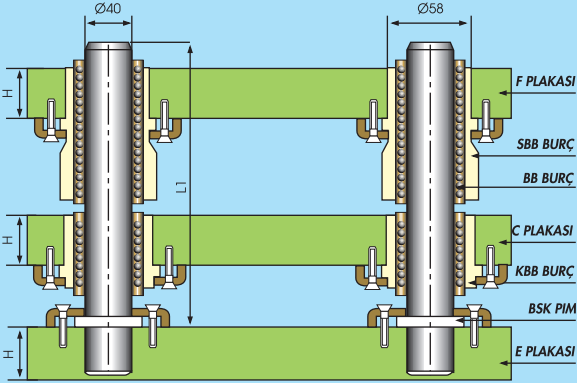
ABSK



OBSK



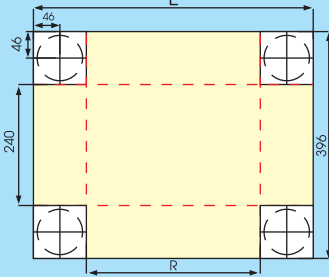
PKS 396xL SERİSİ PRES KALIP SETLERİ (BKK)
 PKS 396xL SERIES OF DIE SET (BKK)



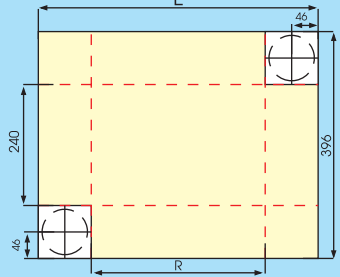
L ± 0.2	R
396	240
446	290
496	340
546	390
596	440

L $+0-0.2$	H $-0+0.2$
140	27
160	37
180	47
200	57
*	*

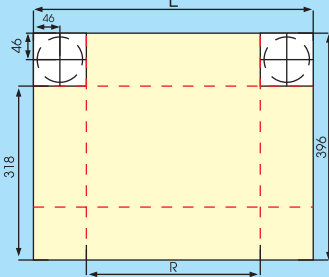
DBSKK



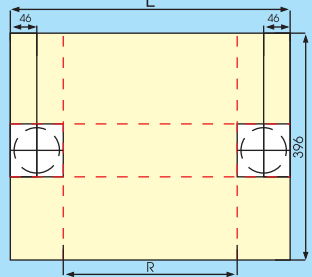
ÇBSKK



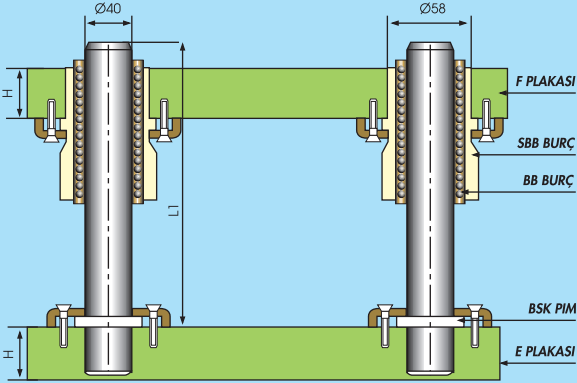
ABSKK



OBSKK



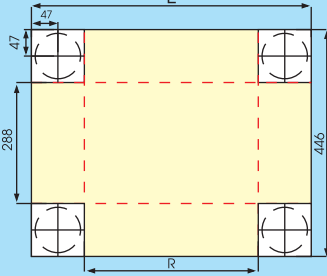
PKS 446xL SERİSİ PRES KALIP SETLERİ (BK)
 PKS 446xL SERIES OF DIE SET (BK)



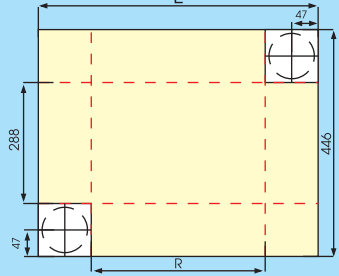
L ± 0.2	R
446	288
496	338
546	388
596	438
646	488

L $+0-0.2$	H $-0+0.2$
140	27
160	37
180	47
200	57
*	*

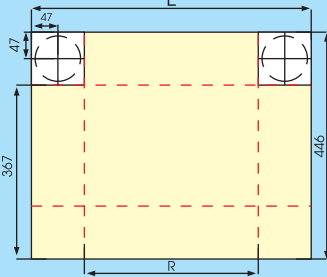
DBSK



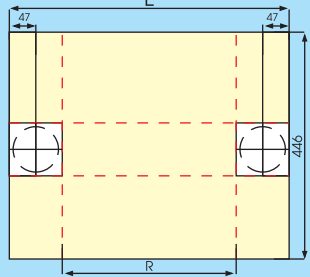
ÇBSK



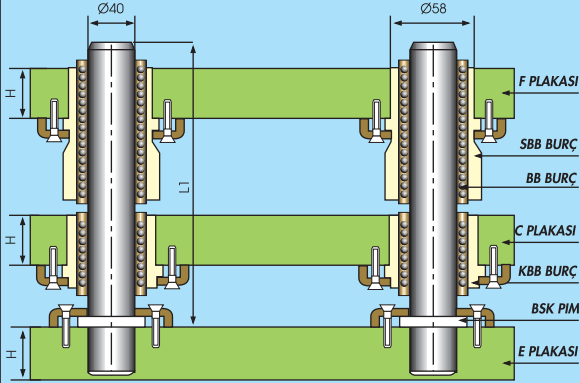
ABSK



OBSK



PKS 446xL SERİSİ PRES KALIP SETLERİ (BKK)
 PKS 446xL SERIES OF DIE SET (BKK)

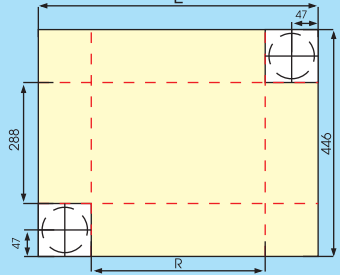
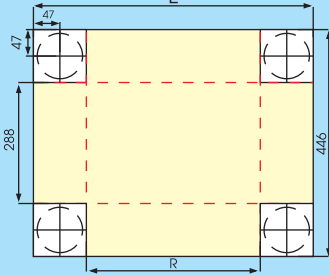


L ^{+0.2}	R
446	288
496	338
546	388
596	438
646	488

L ^{+0-0.2}	H ^{-0+0.2}
140	27
160	37
180	47
200	57
*	*

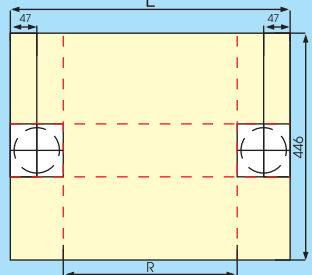
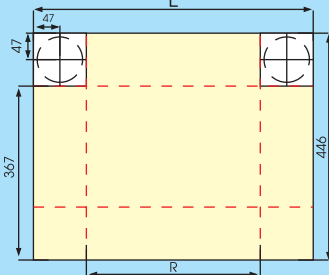
DBSKK

ÇBSKK

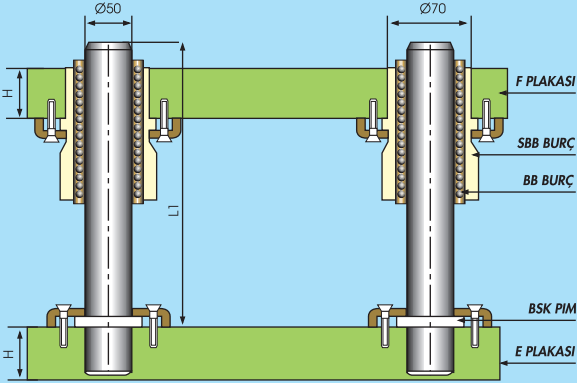


ABSKK

OBSKK



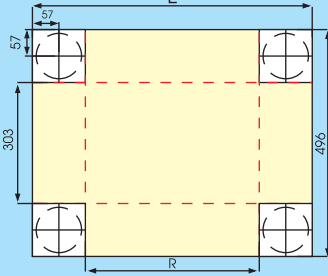
PKS 496xL SERİSİ PRES KALIP SETLERİ (BK)
 PKS 496xL SERIES OF DIE SET (BK)



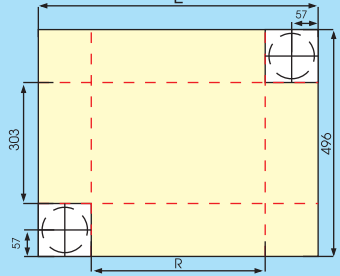
L ± 0.2	R
496	303
546	353
596	403
646	453
696	503

L $+0-0.2$	H $-0+0.2$
160	27
180	37
200	47
220	57
*	*

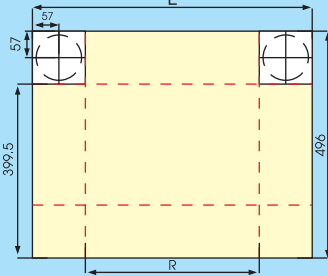
DBSK



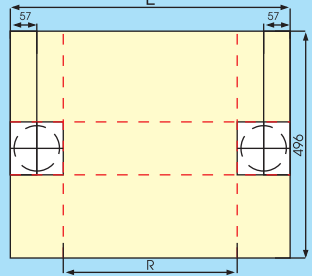
ÇBSK



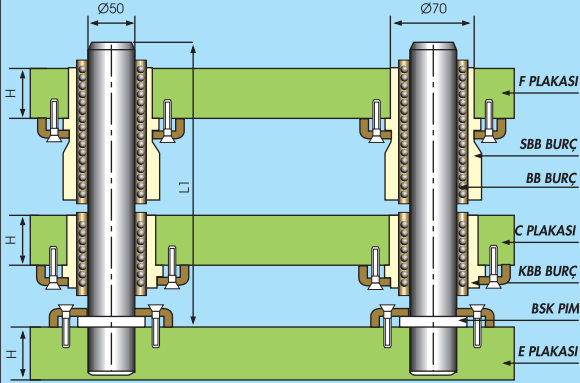
ABSK



OBSK



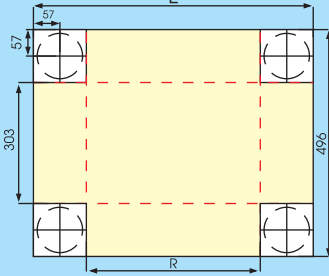
PKS 496xL SERİSİ PRES KALIP SETLERİ (BKK)
 PKS 496xL SERIES OF DIE SET (BKK)



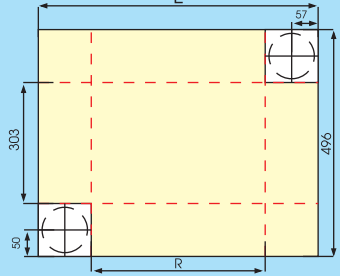
L ± 0.2	R
496	303
546	353
596	403
646	453
696	503

