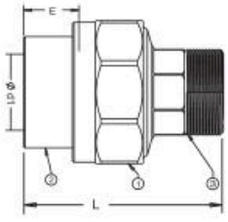
PP-R PLASTİK OYNAR BAŞLI ERKEK RAKOR PN 25

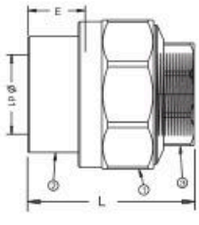
Kod	Ölçü (ø)	Ø d1	E	L	Miktar	Fiyat ₺
POE-200012	20 x 1/2"	19.5	14.5	60	100	62,57
POE-250034	25 x 3/4"	24.5	16	65	70	90,37
POE-320100	32 x 1"	31.5	18	67	50	125,00





PP-R PLASTİK OYNAR BAŞLI DİŞİ RAKOR PN 25

Kod	Ölçü (ø)	Ø d1	E	L	Miktar	Fiyat ₺
POD-200012	20 x 1/2"	19.5	14.5	50	100	62,57
POD-250034	25 x 3/4"	24.5	16	55	80	90,37
POD-320100	32 x 1"	31.5	18	57	60	125,00





PP-R KOMBİ SETİ - Metal Tapalı

Kod	Kutu İçeriği	Miktar	Fiyat ₺
KHN-080000-M	PP-R Kombi Seti Hareketli Nipelli (8 Parça)	12	882,35
KHN-100000-M	PP-R Kombi Seti Hareketli Nipelli (10 Parça)	8	1.147,06
KHD-080000-M	PP-R Kombi Seti Hareketli Dirsekli (8 Parça)	12	882,35
KHD-100000-M	PP-R Kombi Seti Hareketli Dirsekli (10 Parça)	8	1.147,06





PP-R KOMBİ SETİ (Ekonomik) - Metal Tapalı

Kod	Kutu İçeriği	Miktar	Fiyat ₺
EKN-080000-M	PP-R Kombi Seti Hareketli Nipelli (8 Parça)	12	794,12
EKN-100000-M	PP-R Kombi Seti Hareketli Nipelli (10 Parça)	12	1.014,71
EKD-080000-M	PP-R Kombi Seti Hareketli Dirsekli (8 Parça)	10	794,12
EKD-100000-M	PP-R Kombi Seti Hareketli Dirsekli (10 Parça)	10	1.014,71





PPR Renkler

Gelecek nesiller için
sağlıklı ve konforlu
yaşam alanları







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PE-RT BORULAR 4

PE-RT BORU



Kod	Ölçü	Miktar	Fiyat ₺
PRT-240000-P	16 x 2 mm	6.720 /240 m	24,71

KILIFLI PE-RT BORU



Kod	Ölçü	Miktar	Fiyat ₺
PRK-160000-P (Kırmızı)	16 x 2 mm	3.200 /100 m	36,03
PRK-160000-P (Mavi)	16 x 2 mm	3.200 /100 m	36,03

OKSİJEN BARİYERLİ PE-RT BORU



	Kod	Ölçü	Miktar	Fiyat ₺
	PRB-240000-P	16 x 2 mm	6720 / 240 m	30,89
YENİ	PRB-400000-P	16 x 2 mm	16.800 / 400 m	31,51
YENİ	PRB-500000-P	16 x 2 mm	18.000 / 500 m	31,51
YENİ	PRB-600000-P	16 x 2 mm	18.000 / 600 m	31,51

KILIFLI OKSİJEN BARİYERLİ PE-RT BORU



Kod	Ölçü	Miktar	Fiyat ₺
PBK-16000-P (Kırmızı)	16 x 2 mm	3.200 /100 m	43,82
PBK-16000-P (Mavi)	16 x 2 mm	3.200 /100 m	43,82

OKSİJEN BARİYERLİ PE-RT BORU - 5 Katmanlı



	Kod	Ölçü	Miktar	Fiyat ₺
	PRB-240000-5K-P	16 x 2 mm	6720 / 240 m	37,06
YENİ	PRB-400000-5K-P	16 x 2 mm	16.800 / 400 m	37,80
YENİ	PRB-500000-5K-P	16 x 2 mm	18.000 / 500 m	37,80
YENİ	PRB-600000-5K-P	16 x 2 mm	18.000 / 600 m	37,80

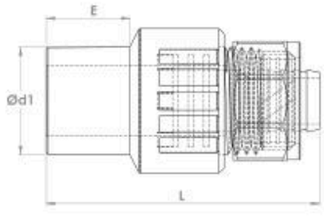
KILIFLI OKSİJEN BARİYERLİ PE-RT BORU - 5 Katmanlı

Kod	Ölçü	Miktar	Fiyat ₺
PBK-160000-5K-P (Kırmızı)	16 x 2 mm	3.200 /100 m	50,00
PBK-160000-5K-P (Mavi)	16 x 2 mm	3.200 /100 m	50,00



