

ERMAKSAN

GEMİ KAUÇUK SANAYİ



HAKKIMIZDA

Konusunda ülkemizin önder kuruluşlarından biri olan firmamız 1985 yılında kurulmuştur. Türkiye'de gemi, yat, römörkör, iskele ve liman usturmaçaları üretimi yapan firmalar arasında yer almaktadır.

1985 Yılında ufak bir atölye olarak hizmet veren firmamız bugün 6600 m2 kapalı alanı ile ve Tuzla'daki makina atölyesi ve Gebze'deki kauçuk tesisi ile imalatlarımızı yapmaktayız.

Arge çalışmalarımızla, laboratuvar sistemlerimizle Türkiye'nin önder kuruluşlarından biri haline gelmiş durumdayız. Genellikle web sayfamızdanda anlıyabileceğiniz gibi gemi, yat teknik parçaları, römörkör, iskele ve liman usturmaça imalatı ile firmamız konusunda önder bir kuruluş olmaya devam edecektir.

Üretimlerimizi ülkemizin dörtbiryanına verdiğimiz gibi yurt dışınada dolaylı ve direk olarakta ihracaat yapmaktayız.

İmalatlarımız ismimizle tescilli ve garantili olup bu çalışmalarımızın sonucu sizlere uzun yıllar boyunca hizmet vermenin gururunu taşımaktayız.

ABOUT US

Our company, one of the leading establishments of the country in its field, was established in 1985. Currently it is among the companies, which manufacture fenders for ships, yachts, tug-boats, piers and ports in Turkey.

Providing its services in a small workshop in 1985, our company is manufacturing its products in a 6600 m2 enclosed space, the machine shop in Tuzla and the rubber processing facility in Gebze today.

We have become one of the leading companies in Turkey with our R&D works and laboratory systems. As you will be able to infer from our website generally, our company will continue to be a leading establishment by producing ship and yacht technical parts, and fenders for tug-boats, piers and port facilities.

Besides providing our products to the four corners of our country, we are exporting to the foreign countries directly as well.

Our products guaranteed and registered to our name and we are proud of serving you for long years as aresult of those works.

VİZYON MİSYON

Vizyon;

- Müşteri beklentilerine odaklanmış kalite anlayışı ile fark yaratarak güvenilir ürünler üretmek,
- Sürekli iyileştirme faaliyetleri ile rekabet gücümüzü artırmak

Misyon;

- Ülkemizin gemi yan sanayi ve insan kaynaklarını geliştiren, Türkiye ve dünyada önde gelen firmalardan biri olmak
- Müşteri beklentilerini en üst düzeyde karşılayacak kalite anlayışına uygun gemi, yat römörkör, iskele ve liman usturmaçalarnı dünya pazarları için üretmek

VİSION MİSSION

Vision;

- Manufacturing reliable products by making a difference with a quality philosophy of focusing on the customer expectations.
- Increasing our competitive power through continuous improvement efforts.

Mission;

- Becoming a leading company in Turkey and the world that develops the ship side industries and human resources of our country.
- Manufacturing fenders for the ships, yachts, tug-boats, piers and ports for the world markets with a quality philosophy that will meet the customer expectations at the highest levels.

KALİTE POLİTİKASI

ERMAKSAN GEMİ ;

Konusunda ülkemizin önder kuruluşlarından biri olan firmamız sürekli gelişmeyi esas alan çalışanlarının katılımı ile ürettiği garantili ve kaliteli ürünlerini zamanında teslim edilerek müşteri memnuniyetini yükseltmeyi amaç edinmiştir.

Müşteri beklentilerini en üst düzeyde karşılayacak kalite anlayışına uygun gemi, yat römörkör, iskele ve liman usturmaçaları üretmek , Sürekli iyileştirme faaliyetleri kapsamında süreçlerimizi ve hedeflerimizi gözden geçirerek kalite yönetim sisteminin etkinliğini ve verimliliğini arttırmak, Müşteri, şirket ve çalışanları arasında iletişim, paylaşma, dayanışma, işbirliği bilinci, güven duygusunu oluşturmak ve sürekli kılmak, bulunmaktadır.

Tüm üretim ve hizmet süreçleri için, gerekli kaynaklar da dahil olmak üzere ilgili süreçler, prosedür ile dokümante edilir. Dokümante edilmiş süreçlere, prosedürlere, standartlara, iş yöntemlerine ve iş talimatlarına uygun çalışıldığının kontrolü sağlanmış olup, uygun prosedürlere göre üretim yapılır.