L $+0-0.2$	H $-0+0.2$
160	27
180	37
200	47
220	57
*	*

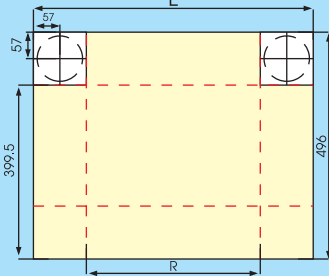
DBSKK



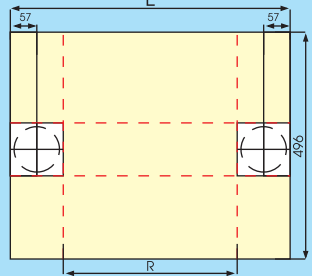
ÇBSKK



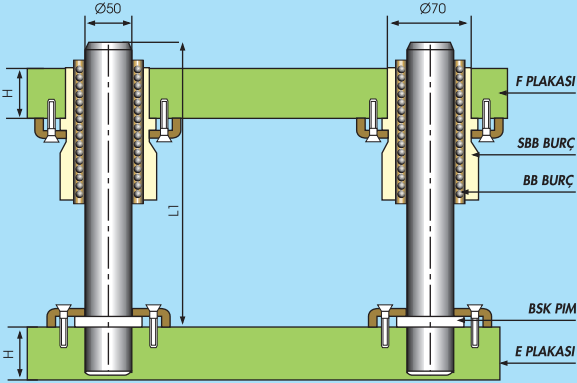
ABSKK



OBSKK



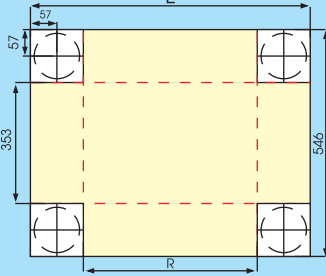
PKS 546xL SERİSİ PRES KALIP SETLERİ (BK)
 PKS 546xL SERIES OF DIE SET (BK)



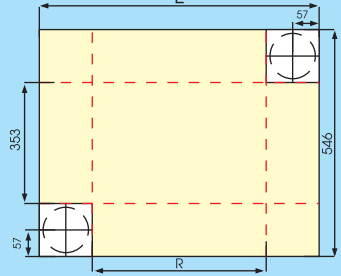
L ± 0.2	R
546	353
596	403
646	453
696	503
746	553

L $+0-0.2$	H $-0+0.2$
160	27
180	37
200	47
220	57
*	*

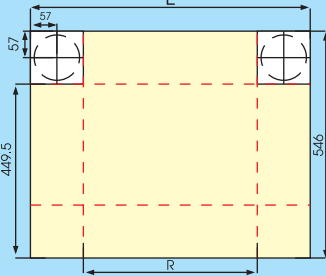
DBSK



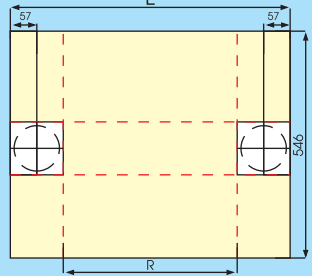
ÇBSK



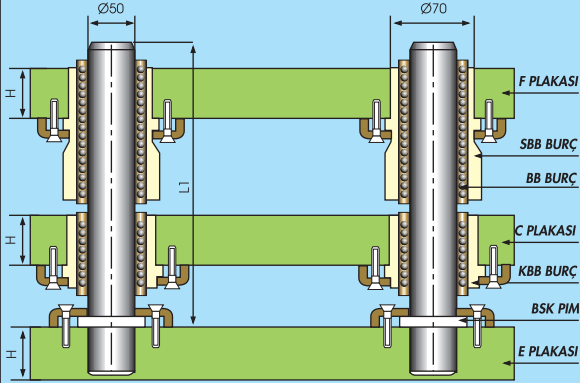
ABSK



OBSK



PKS 546xL SERİSİ PRES KALIP SETLERİ (BKK)
 PKS 546xL SERIES OF DIE SET (BKK)

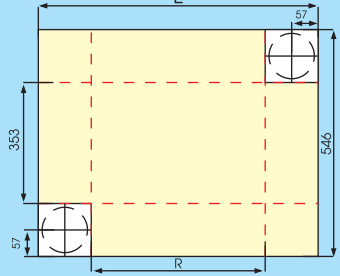
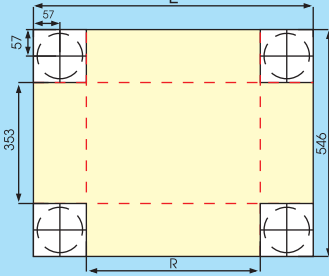


L ± 0.2	R
546	353
596	403
646	453
696	503
746	553

L $+0-0.2$	H $-0+0.2$
160	27
180	37
200	47
220	57
*	*

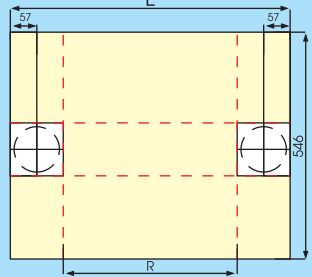
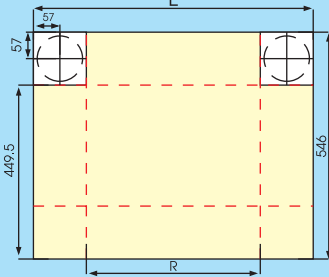
DBSKK

ÇBSKK

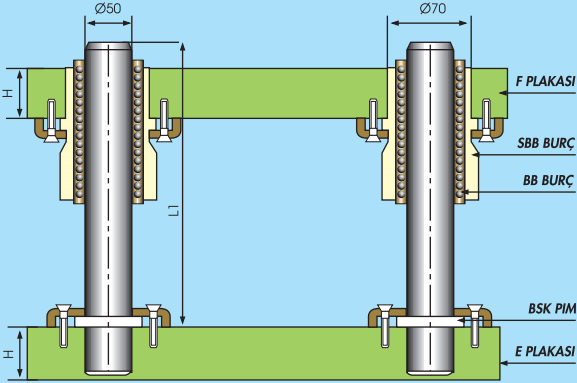


ABSKK

OBSKK



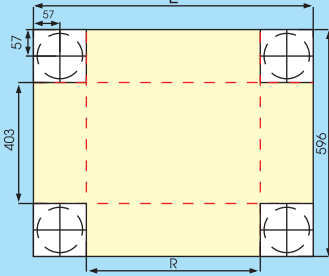
PKS 596xL SERİSİ PRES KALIP SETLERİ (BK)
 PKS 596xL SERIES OF DIE SET (BK)



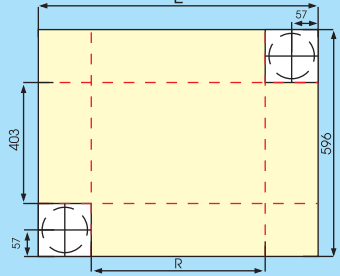
L ± 0.2	R
596	403
696	503
796	603
896	703
996	803

L $+0-0.2$	H $-0+0.2$
160	27
180	37
200	47
220	57
*	*

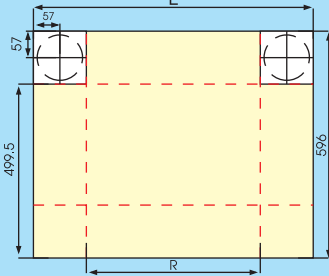
DBSK



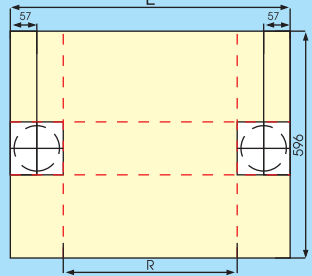
ÇBSK



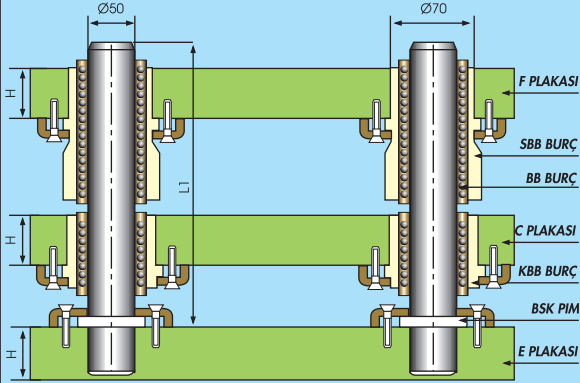
ABSK



OBSK



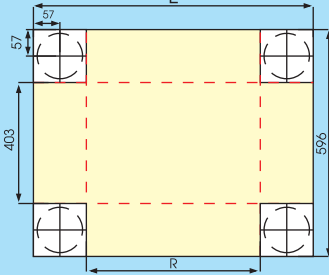
PKS 596xL SERİSİ PRES KALIP SETLERİ (BKK)
 PKS 596xL SERIES OF DIE SET (BKK)



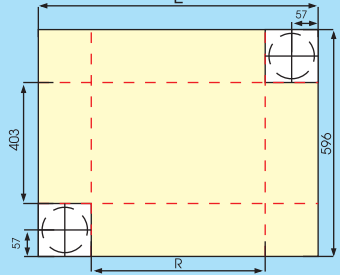
L ± 0.2	R
596	403
696	503
796	603
896	703
996	803

L $+0-0.2$	H $-0+0.2$
160	27
180	37
200	47
220	57
*	*

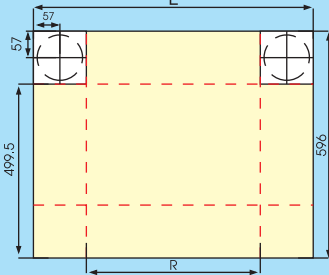
DBSK



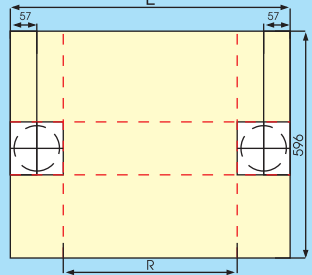
ÇBSK



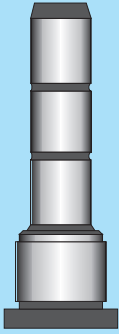
ABSK



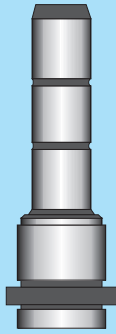
OBSK



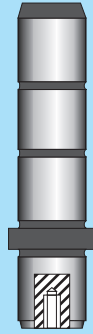
MERKEZLEME VE POZİSYONLAMA ELEMANLARI
CENTRING and LOCATING ELEMENTS



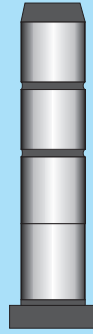
SKK



KSKK



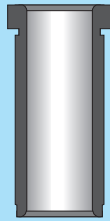
OSK



SK



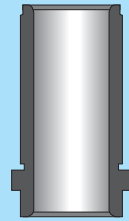
BSK



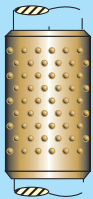
SB



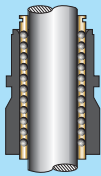
OSB



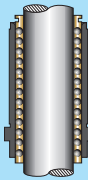
USB



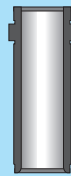
BB



SBB



KBB

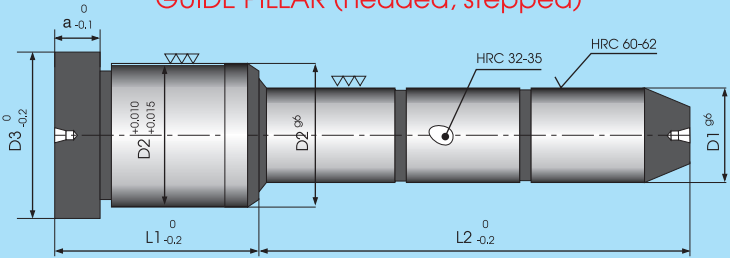


KSB



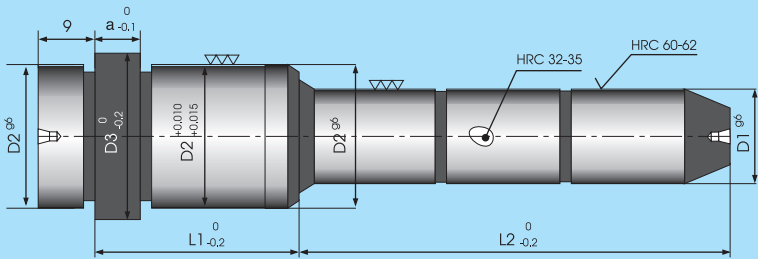
TB

SKK (Şapkalı Kademeli Kolon) GUIDE PILLAR (headed, stepped)