PP-R PE-X NİPELİ PN 25 - KUYRUKLU

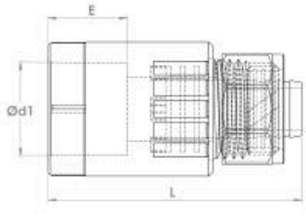
Kod	Ölçü (ø)	Ø d1	E	L	Miktar	Fiyat ₺
SPK-201216	20x1/2x16	20.3	14.5	54	200	129,82





PP-R PE-X NİPELİ PN 25 - DİŞİ

Kod	Ölçü (ø)	Ø d1	E	L	Miktar	Fiyat ₺
SPD-201216	20x1/2x16	19.5	14.5	54	200	129,82





PE-X, PE-RT RAKORU 1/2" x Ø16

Kod	Ölçü	Miktar	Fiyat ₺
EPR-160012-K	1/2"	400	117,65

YENİ ÜRÜN



PE-X, PE-RT MANŞONU Ø16

Kod	Ölçü	Miktar	Fiyat ₺
MPR-160000	1/2"	100	264,71

YENİ ÜRÜN



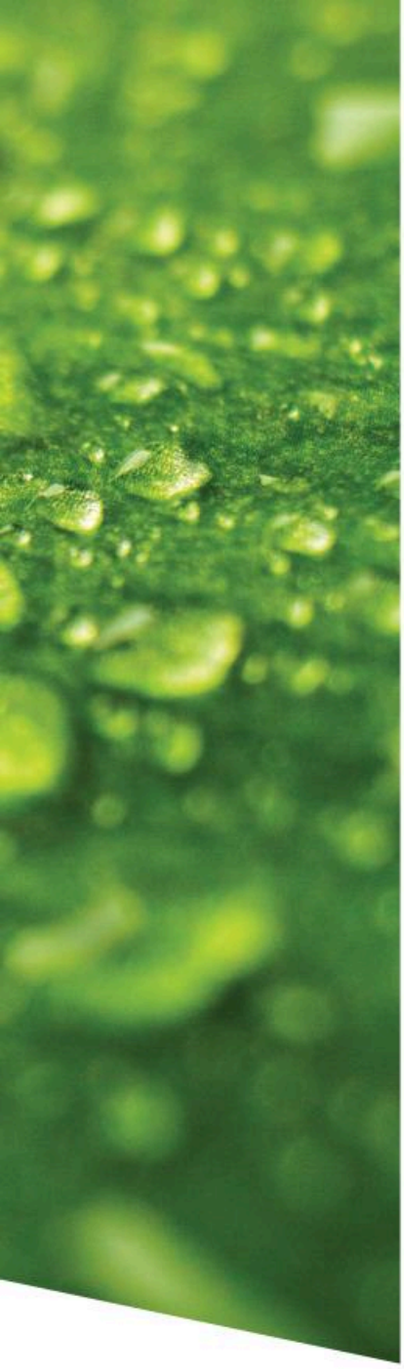


Yeşil **Formül**
Yeşil **Doğa**









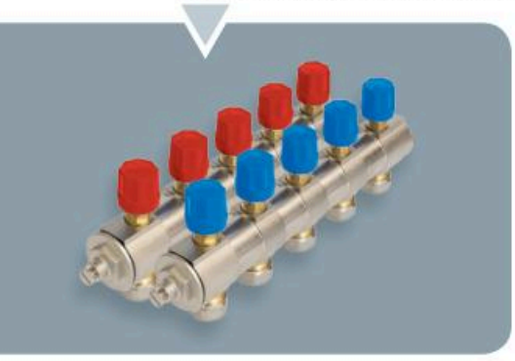
formül®

METAL KOLLEKTÖR ve VANALARI

TİCARİ YARDIMCI MALZEMELER

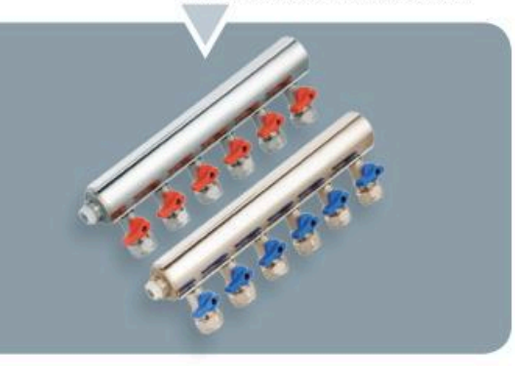
5

KENDİNDEN VANALI KOLLEKTÖR



Kod	Ölçü	Miktar	Fiyat ₺
VKL-020100	1" 2 Ağızlı	50	823,53
VKL-030100	1" 3 Ağızlı	30	1.235,29
VKL-040100	1" 4 Ağızlı	24	1.647,06
VKL-050100	1" 5 Ağızlı	20	2.058,82
VKL-060100	1" 6 Ağızlı	18	2.470,59
VKL-070100	1" 7 Ağızlı	18	2.882,35
VKL-080100	1" 8 Ağızlı	14	3.294,12
VKL-090100	1" 9 Ağızlı	12	3.705,88
VKL-100100	1" 10 Ağızlı	12	4.117,65
VKL-110100	1" 11 Ağızlı	12	4.529,41
VKL-120100	1" 12 Ağızlı	12	4.941,18