- Ürün şartlarına uygunluğunu göstermek,
- Kalite yönetim sisteminin uygunluğunu sağlamak,
- Kalite yönetim sisteminin etkinliğini sürekli iyileştirmek için gerekli olan izleme, ölçme, analiz, geliştirme ve denetim sürecini planlar ve uygular.

QUALITY POLICY

ERMAKSAN GEMİ (The Company);

As a leading company in our the country, it has adopted the target of timely delivery of the guaranteed and quality products it manufactures with the contribution of its personnel, who believe in continuous development, in order to increase the customer satisfaction.

Manufacturing fenders for the ships, yachts, tug-boats, piers and ports that comply with the quality philosophy aimed at meeting the customer expectations at the highest levels. In line with the continuous development activities, reviewing our processes and targets to increase the efficiency and effectiveness of our quality management system; encouraging communication, sharing, support, a sense of cooperation and sense of trust between the customers, company and personnel and ensuring their continuity.

All the manufacturing and service processes, including the required resources, are documented with procedures. This allows making sure that the works are carried out in compliance with the documented processes, procedures, standards, operating methods and work instructions, whereby the work is performed according to the appropriate procedures.

ERMAKSAN GEMİ plans and applies the monitoring, measuring, analyzing, developing and supervision processes in order to:

- Demonstrate the compliance to the product specifications,
- Ensure the compliance of the quality management system,
- Improve the effectiveness of the quality management system continuously.

GENEL MÜDÜR - GENERAL MANAGER
ŞABAN ORAK

LABORATUVARIMIZ

1 Lastik Sertlik Testi Shore A
2 Lastik Uzama Testi
3 Lastik Kopma ve Mukavement Testi
4 Kauçuk Pişme Vulkanizasyon Testi (Reo meter)
5 Metal ile Kauçuk Yapışma Kuvvet Testi
6 Lastik Yırtılma Testi
7 Lastik Dinamik Yorulma Testi
8 Lastik Aşınma Testi
9 Lastiğin Havada,Deniz Suyunda,Yağda,Benzinde ve Diğer Kimyasallardaki Yaşlandırma Testi
10 Lastiğin Elastikiyet (Ribaund) Zıplama Testi
11 Lastiğin Basınç Altındaki Ezilme Yük Taşıma Testi
12 Lastiğin ve Plastiğin Ozona Dayanım Testi
13 Plastik (HDPE) Shore D Sertlik Testi
14 Plastik (HDPE) Uzama ve Kopma Testi

LABORATORY

1 Rubber Hardness Test Shore A
2 Rubber Elongation Test
3 Rubber Rupture and Strength Test
4 Rubber Burning Vulcanization Test (Reo meter)
5 Metal and Rubber Adhesion Strength Test
6 Rubber Tearing Test
7 Rubber Dynamic Fatigue Test
8 Rubber Abrasion Test
9 Rubber Aging Test in the Air, Sea Water, Oil, Gasoline and Other Chemicals
10 Rubber Elasticity (Rebound) Jumping Test
11 Rubber Compression Crushing, Load Carrying Test
12 Rubber and Plastic Ozone Resistance Test
13 Plastic (HDPE) Shore D Hardness Test
14 Plastic (HDPE) Elongation and Rupture Tests

LABORATUVARIMIZ - LABORATORY



Lastiğin ve Plastiğin Ozona Dayanım Testi
Rubber and Plastic Ozone Resistance Test



Lastiğin Basınç Altındaki Ezilme Yük Taşıma Testi
Rubber Compression Crushing, Load Carrying Test



Lastiğin Havada,Deniz Suyunda,Yağda,Benzinde ve Diğer Kimyasallardaki Yaşlandırma Testi
Rubber Aging Test in the Air, Sea Water, Oil, Gasoline and Other Chemicals



Lastik Aşınma Testi Lastik Dinamik Yorulma Testi
Rubber Abrasion Test Rubber Dynamic Fatigue Test



Kauçuk Pişme Vulkanizasyon Testi (Reo meter)
Rubber Burning Vulcanization Test (Reo meter)



Lastik ve Plastik Uzama Test - Rubber and Plastic Elongation Test
Lastik Yırtılma Testi - Rubber Teoring Test
Lastik Kopma ve Mukavvemet Testi - Rubber Break and Strength Test