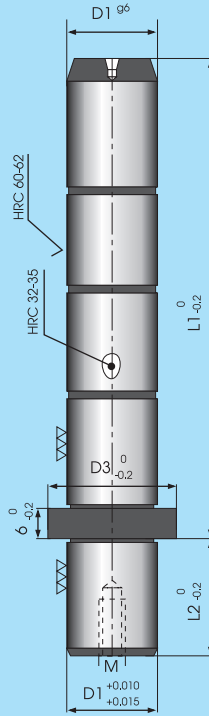
D1	D2	D3	a	L1	L2													
					26	36	46	56	66	76	86	96	106	116	126	136	146	
12	16	19	4	26														
				36														
				46														
14	20	25	6	26														
				36														
				46														
16	24	28	6	56														
				66														
				76														
				86														
				96														
				106														
18	26	31	6	116														
				126														
				136														
				146														
				26														
				36														
20	28	32	6	46														
				56														
				66														
				76														
				86														
				96														
25	34	38	8	106														
				116														
				126														
				136														
				146														
				26														
30	39	43	10	26														
				36														
				46														
				56														
				66														
				76														
40	50	54	10	86														
				96														
				106														
				116														
				x	x													

KSKK (Kuyruklu Şapkalı Kademeli Kolon) GUIDE PILLAR (shouldered, stepped, centring)



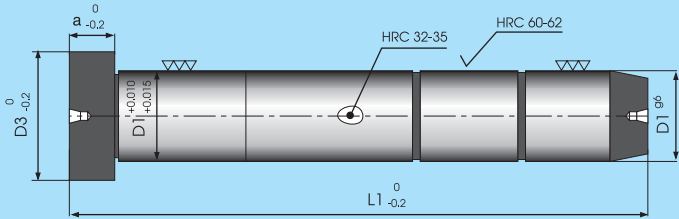
D1	D2	D3	a	L1	L2																	
					26	36	46	56	66	76	86	96	106	116	126	136	146					
12	16	19	4	26																		
				36																		
				46																		
				56																		
14	20	25	6	26																		
				36																		
				46																		
				56																		
16	24	28	6	26																		
				36																		
				46																		
				56																		
				66																		
				76																		
				86																		
				96																		
18	26	31	6	26																		
				36																		
				46																		
				56																		
				66																		
				76																		
				86																		
				96																		
20	28	32	6	26																		
				36																		
				46																		
				56																		
				66																		
				76																		
				86																		
				96																		
25	34	38	8	26																		
				36																		
				46																		
				56																		
				66																		
				76																		
				86																		
				96																		
30	39	43	10	26																		
				36																		
				46																		
				56																		
				66																		
				76																		
				86																		
				96																		
40	50	54	10	106																		
				116																		
				x																		

OSK (Ortadan Şapkalı Kolon) GUIDE PILLAR (shouldered)



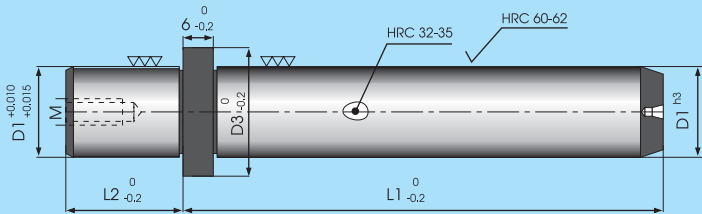
D1	D3	M	L2	L1														
				100	125	140	160	180	200	220	240	260	280	315	355	400		
20	28	M6	25															
			35															
25	33	M8	25															
			35															
30	38	M10	35															
			45															
40	48	M10	35															
			45															
50	58	M10	45															
			55															

SK (Şapkalı Kolon) GUIDE PILLAR (headed)



D1	D3	a	L1														
			60	80	100	120	140	160	180	200	220	250					
12	16	10															
14	18	10															
16	20	10															
18	22	10															
20	24	10															
25	29	10															
30	34	12															

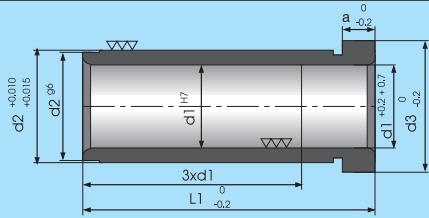
BSK (Bilyalı Şapkalı Kolon) BALL GUIDE PILLAR (shouldered)



D1	D3	M	L2	L1													
				100	125	140	160	180	200	220	240	260	280	315	355	400	
16	22	M6	25														
			35														
20	26	M6	25														
			35														
25	31	M8	25														
			35														
30	39	M8	35														
			45														
40	56	M8	35														
			45														
50	71	M10	45														
			55														

SB
(Şapkalı Burç)

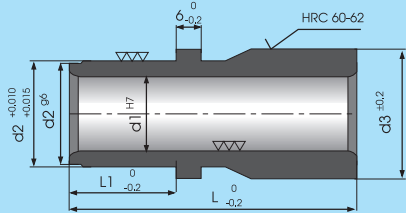
GUIDE BUSH
(headed)



d1	d2	d3	a	L1																		
				26	36	46	56	66	76	86	96	106	116									
12	16	19	4																			
14	20	25	6																			
16	24	28	6																			
18	26	31	6																			
20	28	32	6																			
25	34	38	8																			
30	39	43	10																			
40	50	54	10																			

OSB
(Ortadan Şapkalı Burç)

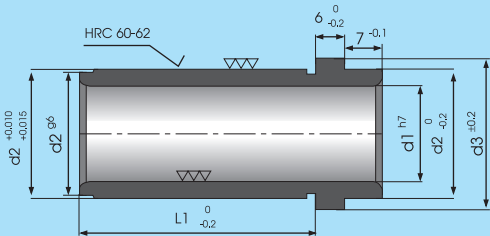
GUIDE BUSH
(shouldered, long type)



d1	d2	d3	L	L1																		
				26	36	46	56	66	76	86	96	106	116									
20	28	34	70																			
25	34	39	80																			
30	39	44	90																			
40	50	54	100																			
50	60	64	120																			

USB
(Üstten Şapkalı Burç)

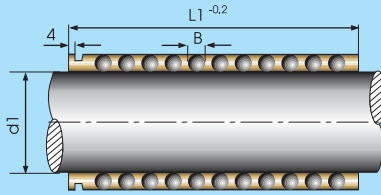
GUIDE BUSH
(shouldered)



d1	d2	d3	L1																			
			26	36	46	56	66	76	86	96	106	116										
20	28	34																				
25	34	39																				
30	39	44																				
40	50	54																				
50	60	64																				

BB
(Bilyalı Burç)

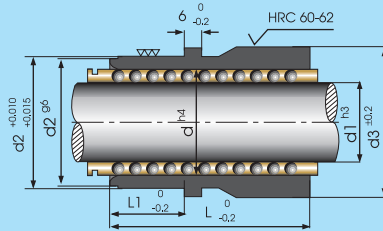
BALL RETAINER



d1	R	L1													
		45	56	71	80	95	105	120	140	160					
16	3														
20	3														
25	3														
30	4														
40	4														
50	4														

SBB
(Şapkalı Bilyalı Burç)

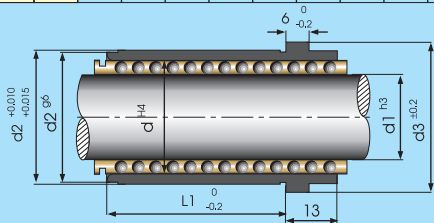
BALL GUIDE BUSH
(shouldered, long type)



d	d1	d2	d3	L	L1					
					26	36	46	56		
22	16	30	34	70						
26	20	34	39	80						
31	25	40	44	90						
38	30	48	54	100						
48	40	58	64	112						
58	50	70	79	130						

KBB
(Üstten Şapkalı Burç)

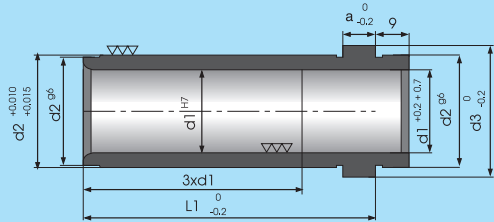
BALL GUIDE BUSH
(shouldered)



d	d1	d2	d3	L1					
				26	36	46	56		
22	16	30	34						
26	20	34	39						
31	25	40	44						
38	30	48	54						
48	40	58	64						
58	50	70	79						

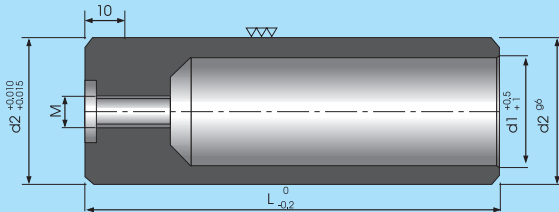
KSB
(Kuyruklu
Şapkalı Burç)

GUIDE BUSH
(shouldered,
centring)



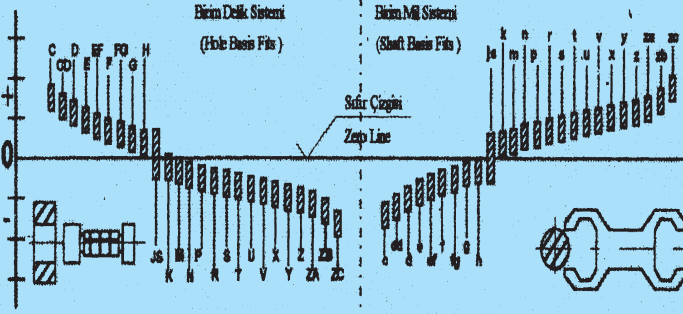
d1	d2	d3	a	L1													
				26	36	46	56	66	76	86	96	106	116				
12	16	19	4														
14	20	25	6														
16	24	28	6														
18	26	31	6														
20	28	32	6														
25	34	38	8														
30	39	43	10														
40	50	54	10														X

TB (Tespit Burcu)
CENTERING SLEEVES



d1	d2	M	L														
			40	60	80	100	120										
16	24	M8															
20	28	M8															
25	34	M10															
30	39	M10															
40	50	M10															