MİNİ VANALI KOLLEKTÖR



Kod	Ölçü	Miktar	Fiyat ₺
MKL-020100	1" 2 Ağızlı	50	1.029,41
MKL-030100	1" 3 Ağızlı	20	1.544,12
MKL-040100	1" 4 Ağızlı	24	2.058,82
MKL-050100	1" 5 Ağızlı	20	2.573,53
MKL-060100	1" 6 Ağızlı	18	3.088,24
MKL-070100	1" 7 Ağızlı	16	3.602,94
MKL-080100	1" 8 Ağızlı	14	4.117,65
MKL-090100	1" 9 Ağızlı	12	4.632,35
MKL-100100	1" 10 Ağızlı	12	5.147,06
MKL-110100	1" 11 Ağızlı	12	5.661,76
MKL-120100	1" 12 Ağızlı	12	6.176,47

KOLLEKTÖR KELEPÇESİ

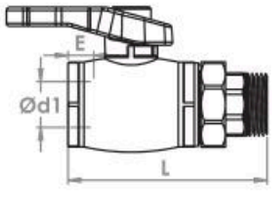


Kod	Ölçü	Miktar	Fiyat ₺
KLK-000100	1"	50	102,94

PP-R KOLLEKTÖR VANASI PN 25



Kod	Ölçü (ø)	Ø d1	E	L	Miktar	Fiyat ₺
KTV-250100	25 x 1"	24.5	16	106	25	533,14
KTV-320100	32 x 1"	31.5	18	110	25	533,14



KELEBEK KOLLU KOLLEKTÖR VANA - RAKORLU

Kod	Ölçü	Miktar	Fiyat ₺
KKK-000100	1" Mavi	30	700,68
KKK-000100	1" Kırmızı	30	700,68



KÖŞE RADYATÖR VANASI

Kod	Ölçü	Miktar	Fiyat ₺
KRV-000012	1/2"	100	340,97
TKR-000012	1/2"	100	378,68



KÖŞE RADYATÖR VANASI PEX, PE-RT

Kod	Ölçü	Miktar	Fiyat ₺
KRP-000012	1/2"	60	396,59



KÜRESEL VANA

Kod	Ölçü	Miktar	Fiyat ₺
KVP-010012	1/2"	125	304,51
KVP-010034	3/4"	100	445,85
KVP-010100	1"	60	817,66



PE-X, PE-RT RAKORU 1/2" x Ø16



YENİ ÜRÜN

Kod	Ölçü	Miktar	Fiyat ₺
EPR-160012-K	1/2"	400	117,65

PE-X, PE-RT MANŞONU Ø16

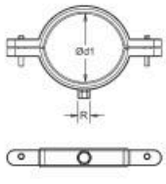


YENİ ÜRÜN

Kod	Ölçü	Miktar	Fiyat ₺
MPR-160000-K	1/2"	350	264,71

SOMUNLU KELEPÇE

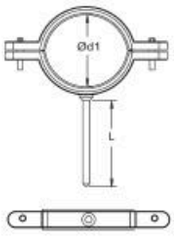




Kod	Ölçü (ø)	Ø d1	R	Miktar	Fiyat ₺
SMK-000038	3/8"	3/8	8 Rod	275	23,84
SMK-000012	1/2"	1/2	8 Rod	200	25,67
SMK-000034	3/4"	3/4	8 Rod	200	28,06
SMK-000100	1"	1	8 Rod	150	30,26
SMK-000114	1 1/4"	1 1/4	8 Rod	125	35,58
SMK-000112	1 1/2"	1 1/2	8 Rod	100	39,79
SMK-000200	2"	2	8 Rod	75	43,65
SMK-000212	2 1/2"	2 1/2	10 Rod	60	75,74
SMK-000300	3"	3	10 Rod	60	81,24
SMK-000312	3 1/2"	3 1/2	10 Rod	60	91,69
SMK-000400	4"	4	10 Rod	60	97,19
SMK-000412	4 1/2"	4 1/2	10 Rod	50	113,88
SMK-000500	5"	5	10 Rod	40	122,32
SMK-000512	5 1/2"	5 1/2	10 Rod	50	128,73
SMK-000600	6"	6	10 Rod	50	131,30
SMK-000800	8"	8	12 Rod	35	170,55

TRİFONLU STANDART KELEPÇE

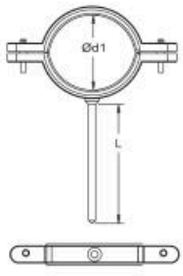




Kod	Ölçü (ø)	Ø d1	L	Miktar	Fiyat ₺
TSK-000038	3/8"	3/8	70	200	28,06
TSK-000012	1/2"	1/2	70	150	29,16
TSK-000034	3/4"	3/4	70	100	30,07
TSK-000100	1"	1	70	100	33,56
TSK-000114	1 1/4"	1 1/4	70	150	37,78
TSK-000112	1 1/2"	1 1/2	70	125	41,99
TSK-000200	2"	2	70	100	45,85
TSK-000212	2 1/2"	2 1/2	70	50	77,75
TSK-000300	3"	3	70	40	83,26
TSK-000312	3 1/2"	3 1/2	70	35	91,87
TSK-000400	4"	4	70	30	99,03
TSK-000412	4 1/2"	4 1/2	70	30	116,08