TOLERANSLAR



Delik Ölçü Toleransı

DIN 7161

Çap Esasındaki nominal ölçüler (Nominal Size Ranges in mm)	Sapmalar																		
	E6	E7	E8	F6	F7	F8	G5	G6	G7	H4	H5	H6	H7	H8	H9	H10	H11	JS6	
3	+20	+24	+28	+12	+16	+20	+6	+8	+12	+3	+4	+6	+10	+14	+25	+40	+60	+3	
	+14	+14	+14	+6	+6	+6	+2	+2	+2	0	0	0	0	0	0	0	0	-3	
3-6	+28	+32	+38	+18	+22	+28	+9	+12	+16	+4	+5	+8	+12	+18	+30	+48	+75	+4	
	+20	+20	+20	+10	+10	+10	+4	+4	+4	0	0	0	0	0	0	0	0	-4	
6-10	+34	+40	+47	+22	+28	+35	+11	+14	+20	+4	+6	+9	+15	+22	+36	+58	+90	+4,5	
	+25	+25	+25	+13	+13	+13	+5	+5	+5	0	0	0	0	0	0	0	0	-4,5	
10-18	+43	+50	+59	+27	+34	+43	+14	+17	+24	+5	+8	+11	+18	+27	+43	+70	+110	+5,5	
	+32	+32	+32	+16	+16	+16	+6	+6	+6	0	0	0	0	0	0	0	0	-5,5	
18-30	+53	+61	+73	+33	+41	+53	+16	+20	+28	+6	+9	+13	+21	+33	+52	+84	+130	+6,5	
	+40	+40	+40	+20	+20	+20	+7	+7	+7	0	0	0	0	0	0	0	0	-6,5	
30-50	+66	+75	+89	+41	+50	+64	+20	+25	+34	+7	+11	+16	+25	+39	+62	+100	+160	+8	
	+50	+50	+50	+25	+25	+25	+9	+9	+9	0	0	0	0	0	0	0	0	-8	
50-80	+79	+90	+106	+49	+60	+76	+23	+29	+40	+8	+13	+19	+30	+46	+74	+120	+190	+9,5	
	+60	+60	+60	+30	+30	+30	+10	+10	+10	0	0	0	0	0	0	0	0	-9,5	
80-120	+94	+107	+126	+58	+71	+90	+27	+34	+47	+10	+15	+22	+35	+54	+87	+140	+220	+11	
	+72	+72	+72	+36	+36	+36	+12	+12	+12	0	0	0	0	0	0	0	0	-11	
120-180	+110	+125	+148	+68	+83	+106	+32	+39	+54	+12	+18	+25	+40	+63	+100	+160	+250	+12,5	
	+85	+85	+85	+43	+43	+43	+14	+14	+14	0	0	0	0	0	0	0	0	-12,5	
180-250	+129	+146	+172	+79	+96	+122	+35	+44	+61	+14	+20	+29	+46	+72	+115	+185	+290	+14,5	
	+100	+100	+100	+50	+50	+50	+15	+15	+15	0	0	0	0	0	0	0	0	-14,5	
250-315	+142	+162	+191	+88	+108	+137	+40	+49	+69	+16	+23	+32	+52	+81	+130	+210	+320	+16	
	+110	+110	+110	+56	+56	+56	+17	+17	+17	0	0	0	0	0	0	0	0	-16	
315-400	+161	+182	+214	+98	+119	+151	+43	+54	+75	+18	+25	+36	+57	+89	+140	+230	+360	+18	
	+125	+125	+125	+62	+62	+62	+18	+18	+18	0	0	0	0	0	0	0	0	-18	
400-500	+175	+198	+232	+108	+131	+165	+47	+60	+83	+20	+27	+40	+63	+97	+155	+250	+400	+20	
	+135	+135	+135	+68	+68	+68	+20	+20	+20	0	0	0	0	0	0	0	0	-20	

Delik Ölçü Tolerans

DIN 7161

Çap Başarımları mm olarak (Nominal Size Range in mm)	Sapmalar	JS7	JS8	JS9	JS10	JS11	JS12	JS13	JS14	JS15	JS16	JS17	JS18	K6	K7	K8	M5	M6	M7
	3	+5 -5	+7 -7	+12,5 -12,5	+20 -20	+30 -30	+50 -50	+70 -70	+125 -125	+200 -200	+300 -300	*	*	0	0	0	0	-2	-2
3-6	+6 -6	+9 -9	+15 -15	+24 -24	+37,5 -37,5	+60 -60	+90 -90	+150 -150	+240 -240	+375 -375	*	*	+2	+3	+5	-3	-1	0	-12
6-10	+7,5 -7,5	+11 -11	+18 -18	+29 -29	+45 -45	+75 -75	+110 -110	+180 -180	+290 -290	+450 -450	+750	*	+2	+5	+6	-4	-3	0	-12
10-18	+9 -9	+13,5 -13,5	+21,5 -21,5	+35 -35	+55 -55	+90 -90	+135 -135	+215 -215	+350 -350	+550 -550	+900 -900	+1350 -1350	+2	+6	+8	-4	-4	0	-18
18-30	+10,5 -10,5	+16,5 -16,5	+26 -26	+42 -42	+65 -65	+105 -105	+165 -165	+260 -260	+420 -420	+650 -650	+1050 -1050	+1650 -1650	-11	-15	-23	-14	-17	-21	-18
30-50	+12,5 -12,5	+19,5 -19,5	+31 -31	+50 -50	+80 -80	+125 -125	+195 -195	+310 -310	+500 -500	+800 -800	+1250 -1250	+1950 -1950	+3	+7	+12	-5	-4	0	-23
50-80	+15 -15	+23 -23	+37 -37	+60 -60	+95 -95	+150 -150	+230 -230	+370 -370	+600 -600	+950 -950	+1500 -1500	+2300 -2300	-15	-21	-32	-19	-24	-30	-30
80-120	+17,5 -17,5	+27 -27	+43,5 -43,5	+70 -70	+110 -110	+175 -175	+270 -270	+435 -435	+700 -700	+1100 -1100	+1750 -1750	+2700 -2700	+4	+10	+16	-8	-6	0	-35
120-180	+20 -20	+31,5 -31,5	+50 -50	+80 -80	+125 -125	+200 -200	+315 -315	+500 -500	+800 -800	+1250 -1250	+2000 -2000	+3150 -3150	-21	-28	-43	-27	-33	-40	-40
180-250	+23 -23	+36 -36	+57,5 -57,5	+92,5 -92,5	+145 -145	+230 -230	+360 -360	+575 -575	+925 -925	+1450 -1450	+2300 -2300	+3600 -3600	+5	+13	+22	-11	-8	0	-46
250-315	+26 -26	+40,5 -40,5	+65 -65	+105 -105	+160 -160	+260 -260	+405 -405	+650 -650	+1050 -1050	+1600 -1600	+2600 -2600	+4050 -4050	+5	+16	+25	-13	-9	0	-52
315-400	+28,5 -28,5	+44,5 -44,5	+70 -70	+115 -115	+180 -180	+285 -285	+445 -445	+700 -700	+1150 -1150	+1800 -1800	+2850 -2850	+4450 -4450	+7	+17	+28	-14	-10	0	-57
400-500	+31,5 -31,5	+48,5 -48,5	+77,5 -77,5	+125 -125	+200 -200	+315 -315	+485 -485	+775 -775	+1250 -1250	+2000 -2000	+3150 -3150	+4850 -4850	+8	+18	+29	-16	-10	0	-63

Sapmaların değerleri mikron olarak (Tolerance values are in thousandths of a mm) ($\mu = 0,001$ mm)

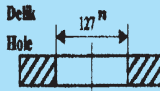
Mil Ölçü Tolerans

DIN 7161

Çap Başarımları mm olarak (Nominal Size Range in mm)	Sapmalar	e6	e7	e8	f6	f7	f8	g5	g6	g7	h4	h5	h6	h7	h8	h9	h10	h11	js6
	3	-14 -20	-14 -24	-14 -28	-6 -12	-6 -16	-6 -20	-6 -8	-2 -8	-2 -12	-2 -3	0	0	0	0	0	0	0	0
3-6	-20 -28	-20 -32	-20 -38	-10 -18	-10 -22	-10 -28	-10 -12	-4 -12	-4 -16	-4 -4	0	0	0	0	0	0	0	0	+4
6-10	-25 -34	-25 -40	-25 -47	-13 -22	-13 -28	-13 -35	-13 -11	-5 -14	-5 -20	-5 -4	0	0	0	0	0	0	0	0	+4,5
10-18	-32 -43	-32 -50	-32 -59	-16 -27	-16 -34	-16 -43	-16 -14	-6 -17	-6 -24	-6 -5	0	0	0	0	0	0	0	0	+5,5
18-30	-40 -53	-40 -61	-40 -73	-20 -33	-20 -41	-20 -53	-20 -16	-7 -20	-7 -28	-7 -6	0	0	0	0	0	0	0	0	+6,5
30-50	-50 -66	-50 -75	-50 -89	-25 -41	-25 -50	-25 -64	-25 -20	-9 -25	-9 -34	-9 -7	0	0	0	0	0	0	0	0	+8
50-80	-60 -79	-60 -90	-60 -106	-30 -49	-30 -60	-30 -76	-30 -23	-10 -29	-10 -40	-10 -8	0	0	0	0	0	0	0	0	+9,5
80-120	-72 -94	-72 -107	-72 -126	-36 -58	-36 -71	-36 -90	-36 -27	-12 -34	-12 -47	-12 -10	0	0	0	0	0	0	0	0	+11
120-180	-85 -110	-85 -125	-85 -148	-43 -68	-43 -83	-43 -106	-43 -32	-14 -39	-14 -54	-14 -12	0	0	0	0	0	0	0	0	+12,5
180-250	-100 -129	-100 -146	-100 -172	-50 -79	-50 -96	-50 -122	-50 -35	-15 -44	-15 -61	-15 -14	0	0	0	0	0	0	0	0	+14,5
250-315	-110 -142	-110 -162	-110 -191	-56 -88	-56 -108	-56 -137	-56 -40	-17 -49	-17 -69	-17 -16	0	0	0	0	0	0	0	0	+16
315-400	-125 -161	-125 -182	-125 -214	-62 -98	-62 -119	-62 -151	-62 -43	-18 -54	-18 -75	-18 -18	0	0	0	0	0	0	0	0	+18
400-500	-135 -175	-135 -198	-135 -232	-68 -108	-68 -131	-68 -165	-68 -47	-20 -60	-20 -83	-20 -20	0	0	0	0	0	0	0	0	+20

Sapmalar	js7	js8	js9	js10	js11	js12	js13	js14	js15	js16	js17	js18	k6	k7	k8	ms	m6	m7
3	+3	+7	+12,5	+20	+30	+50	+70	+125	+200	+300	*	*	+6	+10	+14	+6	+8	*
	-5	-7	-12,5	-20	-30	-50	-70	-125	-200	-300	*	*	0	0	0	-2	-2	*
3-6	+6	+9	+15	+24	+37,5	+60	+90	+150	+240	+375	*	*	+9	+13	+18	+9	+12	+16
	-6	-9	-15	-24	-37,5	-60	-90	-150	-240	-375	*	*	+1	+1	0	+4	+4	+4
6-10	+7,5	+11	+18	+29	+45	+75	+110	+180	+290	+450	+750	*	+10	+16	+22	+12	+15	+21
	-7,5	-11	-18	-29	-45	-75	-110	-180	-290	-450	-750	*	+1	+1	0	+6	+6	+6
10-18	+9	+13,5	+21,5	+35	+55	+90	+135	+215	+350	+550	+900	+1350	+12	+19	+27	+15	+18	+25
	-9	-13,5	-21,5	-35	-55	-90	-135	-215	-350	-550	-900	-1350	+1	+1	0	+7	+7	+7
18-30	+10,5	+16,5	+26	+42	+65	+105	+165	+260	+420	+650	+1050	+1650	+15	+23	+33	+17	+21	+29
	-10,5	-16,5	-26	-42	-65	-105	-165	-260	-420	-650	-1050	-1650	+2	+2	0	+8	+8	+8
30-50	+12,5	+19,5	+31	+50	+80	+125	+195	+310	+500	+800	+1250	+1950	+18	+27	+39	+20	+25	+34
	-12,5	-19,5	-31	-50	-80	-125	-195	-310	-500	-800	-1250	-1950	+2	+2	0	+9	+9	+9
50-80	+15	+23	+37	+60	+95	+150	+230	+370	+600	+950	+1500	+2300	+21	+32	+46	+24	+30	+41
	-15	-23	-37	-60	-95	-150	-230	-370	-600	-950	-1500	-2300	+2	+2	0	+11	+11	+11
80-120	+17,5	+27	+43,5	+70	+110	+175	+270	+435	+700	+1100	+1750	+2700	+25	+38	+54	+28	+35	+48
	-17,5	-27	-43,5	-70	-110	-175	-270	-435	-700	-1100	-1750	-2700	+3	+3	0	+13	+13	+13
120-180	+20	+31,5	+50	+80	+125	+200	+315	+500	+800	+1250	+2000	+3150	+28	+43	+63	+33	+40	+55
	-20	-31,5	-50	-80	-125	-200	-315	-500	-800	-1250	-2000	-3150	+3	+3	0	+15	+15	+15
180-250	+23	+36	+57,5	+92,5	+145	+230	+360	+575	+925	+1450	+2300	+3600	+33	+50	+72	+37	+46	+63
	-23	-36	-57,5	-92,5	-145	-230	-360	-575	-925	-1450	-2300	-3600	+4	+4	0	+17	+17	+17
250-315	+26	+40,5	+65	+105	+160	+260	+405	+650	+1050	+1600	+2600	+4050	+36	+56	+81	+43	+52	+72
	-26	-40,5	-65	-105	-160	-260	-405	-650	-1050	-1600	-2600	-4050	+4	+4	0	+20	+20	+20
315-400	+28,5	+44,5	+70	+115	+180	+285	+445	+700	+1150	+1800	+2850	+4450	+40	+61	+89	+46	+57	+78
	-28,5	-44,5	-70	-115	-180	-285	-445	-700	-1150	-1800	-2850	-4450	+4	+4	0	+21	+21	+21
400-500	+31,5	+48,5	+77,5	+125	+200	+315	+485	+775	+1250	+2000	+3150	+4850	+45	+68	+97	+50	+63	+86
	-31,5	-48,5	-77,5	-125	-200	-315	-485	-775	-1250	-2000	-3150	-4850	+5	+5	0	+23	+23	+23

Sapmaların değerleri mikron olarak (Tolerance values are in thousandths of a mm) ($1\mu = 0,001\text{ mm}$)



Örnek (Example):

Ölçü (Nominal Size):

127 mm

Ölçü	System	mm	μm
Max. Ölçü Limiti		127,106	+106
Min. Ölçü Limiti		127,043	+43
Değer		0,063	63

Ölçü	System	mm	μm
Max. Ölçü Limiti		126,957	-43
Min. Ölçü Limiti		126,894	-106
Değer		0,063	63

Tolerans sembolü
(Tolerance Symbol):

F8 / f8

Size	System	mm	μm
Max. limit of size		127,106	+106
Min. limit of size		127,043	+43
Allowance		0,063	63

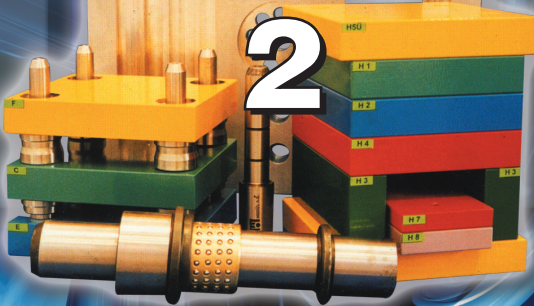
Size	System	mm	μm
Max. limit of size		126,957	-43
Min. limit of size		126,894	-106
Allowance		0,063	63



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SICAK İŞ TAKIM ÇELİKLERİ

1.2343

Yüksek sıcaklık dayanımı iyidir. İnce taneli mikro yapısı vardır. Demir ve çelik parçaları sıcak döverek şekillendiren pres takımlarında, delme zımbaları, makas ağızları alüminyum profil basma takımları, dikişli boru üretiminde kaynak altı makaraları, yüksek dirençli makine parçaları, metal enjeksiyon kalıpları basınçlı dökümlerde büyük kalıplarda tercih edilir. Yüksek performans gerektiren yerlerde üstün mekanik özelliği olan 1.2343 ESU tavsiye edilir. P ve S azotlu olarak üretilmiştir.

ISIL İŞLEM DATALARI

	Sic. °C	Süre Saat (h)	Soğutma ortamı
Yumuşak tavlama	800-840	2-5	Fırında
Gerilim giderme	600-650	2	Fırında
Sertleştirme	1000-1030		Yağ, 500°C hava akışkan
Temperleme	530-680	1 saat+ her 20 mm için minimum 2 saat	Havada

1.2344

Çok yüksek ısı kararlılığı olan bir çelik. Yüksek sıcaklıklarda bile aşınma dayanımını yitirmez. Homojen bir iç yapıya sahip ve tokluğu yüksektir. Hafif metallerin enjeksiyon kalıpları, sıcak kesme bıçaklarında, aşındırıcı plastiklerin kalıpları kullanılır. Alüminyum profil kalıpları, metal ekstrüzyon preslerinde kalıp, piston, yolluk olarak kullanılır.

ISIL İŞLEM DATALARI

	Sic. °C	Süre Saat (h)	Soğutma ortamı
Yumuşak tavlama	800-840	2-5	Fırında
Gerilim giderme	600-650	2	Fırında
Sertleştirme	1020-1060		Yağ, 500°C hava akışkan
Temperleme	530-680	1 saat+ her 20 mm için minimum 2 saat	Havada

1.2365

Sıcak delme zımbalarında iyi sonuç verir. Çalışırken su ile soğutulabilme özelliği vardır. Bakır ve alaşımını basan ekstrüzyon preslerinin kovanlarında kullanılır. Sıcak altında çalışma direnci iyidir. Metal enjeksiyon dökümünde kalıp olarak kullanılır.

ISIL İŞLEM DATALARI

	Sic. °C	Süre Saat (h)	Soğutma ortamı
Yumuşak tavlama	820-860	2-5	Fırında
Gerilim giderme	600-650	2	Fırında
Sertleştirme	950-990		Yağ, 500°C hava akışkan
Temperleme	160-540	1 saat+ her 20 mm için minimum 2 saat	Havada

1.2714

Hidrolik ve mekanik dövme sıcak dövme kalıpları, Şahmerdan, örsü, çekici, ekstrüzyon preslerde kalıp taşıyıcı ve baskı zımbası, çelik tencerelerin altına taban vurmak için ideal kullanılacak çeliktir. Genelde sertleştirilmiş ve menevişlenmiş (40-44 HRC arası) olarak sevk edilir.

ISIL İŞLEM DATALARI

	Sic. °C	Süre Saat (h)	Soğutma ortamı
Yumuşak tavlama	690-730	2-5	Fırında
Gerilim giderme	600-650	2	Fırında
Sertleştirme	830-870 860-900		Yağ, hava
Temperleme	300-600	1 saat+ her 20 mm için minimum 2 saat	Havada

SICAK İŞ TAKIM ÇELİKLERİ

ALMAN NORMU	DİN NORMATİFİ	C	Si	Mn	Co	Cr	Mo	Ni	V	W	SERTLEŞTİRME VASİTASI	İŞİLİŞİMDEN SONRAKİ SERTLİK (HRC)
1.2343	X38CrMoV5 1	0.36-0.42	0.90-1.20	0.30-0.50	-	4.80-5.50	1.10-1.40	-	0.25-0.50	-	Y,SB H	52 - 56 50 - 54
1.2344	X40CrMoV5 1	0.37-0.43	0.90-1.20	0.30-0.50	-	4.80-5.50	1.20-1.50	-	0.90-1.10	-	Y,SB H	52 - 56 50 - 54
1.2365	X32CrMoV3 3	0.28-0.35	0.10-0.40	0.15-0.45	-	2.70-3.20	2.60-3.00	-	0.40-0.70	-	Y,SB	52 - 56
1.2367	X38CrMoV5 3	0.35-0.40	0.30-0.50	0.30-0.60	-	4.70-5.20	2.70-3.30	-	0.40-0.70	-	Y,H SB	54 - 57
1.2714	56NiCrMoV7	0.50-0.60	0.10-0.40	0.65-0.95	-	1.00-1.20	0.45-0.55	1.50-1.80	0.07-0.12	-	Y, H	52 - 58 44 - 50
1.2581	X30WCrV93	0.25-0.35	0.15-0.30	0.20-0.40	-	2.50-2.80	-	-	0.30-0.40	8.00-9.00	Y,SB H	48 - 52 44 - 48
1.2885	X32CrMoCoV33 3	0.28-0.35	0.10-0.40	0.15-0.45	2.50-3.00	2.70-3.20	2.60-3.00	-	0.40-0.70	-	Y,SB	52 - 56

SOĞUK İŞ TAKIM ÇELİKLERİ

1.2080	ISIL İŞLEM DATALARI			
	Sic. °C	Süre Saat (h)	Soğutma ortamı	
Yüksek aşınma dayanıma sahiptir. Isıl işlem nedeniyle boyutsal değişime en az uğrayan çeliklerdendir. Basınca dayanımı yüksektir. 4 mm kalınlığa kadar saçların kesme kalıplarında, ahşap işleme takımlarında, çekme gerilme azlığı ve gevrek olması nedeniyle kullanımı gittikçe azalan bir çeliktir.	Yumuşak tavlama	800-840	2-5	Fırında
	Gerilim giderme	600-650	2	Fırında
	Sertleştirme	940-970		Yağ akışkan yatak
	Temperleme	200-350	1 saat+ her 20 mm için minimum 2 saat	Havada
1.2363	ISIL İŞLEM DATALARI			
	Sic. °C	Süre Saat (h)	Soğutma ortamı	
Soğuk şekillendirme kalıplarının tümünde kullanılabilen bir çeliktir. Aşınma dayanımı ve tokluğu yüksektir. Havada sertleşen, süneklik, aşınma dayanımı, işlenebilirliği ve basma mukavemeti yüksek olan bir çeliktir. Yağ çeliklerinin yetersiz olduğu yerlerde tavsiye edilen çeliktir.	Yumuşak tavlama	820-860	2-5	Fırında
	Gerilim giderme	600-650	2	Fırında
	Sertleştirme	950-990		Yağ, 500 °C hava akışkan
	Temperleme	160-540	1 saat+ her 20 mm için minimum 2 saat	Havada
1.2379	ISIL İŞLEM DATALARI			
	Sic. °C	Süre Saat (h)	Soğutma ortamı	
Yüksek aşınma dayanımı ve yüksek tokluğu sahiptir. Kesme ve ezme için idealdir. Cıvata-Somun dışı ovalama yanak ve makaralarında, cıvata, somun, perçin üretiminde kullanılır. Madeni eşya kalıplarında şişirme, ezme, profilleme makaralarında, ahşap frezelerinde, plastik kırma bıçaklarında, kırılmaya maruz kalan kesitlerde, çapak alma kalıplarında, makas bıçaklarında kullanılır.	Yumuşak tavlama	820-860	2-5	Fırında
	Gerilim giderme	600-650	2	Fırında
	Sertleştirme	1010-1050		Yağ, 500-550°C hava akışkan
	Temperleme	150-550	1 saat+ her 20 mm için minimum 2 saat	Havada
1.2436	ISIL İŞLEM DATALARI			
	Sic. °C	Süre Saat (h)	Soğutma ortamı	
Basınca dayanımı istenen takım çeliklerinde kullanılır. Trafo motorlarında kullanılan silisyumlu saçların kesiminde güvenle kullanılabilir. Her boyutta havada sertleşebilen bir çeliktir. Isıl işlem sırasında boyutsal değişimi en az olan çeliklerden biridir. Derin çekme ve sıvama kalıplarında tercih edilen çeliktir.	Yumuşak tavlama	800-850	2-5	Fırında
	Gerilim giderme	600-650	2	Fırında
	Sertleştirme	950-980		Yağ, 500-550°C hava akışkan
	Temperleme	150-300	1 saat+ her 20 mm için minimum 2 saat	Havada
1.2767	ISIL İŞLEM DATALARI			
	Sic. °C	Süre Saat (h)	Soğutma ortamı	
Soğuk şekillendirmede, çatal, kaşık, bıçak darphane kalıpları, kalın saçların kesiminde kullanılan bir çeliktir. Sertleşme özelliği yüksektir. Yüksek ve tokluk gerektiren plastik enjeksiyon kalıplarında da kullanılmaktadır.	Yumuşak tavlama	620-650	2-5	Fırında
	Gerilim giderme	600-650	2	Fırında
	Sertleştirme	840-870		Yağ 180-200 °C
	Temperleme	160-300	1 saat+ her 20 mm için minimum 2 saat	Havada
1.2842	ISIL İŞLEM DATALARI			
	Sic. °C	Süre Saat (h)	Soğutma ortamı	
Plyasada en fazla kullanılan çeliktir. Yağda sertleştirilebilir. Pres kalıpları, rayba pafta, kılavuz, makas ağız plastik kalıpları, mastarlar, hassas ölçü aletleri gibi birçok sahada kullanılmaktadır. Düşük derecede sertleştirilebilir özelliği nedeniyle ölçü ve şekil değişme riskini azaltmıştır.	Yumuşak tavlama	650-720	2-5	Fırında
	Gerilim giderme	600-650	2	Fırında
	Sertleştirme	790-820		Yağ 180-200 °C
	Temperleme	160-250	1 saat+ her 20 mm için minimum 2 saat	Havada