TRİFONLU UZUN KELEPÇE

Kod	Ölçü (ø)	Ø d1	L	Miktar	Fiyat ₺
TUK-000038	3/8"	3/8	100	200	30,44
TUK-000012	1/2"	1/2	100	125	30,44
TUK-000034	3/4"	3/4	100	100	31,18
TUK-000100	1"	1	100	75	34,66
TUK-000114	1 1/4"	1 1/4	100	125	38,88
TUK-000112	1 1/2"	1 1/2	100	100	43,09
TUK-000200	2"	2	100	75	46,95
TUK-000212	2 1/2"	2 1/2	100	50	78,85
TUK-000300	3"	3	100	40	84,36
TUK-000312	3 1/2"	3 1/2	100	35	98,11
TUK-000400	4"	4	100	30	103,79
TUK-000412	4 1/2"	4 1/2	100	30	117,00





ÇAKMALI DÜBEL

Kod	Ölçü (ø)	Miktar	Fiyat ₺
CKD-080000	M8	100	15,97
CKD-100000	M10	100	23,16
CKD-120000	M12	100	44,03



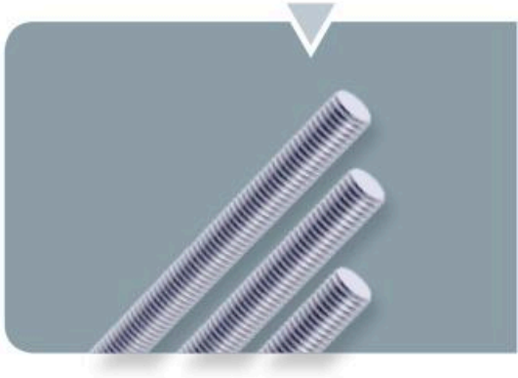
ÇEKMELİ DÜBEL

Kod	Ölçü (ø)	Miktar	Fiyat ₺
CMD-080000	M8	100	12,57
CMD-100000	M10	100	19,15
CMD-120000	M12	100	37,72



ROT

Kod	Ölçü (ø)	Ø d1	Miktar	Fiyat ₺
ROT-080000	M8	8	100	77,94
ROT-100000	M10	10	100	125,00
ROT-120000	M12	12	100	172,85



KAYNAK MAKİNESİ SETİ



Kod		Fiyat ₺
KMS-000500	Cobra Kaynak Makinesi Set	6.601,76
KMS-0008A0	Ekonomik Kaynak Makinesi Set	5.501,47
KMS-002100	Yuvarlak Kaynak Makinesi Set	9.077,43

KAYNAK MAKİNESİ



Kod		Fiyat ₺
LKM-0009A0	Cobra Kaynak Makinesi	5.043,01
SKM-000900	Ekonomik Kaynak Makinesi	4.584,56
PKM-0009B0	Yuvarlak Kaynak Makinesi	6.510,07

TEST POMPASI



Kod		Fiyat ₺
TSP-003000	GM 0030-60 Bar	15.037,35

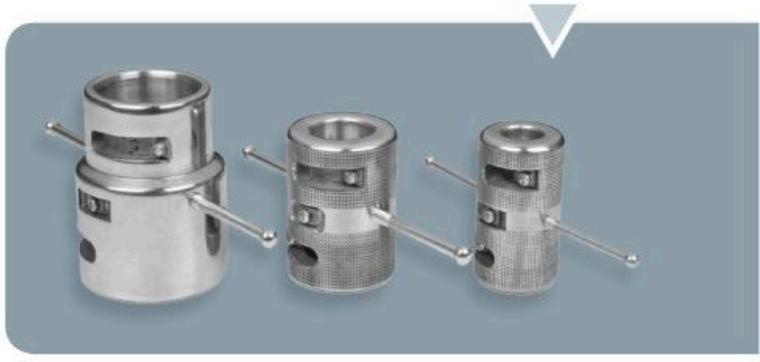
BORU MAKASI



Kod		Fiyat ₺
DBM-001242	GM 0012-42	1.191,99
DBM-002863	GM 0028-63	5.868,24
DBM-002775	GM 0027-75	7.335,29

Kod	Ölçü (ø)	Fiyat ₺
BTA-202500	20 x 25	1.375,37
BTA-324000	32 x 40	1.632,10
BTA-506300	50 x 63	2.200,59

BORU TRAŞLAMA



Kod	Ölçü (ø)	Fiyat ₺
BKP-200000	20	412,61
BKP-250000	25	476,79
BKP-320000	32	507,97
BKP-400000	40	660,18
BKP-500000	50	1.146,14
BKP-630000	63	1.283,68
BKP-750000	75	1.558,75
BKP-900000	90	2.567,35
BKP-110000	110	3.410,91
BKP-125000	125	4.034,41

KAYNAK PAFTASI



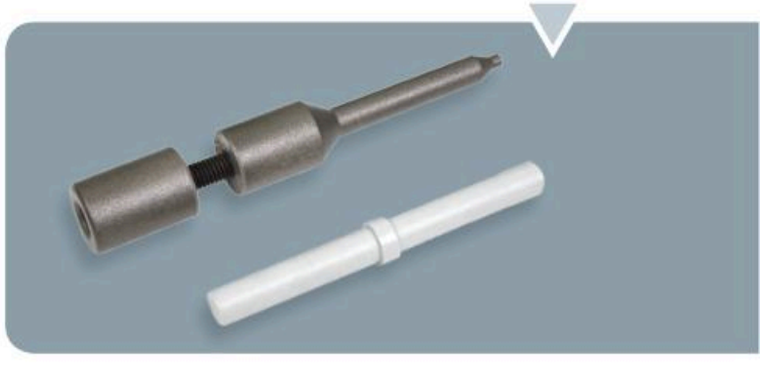
Kod	Ölçü (ø)	Fiyat ₺
BKP-632000	63/20	1.705,46
BKP-632500	63/25	1.705,46
BKP-633200	63/32	1.705,46
BKP-752000	75/20	1.797,15
BKP-752500	75/25	1.797,15
BKP-753200	75/32	1.797,15
BKP-902000	90/20	1.980,53
BKP-902500	90/25	1.980,53
BKP-903200	90/32	1.980,53
BKP-110200	110/20	2.072,22
BKP-110250	110/25	2.072,22
BKP-110320	110/32	2.072,22

BRANŞMAN KAYNAK PAFTASI



Kod		Fiyat ₺
BKA-000000	Set	1.191,99

TAMİR APARATI




Çocuklarımıza
YAŞANABİLİR BİR DÜNYA
dünya bırakalım





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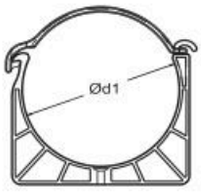
AKSESUAR GRUBU 6

PP-R ATIK SU KELEPÇESİ

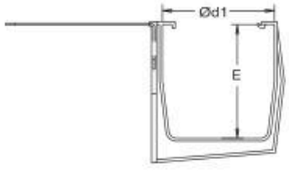




Kod	Ölçü (ø)	Ø d1	Miktar	Fiyat ₺
ATK-050000	50	50	250	9,98
ATK-075000	75	75	100	16,18
ATK-110000	110	110	130	29,84
ATK-125000	125	125	100	52,85
ATK-160000	160	160	75	106,09
ATK-200000	200	200	35	245,50

PP-R PLASTİK DERE KELEPÇESİ - PLASTİK ASKILI

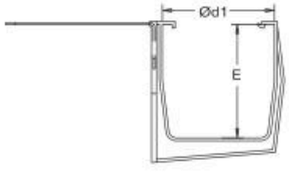




Kod	Ölçü (ø)	Ø d1	E	Miktar	Fiyat ₺
PDK-150000	150	150	150	75	32,11

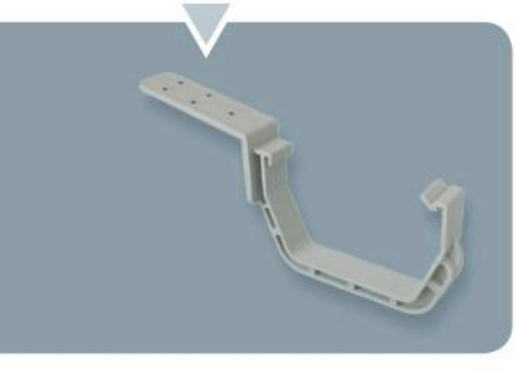
PP-R PLASTİK DERE KELEPÇESİ-METAL ASKILI

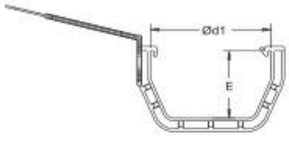




Kod	Ölçü (ø)	Ø d1	E	Miktar	Fiyat ₺
MDK-150000	150	150	150	75	80,89

PP-R DEK. PLASTİK DERE KELEPÇESİ - PLASTİK ASKILI

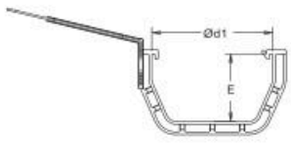


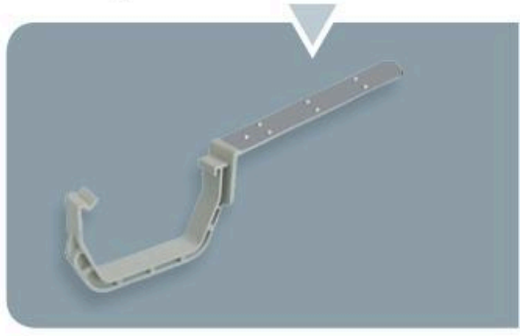


Kod	Ölçü (ø)	Ø d1	E	Miktar	Fiyat ₺
PDK-125000	125	125	75	100	26,74

PP-R DEK. PLASTİK DERE KELEPÇESİ METAL ASKILI

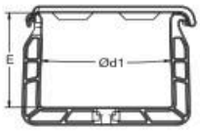
Kod	Ölçü (ø)	Ø d1	E	Miktar	Fiyat ₺
MDK-125000	125	125	75	100	72,55