SOĞUK İŞ TAKIM ÇELİKLERİ

ALMAN NORMU	DIN NORMU	C	Si	Mn	Cr	Mo	Ni	V	W	SERTLESTİRME VASITASI	İŞİL İŞLEMEN SONRAKİ SERTLİK SERTLİK (HRC)
1.2080	X210Cr12	1.90-2.20	0.10-0.40	0.15-0.45	11.0-12.0	-	-	-	-	Y,SB(220-250°C veya 400-450°C)BH,H	63 - 65
1.2210	115CrV3	1.10-1.25	0.15-0.30	0.20-0.40	0.50-0.80	-	-	0.07-0.12	-	Su	64 - 66
1.2363	X100CrMoV51	0.90-1.05	0.20-0.40	0.40-0.70	4.80-5.50	0.90-1.20	-	0.10-0.30	-	Y,H, SB	56 - 62
1.2379	X155CrVMo12 1	1.50-1.60	0.10-0.40	0.15-0.45	11.0-12.0	0.60-0.80	-	0.90-1.10	-	Y,SB(220-250°C veya 400-450°C)BH,H	58 - 62
1.2436	X210CrW12	2.00-2.25	0.10-0.40	0.15-0.45	11.0-12.0	-	-	-	0.60-0.80	Y,H, SB	58 - 64
1.2550	60WCrV7	0.55-0.65	0.50-0.70	0.15-0.45	0.90-1.20	-	-	0.10-0.20	1.80-2.10	Y	58 - 62
1.2601	X165CrMoV12	1.55-1.75	0.25-0.40	0.20-0.40	11.0-12.0	0.50-0.70	-	0.10-0.50	0.40-0.60	Y,SB(220-250°C veya 400-450°C)BH,H	63 - 65
1.2767	X45NiCrMo4	0.40-0.50	0.10-0.40	0.15-0.45	1.20-1.50	0.15-0.35	3.80-4.30	-	-	Y,H, SB	54 - 56
1.2842	90MnCrV8	0.85-0.95	0.10-0.40	1.90-2.10	0.20-0.50	-	-	0.05-0.15	-	Y,SB(220-250°C'e (20mm kalınlığa kadar))	58 - 63

PLASTİK KALIP ÇELİKLERİ

1.2083	ISIL İŞLEM DATALARI			
	Sic. °C	Süre Saat (h)	Soğutma ortamı	
<p>Korozyon direnci yüksek olan paslanmaz kalıp çeliğidir. Parlatma özelliği yüksektir. Plastik kalıplarında aranan özellikleri haiz bir çeliktir. Korozyon etkisi olan plastiklerde kalıp olarak tavsiye edilen bir çeliktir.</p>	Yumuşak tavlama	760-800	2-5	Fırında
	Gerilim giderme	600-650	2	Fırında
	Sertleştirme	1000-1050		Yağ akışkan yatak
	Temperleme	200-570	1 saat+ her 20 mm için minimum 2 saat	Havada
1.2311	ISIL İŞLEM DATALARI			
	Sic. °C	Süre Saat (h)	Soğutma ortamı	
<p>Desenlemede kullanılan ve alev sertleştirilebilen bir çeliktir. Aşınma dayanımını artırmak için kısa sürekl nitrasyon yapılabilir. Sertleştirme işlemi yapılmasına rağmen yüzeyden merkeze inilidkçe sertlikte düşme görülmektedir. Plastik kalıplarında, plastik kalıbı ve metal enjeksiyon kalıbı hamili olarak kullanılabilir. Sertliği 280-325 HB olarak teslim edilir.</p>	Yumuşak tavlama	720-750	2-5	Fırında
	Gerilim giderme	550-600	2-4	Fırında
	Sertleştirme	840-870		Yağ, 300°C hava akışkan
	Temperleme	600-680	1 saat+ her 20 mm için minimum 2 saat	Havada
1.2312	ISIL İŞLEM DATALARI			
	Sic. °C	Süre Saat (h)	Soğutma ortamı	
<p>Alaşımında Kükürt olması nedeniyle iyi derecedi sertleşme ve işlenebilirliği olan çeliktir. Aşınma dayanımı için nitrasyon yapılabilir. Parlaklık gerektirmeyen plastik kalıbı ve kalıp hamili olarak kullanılmaktadır. Sertliği 280-325 HB olarak teslim edilir.</p>	Yumuşak tavlama	720-750	2-5	Fırında
	Gerilim giderme	580-620	2-4	Fırında
	Sertleştirme	840-870		Yağ, 300°C hava akışkan
	Temperleme	600-680	1 saat+ her 20 mm için minimum 2 saat	Havada
1.2316	ISIL İŞLEM DATALARI			
	Sic. °C	Süre Saat (h)	Soğutma ortamı	
<p>Kaplamaya gerek görülmeden paslanmaya karşı etkili bir plastik takım çeliğidir. Plastik takım çeliklerinde soğutma kanallarında arzu edilmeyen korozyon ve neticesinde kanalların tıkanması gibi olumsuzluklara karşı güvenli bir çeliktir. Parlatma özelliği iyidir. Özellikle PVC kalıplarında kullanılır. Sertleştirilmiş ve menevişlenmiş 340 HB olarak teslim edilir.</p>	Yumuşak tavlama	780-820	2-5	Fırında
	Gerilim giderme	600-650	2	Fırında
	Sertleştirme	1000-1040		Yağ, 500°C hava akışkan
	Temperleme	180-200 600-700	1 saat+ her 20 mm için minimum 2 saat	Havada
1.2738	ISIL İŞLEM DATALARI			
	Sic. °C	Süre Saat (h)	Soğutma ortamı	
<p>Plastik kalıplarında en fazla kullanılan çeliklerdendir. Isıl işlem sonunda homojen sertlik dağılımı ve çok parlak yüzey elde edilebilmesi nedeni ile tercih edilen bir çeliktir. Metal enjeksiyon kalıp hamillerinde, televizyon gövdesi kalıplarında, araba tampon kalıplarında ve büyük ebatlı plastik kalıplarında kullanılan bir çeliktir. %1 Ni alaşımından dolayı çekirdeğine doğru sertliği az oranda değişir. İlavce Ca ile işlenmesi kolaylaştırılmıştır. Sertleştirilmiş ve menevişlenmiş 290-325 HB olarak teslim edilir.</p>	Yumuşak tavlama	710-740	2-5	Fırında
	Gerilim giderme	550-600	2-4	Fırında
	Sertleştirme	850-880		Yağ, 350°C
	Temperleme	600-680	1 saat+ her 20 mm için minimum 2 saat	Havada

PLASTİK KALIP ÇELİKLERİ

ALMAN NORMU	DIN NORMU	C	Si	Mn	P	S	Cr	Mo	Ni	V	W	İŞLİ İŞLEMĐDEN SONRAKİ SERTLİK (HRC)
1.2083	x42Cr13	0.38-0.45	≤1.00	≤1.00	≤0.030	≤0.030	12.5-13.5	-	-	-	-	50 - 56
1.2162	21MnCr5	0.18-0.24	0.15-0.35	1.10-1.40	≤0.030	≤0.030	1.00-1.30	-	-	-	-	-
1.2311	40CrMnMo7	0.35-0.45	0.20-0.40	1.30-1.60	≤0.035	≤0.035	1.80-2.10	0.15-0.25	-	-	-	52 - 54
1.2312	40CrMnMoS8 6	0.35-0.45	0.30-0.50	1.40-1.60	≤0.030	0.05-0.10	1.80-2.00	0.15-0.25	-	-	-	52 - 54
1.2316	X36CrMo17	0.33-0.43	≤1.00	≤1.00	≤0.030	≤0.030	15.0-17.0	1.00-1.30	≤1.00	-	-	44 - 47
1.2738	40CrMnNiMo864	0.35-0.45	0.20-0.40	1.30-1.60	≤0.035	≤0.035	1.80-2.10	0.15-0.25	0.90-1.20	-	-	52 - 54
1.2764	X19NiCrMo4	0.16-0.22	0.10-0.40	0.15-0.45	≤0.030	≤0.030	1.10-1.40	0.15-0.25	3.80-4.30	-	0.30-0.50	56 - 62

ISLAH ÇELİKLERİ

MKE NORMU	DIN NORMATI	C	Si	Mn	P	S	Cr	Mo	Ni
Ç 3130	28 NiCr16	0.28-0.33	0.20-0.35	0.60-0.80	0.040 (max)	0.040 (max)	0.55-0.75	-	1.10-1.40
Ç 3230	28 NiCr10	0.25-0.35	0.15-0.30	0.30-0.60	0.040 (max)	0.040 (max)	0.90-1.25	-	1.50-3.00
Ç 3315	14 NiCr14	0.10-0.17	0.15-0.35	0.50-0.90	0.040 (max)	0.040 (max)	0.55-0.95	-	3.25-3.75
Ç 3330	31 NiCr14	0.27-0.35	0.15-0.35	0.50-0.90	0.040 (max)	0.040 (max)	0.55-0.95	-	3.25-3.75
Ç 4130	34 CrMo4	0.28-0.33	0.10-0.35	0.40-0.60	0.040 (max)	0.040 (max)	0.70-0.90	0.15-0.25	-
Ç 4140	42 CrMo4	0.38-0.43	0.10-0.35	0.75-1.00	0.040 (max)	0.040 (max)	0.80-1.10	0.15-0.25	-
Ç 5140	41 Cr14	0.38-0.43	0.10-0.35	0.70-0.90	0.040 (max)	0.040 (max)	0.70-0.90	-	-
Ç 8640	-	0.38-0.43	0.15-0.35	0.75-1.00	0.040 (max)	0.040 (max)	0.40-0.60	0.15-0.25	0.40-0.70

SEMENTASYON ÇELİKLERİ

MKE NORMU	DIN NORMU	C	Si	Mn	P	S	Cr
Ç 1020	C 15	0.18-0.24	0.15-0.30	0.30-0.50	-	-	-
Ç 3115	-	0.12-0.18	0.15-0.35	0.40-0.60	0.55-0.75	-	1.10-1.40
Ç 3315	14 NiCr14	0.14-0.17	0.15-0.30	0.40-0.60	0.60-0.80	-	3.25-3.75
Ç 3415	14 NiCr18	0.11-0.18	0.15-0.35	0.30-0.60	0.90-1.30	-	4.25-4.75
Ç 4120	20 CrMo5	0.15-0.24	0.15-0.35	0.60-0.90	0.90-1.30	0.20-0.30	-
Ç 8620	-	0.16-0.24	0.15-0.35	0.60-0.90	0.40-0.60	0.15-0.25	0.40-0.70

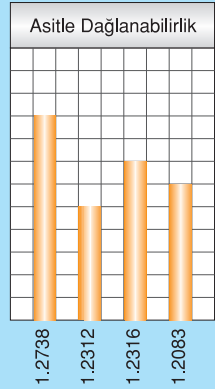
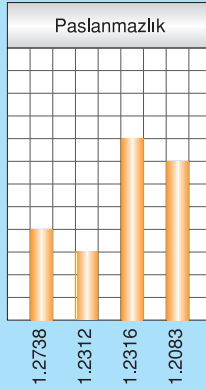
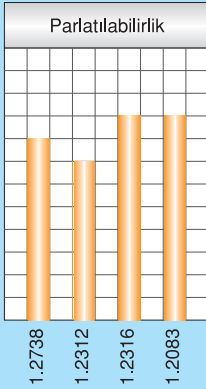
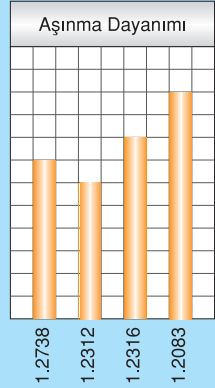
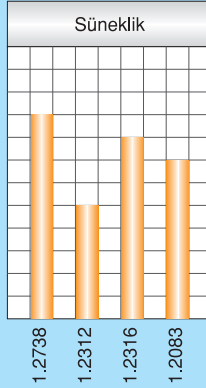
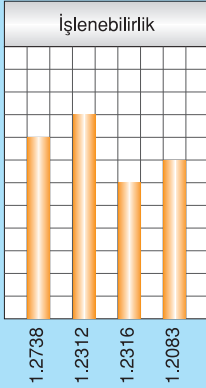
KARBONLU ÇELİKLERİ

MKE NORMU	DIN NORMU	C	Si	Mn	P	S
Ç 1020	C 15	0.15-0.24	0.10-0.30	0.30-0.60	0.040 (max)	0.050 (max)
Ç 1030	C 22	0.25-0.34	0.10-0.30	0.60-0.90	0.040 (max)	0.050 (max)
Ç 1040	C 35	0.35-0.44	0.10-0.30	0.60-0.90	0.040 (max)	0.050 (max)
Ç 1040	CK 35	0.32-0.38	0.15-0.35	0.50-0.70	0.035 (max)	0.035 (max)
Ç 1050	C 45	0.45-0.54	0.10-0.30	0.60-0.90	0.040 (max)	0.050 (max)
Ç 1060	C 60	0.55-0.64	0.10-0.30	0.60-0.90	0.040 (max)	0.050 (max)
Ç 1060	CK 60	0.57-0.63	0.57-0.63	0.60-0.80	0.035 (max)	0.035 (max)

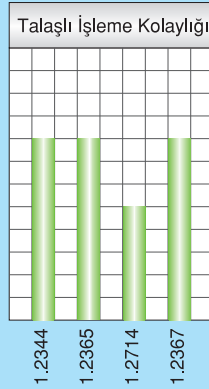
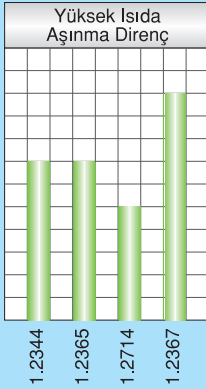
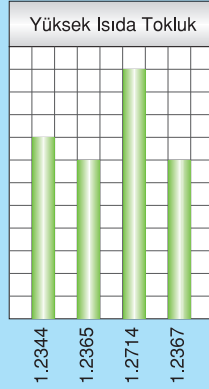
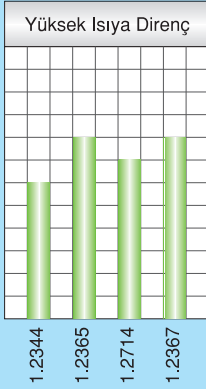
DİŞ AÇILACAK DELİKLER İÇİN MATKAP ÇAPI CETVELİ

METRİK VİDA		METRİK İNCE VİDA		WHITWORTH VİDA		WHITWORTH BORU VİDASI	
Metricches ISO-Gewinde nach DIN 13		Metricches ISO-Feingewinde nach DIN 13		Whitworth-Gewinde nach DIN 11		Whitworth-Rohrgewinde nach DIN 259 (ISO 228)	
Vida anma çapı mm	matkap çapı mm	Vida anma çapı mm	matkap çapı mm	Vida Ø inç	matkap çapı mm	Vida Ø inç	matkap çapı mm
M 1 x 0,25	0,75	M 4 x 0,35	3,6	1/16	1,15	1/8	8,8
M 1,1 x 0,25	0,85	M 4 x 0,5	3,5	1/8	2,55	R 1/4	11,8
M 1,2 x 0,25	0,95	M 5 x 0,5	4,5	3/16	3,7	3/8	15,25
M 1,4 x 0,3	1,1	M 6 x 0,5	5,5	1/4	5,1	1/2	19
M 1,6 x 0,35	1,25	M 6 x 0,75	5,25	5/16	6,5	5/8	21
M 1,7 x 0,35	1,3	M 7 x 0,75	6,25	3/8	7,9	3/4	24,5
M 1,8 x 0,35	1,45	M 8 x 0,5	7,5	7/16	9,3	7/8	28,25
M 2 x 0,4	1,6	M 8 x 0,75	7,25	1/2	10,5	1	30,75
M 2,2 x 0,45	1,75	M 8 x 1	7	9/16	12,1	1 1/8	35,5
M 2,3 x 0,4	1,9	M 9 x 1	8	5/8	13,5	1 1/4	39,5
M 2,5 x 0,45	2,05	M 10 x 0,75	9,25	11/16	15	1 3/8	42
M 2,6 x 0,45	2,1	M 10 x 1	9	3/4	16,25	1 1/2	45,5
M 3 x 0,5	2,5	M 10 x 1,25	8,8	13/16	18	1 3/4	51
M 7 x 0,6	2,9	M 11 x 1	10	7/8	19,25	2	57
M 8 x 0,7	3,3	M 12 x 0,75	11,25	15/16	21	2 1/4	63
M 9 x 0,75	3,7	M 12 x 1	11	1	22	2 1/2	72,5
M 10 x 0,8	4,2	M 12 x 1,5	10,5	1 1/8	24,75	2 3/4	79
M 11 x 0,9	4,6	M 13 x 1	12	1 1/4	28	3	85,5
M 6 x 1	5	M 14 x 1	13	1 3/8	30	3 1/4	91,5
M 7 x 1	6	M 14 x 1,25	12,8	1 1/2	33,5	3 1/2	98
M 8 x 1,25	6,8	M 14 x 1,5	12,5	1 5/8	35,5	3 3/4	104
M 9 x 1,25	7,8	M 16 x 1	15	1 3/4	39	4	110,5
M 10 x 1,85	8,5	M 16 x 1,5	14,5	2	41,5		
M 11 x 1,5	9,5	M 18 x 1	17		44,5		
M 12 x 1,75	10,2	M 18 x 2	16				
M 14 x 2	12	M 20 x 1	19				
M 16 x 2	14	M 20 x 1,5	18,5				
M 18 x 2,5	15,5	M 20 x 2	18				
M 20 x 2,5	17,5	M 22 x 1	21				
M 22 x 2,5	19,5	M 22 x 1,5	20,5				
M 24 x 3	21	M 22 x 2	20				
M 27 x 3	24	M 24 x 1,5	22,5				
M 30 x 3,5	26,5	M 24 x 2	22				
M 33 x 3,5	29,5	M 25 x 1,5	23,5				
M 36 x 4	32	M 26 x 1,5	24,5				
M 39 x 4	35	M 27 x 1,5	25,5				
M 42 x 4,5	37,5	M 27 x 2	25				
M 45 x 4,5	40,5	M 28 x 1,5	26,5				
M 48 x 5	43	M 30 x 1,5	28,5				
M 52 x 5	47	M 30 x 2	28				
M 56 x 5,5	50,5						
M 60 x 5,5	54,5						
M 64 x 6	58						
M 68 x 6	62						

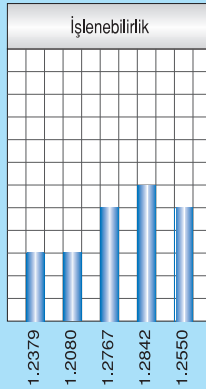
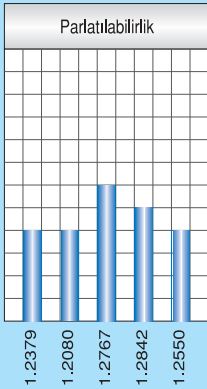
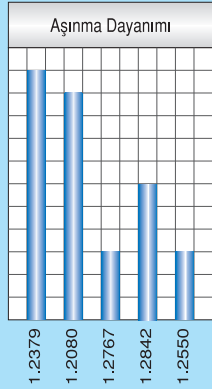
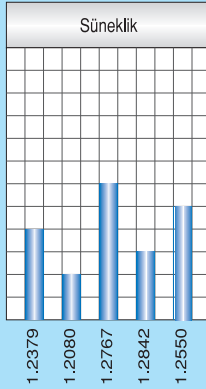
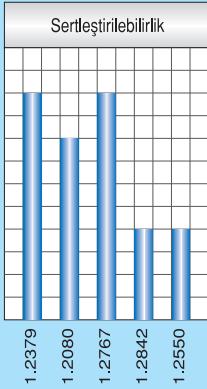
PLASTİK KALIP ÇELİKLERİNİN KARŞILAŞTIRMA TABLOSU