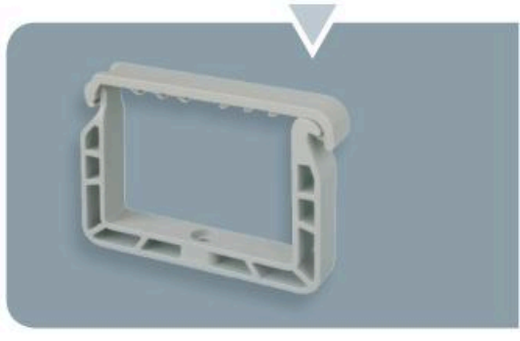




PP-R PROFİL İNİŞ KELEPÇESİ

Kod	Ölçü (ø)	Ø d1	E	Miktar	Fiyat ₺
PIK-100000	100	100	75	100	24,18

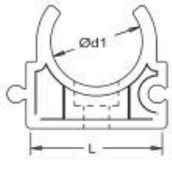




PP-R TEKLİ KELEPÇE

+ dübel + vida

Kod	Ölçü (ø)	Ø d1	L	Miktar	Fiyat ₺
TKP-200000-V	20	20	32	800	5,84
TKP-250000-V	25	25	39	800	6,62
TKP-320000-V	32	32	46	600	8,01
TKP-400000-V	40	40	54	500	9,58

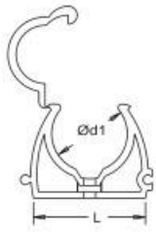




PP-R KAPAKLI KELEPÇE

+ dübel + vida

Kod	Ölçü (ø)	Ø d1	L	Miktar	Fiyat ₺
KPK-160000-V	16	16	28	800	6,09
KPK-200000-V	20	20	32	800	6,62
KPK-250000-V	25	25	37	600	6,96
KPK-320000-V	32	32	44	400	9,05
KPK-400000-V	40	40	52	250	11,32
KPK-500000-V	50	50	62	200	16,54

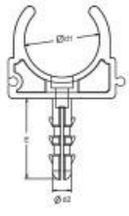




PP-R DÜBELLİ TEKLİ KELEPÇE

+ vida

Kod	Ölçü (ø)	Ø d1	Ø d2	E	Miktar	Fiyat ₺
DTK-200000-V	20	20	8	28	800	5,92
DTK-250000-V	25	25	8	28	700	6,27
DTK-320000-V	32	32	8	28	500	7,48



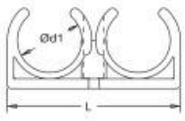


PPR Renkler

PP-R ÇİFTLİ KELEPÇE
+ dübel + vida



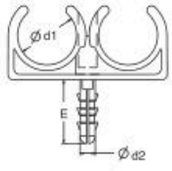
Kod	Ölçü (ø)	Ø d1	L	Miktar	Fiyat ₺
CKP-202200-V	20-22	20-22	60	600	7,70
CKP-252700-V	25-27	25-27	65	500	8,97
CKP-323400-V	32-34	32-34	72	300	11,49



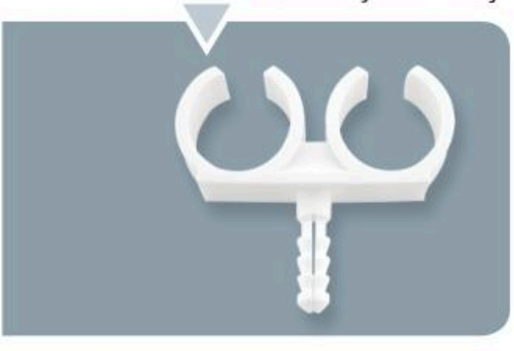
PP-R DÜBELLİ ÇİFTLİ KELEPÇE
+ vida



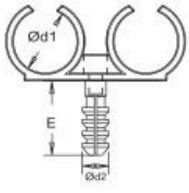
Kod	Ölçü (ø)	Ø d1	Ø d2	E	Miktar	Fiyat ₺
CDK-200000-V	20	20	8	28	600	6,62
CDK-250000-V	25	25	8	28	400	8,27
CDK-320000-V	32	32	8	28	300	11,32



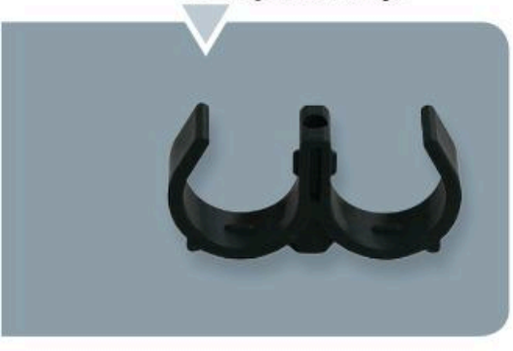
PP-R DÜBELLİ ÇİFTLİ KROŞE



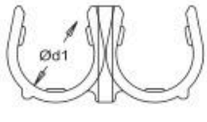
Kod	Ölçü (ø)	Ø d1	Ø d2	E	Miktar	Fiyat ₺
DCK-250000	25	25	8	28	1.000	4,92



PP-R ÇİFTLİ KROŞE



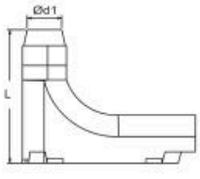
Kod	Ölçü (ø)	Ø d1	Miktar	Fiyat ₺
CTK-250000	25	22	2.500	2,71



PP-R KÖŞE DÜZELTİCİ



Kod	Ø d1	L	Miktar	Fiyat ₺
KDZ-180000	18	90	200	13,53



PPR Renkler

PP-R PLASTİK DÜBEL

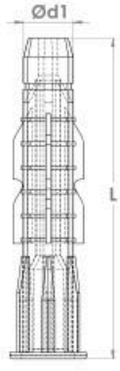
Kod	Ölçü (ø)	Ø d1	L	Miktar	Fiyat ₺
PDB-060000	M6	6	30	30.000	0,44
PDB-080000	M8	8	45	10.000	0,78
PDB-100000	M10	10	60	5.000	1,32

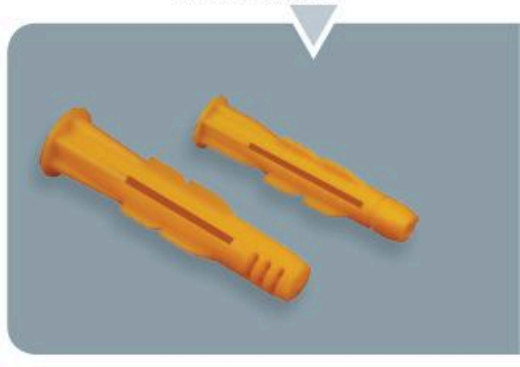




ROKET DÜBEL

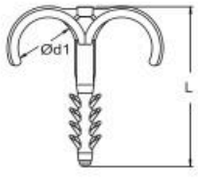
Kod	Ölçü (ø)	Ø d1	L	Miktar	Fiyat ₺
RDB-080000	M8	8	51	10.000	0,83
RDB-100000	M10	10	61	6.000	1,19





PP-R ÇİFTLİ YERE TESPİT DÜBELİ

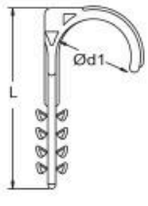
Kod	Ölçü (ø)	Ø d1	L	Miktar	Fiyat ₺
YTC-250000	25	22	58	4.000	1,26





PP-R TEKLİ YERE TESPİT DÜBELİ

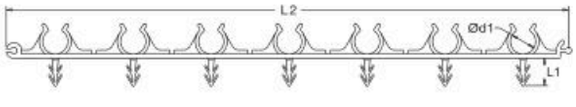
Kod	Ölçü (ø)	Ø d1	L	Miktar	Fiyat ₺
TYT-250000	25	22	56	8.000	0,93





PP-R KLİPSLİ LAMA

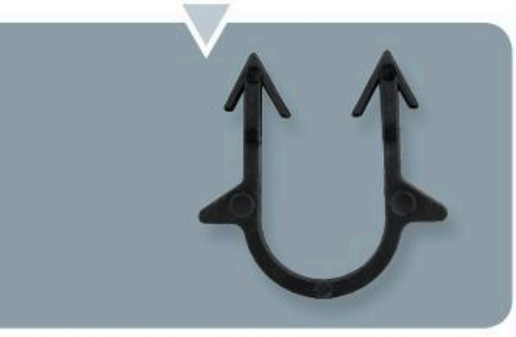
Kod	Ø d1	L1	L2	Miktar	Fiyat ₺
KPL-160000	16	17.5	360	350	11,60



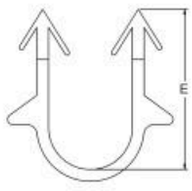


PPR Renkler

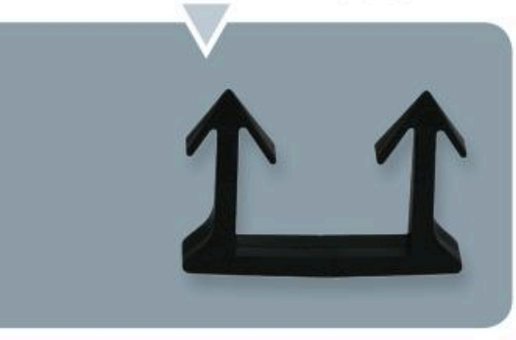
PP-R BORU TUTUCU



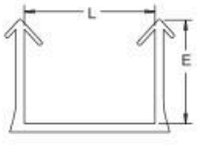
Kod	Ölçü (ø)	E	Miktar	Fiyat ₺
BRT-200000	20	36	8.000	0,85



PP-R LAMA TUTUCU



Kod	Ölçü (ø)	L	E	Miktar	Fiyat ₺
LMT-240000	24	24	24	8.000	0,78



PP-R BORU GEÇİŞİ



Kod	Ölçü (ø)	Miktar	Fiyat ₺
BGS-000034	25 x 3/4"	175	22,35
BGS-000100	32 x 1"	140	29,12