SICAK İŞ TAKIM ÇELİKLERİNİN KARŞILAŞTIRMA TABLOSU



SOĞUK İŞ TAKIM ÇELİKLERİNİN KARŞILAŞTIRMA TABLOSU



AĞIRLIK CETVELİ

Dört Köşe											
Kalınlık (mm)	Genişlik (mm)										
	40	45	50	55	60	65	70	80	90	100	120
10	3.14	3.53	3.92	4.32	4.71	5.10	5.50	6.28	7.06	7.85	9.42
12	3.77	4.24	4.71	5.18	5.65	6.12	6.59	7.54	8.48	9.42	11.30
15	4.71	5.30	5.89	6.48	7.06	7.65	8.24	9.42	10.60	11.80	14.10
20	6.28	7.06	7.85	8.64	9.42	10.20	11.00	12.60	14.10	15.70	18.80
25	7.85	8.33	9.81	10.80	11.80	12.80	13.80	15.70	17.70	19.60	23.60
30	9.42	10.60	11.80	13.00	14.20	15.30	16.50	18.90	21.20	23.60	28.20
35	11.00	12.40	13.70	15.00	16.20	18.00	19.00	22.00	24.70	27.50	33.00
40	12.60	14.10	15.70	17.30	18.80	20.50	22.00	25.00	28.20	31.40	37.70
50	15.70	17.70	19.60	20.00	23.50	25.50	27.50	31.50	35.30	39.30	47.10
60	18.80	21.00	23.50	26.00	28.30	30.60	33.00	37.50	42.40	47.10	56.50
70	22.00	25.00	27.50	30.00	33.00	35.20	38.50	44.00	49.50	55.00	66.00
80	25.10	28.00	31.40	33.50	37.70	42.00	44.00	50.00	56.50	63.00	75.50
100	31.40	35.40	39.30	43.00	47.00	51.00	55.00	63.00	70.70	78.50	94.20

Dört Köşe											
Kalınlık (mm)	Genişlik (mm)										
	140	150	180	200	220	250	280	300	320	350	400
10	11.0	11.7	14.1	15.7	17.2	19.6	22.0	23.5	25.1	27.5	31.4
12	13.2	14.1	16.9	18.9	20.7	23.6	26.4	28.3	30.1	33.0	37.7
15	16.5	17.6	20.2	23.5	25.9	29.5	33.0	35.4	37.7	41.2	47.1
20	22.0	23.5	28.3	31.4	34.5	39.2	44.0	47.1	50.3	55.0	62.8
25	27.5	29.5	35.3	39.3	43.2	49.1	55.0	59.0	63.0	69.0	78.5
30	33.0	35.3	42.4	47.1	52.0	59.0	66.0	70.7	75.0	82.5	94.2
35	38.5	41.2	49.5	55.0	60.5	69.0	77.0	82.5	88.0	96.0	110
40	44.0	47.0	56.5	63.0	69.1	79.0	88.0	94.2	100	110	125
50	55.0	59.0	71.0	79.0	86.5	98.2	110	118	125	138	157
60	66.0	71.0	85.0	94.0	104	118	132	142	140	165	188
70	77.0	82.0	99.0	110	121	138	144	165	175	192	220
80	88.0	94.0	113	125	138	157	166	188	201	220	251
100	110	118	141	147	173	169	220	235	251	275	314

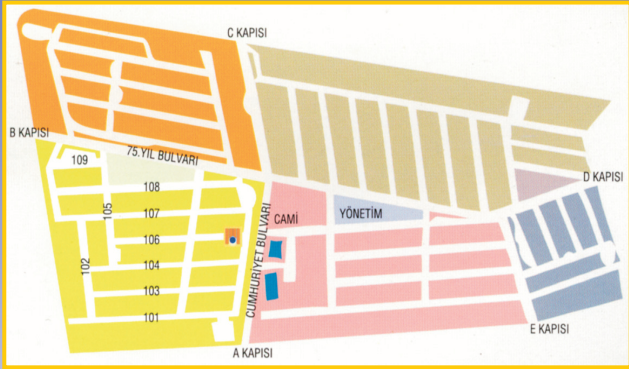
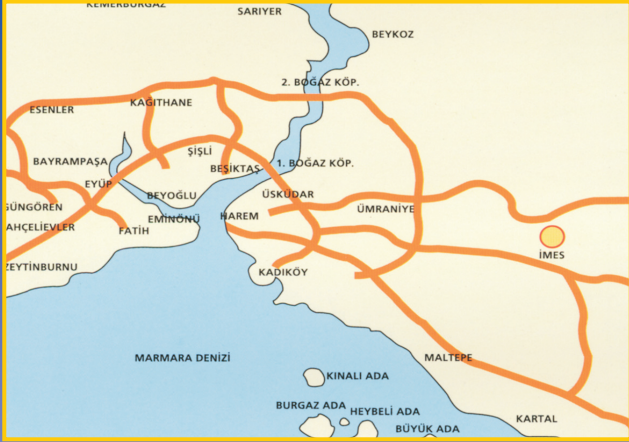
AĞIRLIK CETVELİ

Yuvarlak			Kare					
Ebat (mm)	Yuv.	Kare	Ebat (mm)	Yuv.	Kare	Ebat (mm)	Yuv.	Kare
10	0.62	0.79	90	50.0	63.6	400	987	1256
12	0.89	1.13	95	55.6	71.0	410	1036	1320
14	1.21	1.54	100	61.7	78.5	420	1088	1385
15	1.39	1.77	105	68.0	86.5	430	1140	1451
16	1.58	2.01	110	74.6	95.0	440	1195	1520
18	2.00	2.54	115	81.5	104	450	1250	1590
19	2.23	2.83	120	88.7	113	500	1541	1963
20	2.47	3.14	125	96.3	123	550	1865	2375
22	2.98	3.80	130	104	133	600	2219	2826
23	3.26	4.15	135	112	143	650	2605	3317
24	3.55	4.52	140	121	154	700	3021	3847
25	3.85	4.90	145	130	165	750	3468	4416
26	4.17	5.30	150	139	176	800	3946	5024
27	4.50	5.72	155	148	189	850	4455	5672
28	4.83	6.15	160	158	201	900	4994	6359
30	5.55	7.06	165	168	214	950	5564	7085
32	6.31	8.03	170	178	227	1000	6165	7850
34	7.13	9.07	175	189	240			
35	7.55	9.61	180	200	255			
36	8.00	10.20	185	211	269			
38	8.90	11.30	190	223	284			
40	9.86	12.50	200	247	314			
42	10.90	13.90	210	272	346			
45	12.50	16.00	220	298	380			
48	14.20	18.10	230	325	415			
50	15.40	19.60	240	355	452			
53	17.30	22.00	250	385	491			
55	18.70	23.80	260	417	531			
58	20.70	26.40	270	450	572			
60	22.20	28.20	280	483	615			
63	24.50	31.20	290	519	660			
65	26.00	33.20	300	555	707			
68	28.50	36.30	310	593	755			
70	30.20	38.50	320	631	808			
73	33.00	41.80	330	671	855			
75	34.70	44.10	340	713	908			
78	37.50	47.80	350	755	962			
80	39.50	50.20	360	800	1017			
83	42.50	54.10	370	845	1075			
85	44.50	56.70	380	891	1134			
88	47.80	60.80	390	938	1194			

1 metre uzunlukta kg olarak teorik olarak ağırlık (7.85 Kg/dm³)

SERTLİK KARŞILAŞTIRMA TABLOSU

Çekme Mukavemeti Rm	Brinell Sertliği İz çapı		Vickers Sertliği HV	Rockwell Sertliği			Çekme Mukavemeti Rm	Brinell Sertliği İz çapı		Vickers Sertliği HV	Rockwell Sertliği		
	N/mm ²	d		HB	HRB	HRC		HR 30 N	N/mm ²		d	HB	HRB
265	6,63	76,0	80	-	-	-	1095	3,39	323	340	-	34,4	54,4
270	6,45	80,7	85	41,0	-	-	1125	3,34	333	350	-	35,5	55,4
285	6,30	85,5	90	48,0	-	-	1155	3,29	342	360	-	36,6	56,4
305	6,16	90,2	95	52,0	-	-	1220	3,21	361	380	-	38,8	58,4
320	6,01	95,0	100	56,2	-	-	1225	3,17	371	390	-	39,8	59,3
335	5,90	98,8	105	-	-	-	1290	3,13	380	400	-	40,8	60,2
350	5,75	105	110	62,3	-	-	1320	3,09	390	410	-	42,7	61,9
370	5,65	109	115	-	-	-	1385	3,02	409	430	-	43,6	62,7
385	5,54	114	120	66,7	-	-	1420	2,99	418	440	-	44,5	63,5
400	5,43	119	125	-	-	-	1455	2,95	428	450	-	45,3	64,3
415	5,33	124	130	71,2	-	-	1485	2,92	437	460	-	46,1	64,9
430	5,26	128	135	-	-	-	1520	2,89	447	470	-	46,9	65,7
450	5,16	133	140	75,0	-	-	1555	2,86	(456)	480	-	47,7	66,4
465	5,08	138	145	-	-	-	1595	2,83	(466)	490	-	48,4	67,7
480	4,99	143	150	78,7	-	-	1630	2,81	(475)	500	-	49,1	67,7
495	4,93	147	155	-	-	-	1665	2,78	(485)	510	-	49,8	68,3
510	4,85	152	160	81,7	-	-	1700	2,75	(494)	520	-	50,5	69,0
530	4,79	156	165	-	-	-	1740	2,73	(504)	530	-	51,1	69,5
545	4,71	162	170	85,0	-	-	1775	2,70	(513)	540	-	51,7	70,0
560	4,66	166	175	-	-	-	1810	2,68	(523)	550	-	52,3	70,5
575	4,59	171	180	87,1	-	-	1845	2,66	(532)	560	-	53,0	71,2
595	4,43	176	185	-	-	-	1880	2,63	(542)	570	-	53,6	71,7
610	4,47	181	190	89,5	-	-	1920	2,60	(551)	580	-	54,1	72,1
625	4,43	185	195	-	-	-	1955	2,59	(561)	590	-	54,7	72,7
640	4,37	190	200	91,5	-	-	1955	2,59	(570)	600	-	55,2	73,2
660	4,32	195	205	92,5	-	-	2030	2,54	(580)	620	-	56,3	74,2
675	4,27	199	210	93,5	-	-	2070	2,52	(589)	620	-	56,3	74,2
690	4,22	204	215	94,0	-	-	2105	2,51	(599)	630	-	56,8	74,6
705	4,18	209	220	95,0	-	-	2145	2,49	(608)	640	-	57,3	75,1
720	4,13	214	225	96,0	-	-	2180	2,47	(618)	650	-	57,8	75,5
740	4,08	219	230	96,7	-	-	2180	-	-	660	-	58,3	75,9
755	4,05	223	235	-	-	-	-	-	-	670	-	58,8	76,4
770	4,01	228	240	98,1	20,3	41,7	-	-	-	680	-	59,2	76,8
785	3,97	233	245	-	21,3	52,5	-	-	-	690	-	59,7	77,2
800	3,92	238	250	99,5	22,2	43,4	-	-	-	700	-	60,1	77,6
820	3,89	242	255	-	23,1	44,2	-	-	-	720	-	61,0	78,4
835	3,86	247	260	(101)	24,0	45,0	-	-	-	740	-	61,8	79,1
850	3,82	252	265	-	27,8	45,7	-	-	-	760	-	62,5	79,7
865	3,78	257	270	(102)	25,6	46,4	-	-	-	780	-	63,3	80,4
880	3,75	261	275	-	26,4	47,2	-	-	-	800	-	64,0	81,1
900	3,72	266	280	(104)	27,1	47,8	-	-	-	820	-	64,7	81,7
915	3,69	271	285	-	27,8	48,4	-	-	-	840	-	65,3	82,2
930	3,66	276	290	(105)	28,5	49,0	-	-	-	860	-	65,9	82,7
950	3,63	280	295	-	29,2	49,7	-	-	-	880	-	66,4	83,1
965	3,60	285	300	-	29,8	50,2	-	-	-	900	-	67,0	83,6
995	3,54	295	310	-	31,0	51,3	-	-	-	920	-	67,5	84,0
1030	3,49	304	320	-	32,2	52,3	-	-	-	940	-	68,0	84,4
1060	3,43	314	330	-	33,3	53,6	-	-	-	-	-	-	-



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