PP-R BORU TAPASI



Kod	Miktar	Fiyat ₺
BTP-161700	5.000	0,89

DOĞALGAZ MENFEZ



Kod	Miktar	Fiyat ₺
DMZ-000000	50	48,61

KADA

Kod	Ölçü (ø)	Miktar	Fiyat ₺
EKK-110000	110	150 Adet / Çuval	150,98



ADAPTÖR CONTA

Kod	Ölçü (ø)	Miktar	Fiyat ₺
ADC-050000	50	750 Adet / Çuval	12,59



DERZ SEVİYE KLİPSİ - 1 mm

Kod	Miktar	Fiyat ₺
DRZ-010000	4.000	1,27



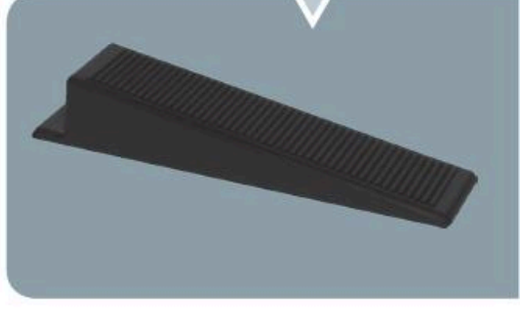
DERZ SEVİYE KLİPSİ - 2 mm

Kod	Miktar	Fiyat ₺
DRZ-020000	4.000	1,27



DERZ SEVİYE TAKOZU

Kod	Miktar	Fiyat ₺
DRT-000000	2.000	3,09





Birinci Kalite



formül®

TEKNİK BİLGİ 7

PP-R

Ham Madde

Teknik Data

Polypropylene Random Copolimer (PP-R)

Ham maddenin en önemli özelliği, ısıya ve kimyasal etkilere karşı gösterdiği yüksek dirençtir. Bu direnç sayesinde PP-R ham maddesinden markamız altında üretilen Boru ve Ek Parçaları, soğuk ve sıcak su tesisatlarında başarıyla kullanılmaktadır.
PP-R ham maddesinin monomer yapısına sahip olması sayesinde, bünyesinde hiçbir biyolojik maddenin barınmasına izin vermez. PP-R ham maddesinden üretilmiş PP-R Boru ve Ek Parçalara renk, tat ve koku vermeyen üstün özellikler sağlar.
PP-R ham maddesi içme suyu tesisatlarında, sıcak su, radyatör ve yerden ısıtma sistemlerinde ve birçok endüstriyel dağıtım sistemlerinde uzun ömürlü olarak kullanılır.
PP-R ham maddesi diğer plastiklere göre birçok avantaja sahiptir örneğin; uzun ömürlüdür, basınç ve sıcaklığa karşı yüksek dayanım gösterir, daha esnektir, yüksek ses ve ısı yalıtımına sahiptir, yüksek yoğunlukludur ve erime akış hızı düşüktür.
PP-R ham maddesi ASTM F 2389, DIN 8077, DIN 8078, EN ISO 15874 Standartlarının gereksinimlerini karşılar.

PP-R Boru Avantajları

- 20°C'de 50 yıla kadar dayanım sağlayabilir.
- +95°C sıcaklığa kadar dayanır.
- Birçok kimyasal maddeye karşı yüksek dayanım gösterir.
- Aşınma ve korozyon direnci yüksektir, kireçlenme ya da paslanma yapmaz.
- Suyun rengini, kokusunu ve tadını değiştirmez.
- İç yüzeyi pürüzsüz ve kaygandır, bu sebeple sürtünme, aşınma direnci yüksektir.
- Kullanımda sırasında montaj edilmesi kolaydır.
- Montaj esnasında iş ve malzeme kaybına sebep olmaz.
- PP-R ham maddesinin üstün özellikleri sayesinde yüksek ses ve ısı yalıtımı sağlar.
- Zor alev alır.
- Geri dönüştürülebilir, çevre dostudur.

Teknik Özellikler

Özellikler		Birim	Test Metodu	Değerler
Yoğunluk	+23°C	g/cm3	ISO 1183	0,909
Erime Akış İndeksi	190 °C /5 kg	g/10 dk	ISO 1133	0,4-0,6
	230°C /2,16 kg	g/10 dk	ISO 1133	0,2-0,5
	230°C /5 kg	g/10 dk	ISO 1133	0,8-1,3
Çekme Mukavemeti (23°C)	(50 mm/dk)	MPa	ISO 527	25
Çekmedeki Uzama	(50 mm/dk)	%	ISO 527	10
Elastiklik Modülü	+23°C	N/mm²	ISO 527	800
Charpy Darbe Dayanımı (Çentikli)	+23°C	kJ/m²	ISO 179	>15
	0°C	kJ/m²	ISO 179	>5
Charpy Darbe Dayanımı (Çentiksiz)	0°C	kJ/m²	ISO 179	Hasar Yok
Vicat Yumuşama Noktası	(1 kg)	°C	ASTM D 1525 ISO 306 DIN 53460	130
	(5 kg)	°C		60
Doğrusal Isıl Genleşme Katsayısı		1/K	DIN 53752	1,5x10-4
Isıl İletkenlik		W/mK	DIN 52612	0,24
Sertlik (Shore)	(3 sn değer)		ISO 868	65
Boru Sürtünme Katsayısı				0,007