HAMURHANE - CAOUTCHOUE MIXTURE











FABRİKA DEPO - FACTORY STORE





FABRİKA DEPO - FACTORY STORE







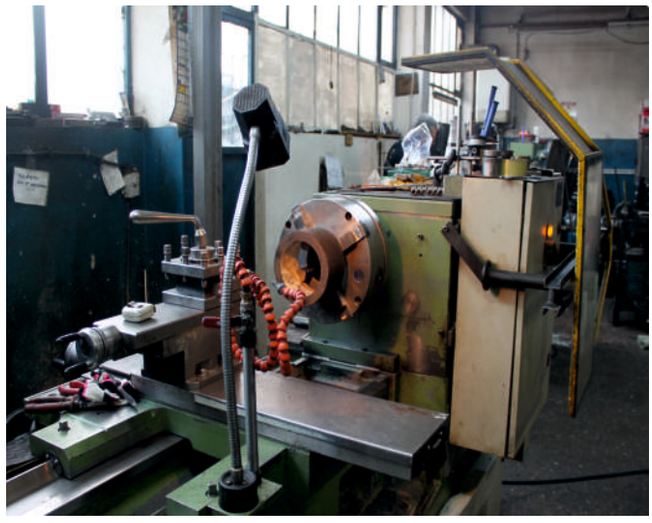


ATÖLYEMİZ - WORKSHOP











ATÖLYEMİZ - WORKSHOP









DEPO - STORE













DEPO - STORE




FRENGİ TAPASI
Ø300-Ø350
FRENGİ TAPASI
Ø350-Ø400








FLT - 3 FLEXSTOP TAKOZ
FLT - 2 FLEXSTOP TAKOZ

DEPO - STORE
















T.C.
TÜRK PATENT ve MARKA KURUMU

MARKA YENİLEME BELGESİ

Marka No : 2010 72943 - Ticaret

ERMAKSAN
GEMİ KAUÇUK SANAYİ

Marka Sahibi : TASVİRE ORAK (T.C. Kimlik No: 11693523370)
TÜRKİYE CUMHURİYETİ
Aydıntepe Mah. Vural Sk. No.13 Tuzla İstanbul

Emtiası : 09 , 17
İlişiktedir.

İşbu Marka ilk defa 13/11/2010 tarihinde tescil edilmiş olup, 13/11/2020 tarihinden itibaren ON YIL süreyle yenilenmiştir.

T.C. TÜRK PATENT ve MARKA KURUMU MARKALAR DAİRESİ BAŞKANLIĞI

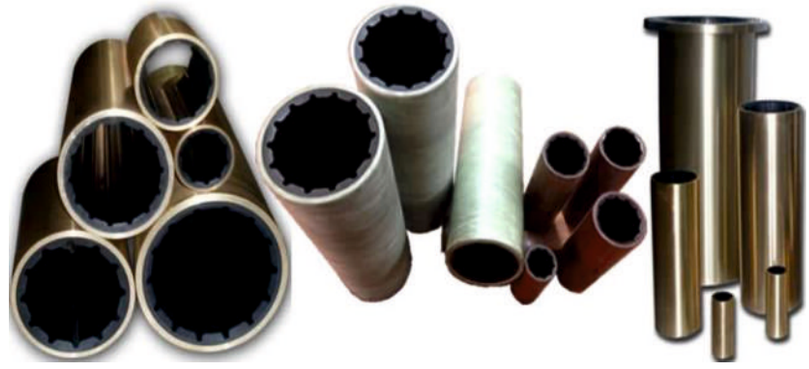
Prof. Dr. Habip ASAN
Türk Patent ve Marka
Kurumu Başkanı

TÜRK PATENT
TÜRK PATENT VE MARKA KURUMU

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ŞAFT LASTİK YATAKLARI
Rubber Shaft Bearings



Denizlerimizi ve göllerimizi Temiz Tutalım

ERMAKSAN Lastik şaft yataklarının dış kılıfları bronz, fiber, çelik boru ve CTP (cam takviyeli polyester), iç kısımları ise lastikten yapılmıştır. Montaj ve demontaj kolaydır. Lastik yataklar, su soğutmalı ve su kaydırmalı tip olduğundan genellikle su içinde çalıştırılmalıdır. **ERMAKSAN** Lastik Şaft Yatakları, pervanede dönme sırasında meydana gelen uğultuları ve vibrasyonu yok eder, ayrıca diğer yataklara göre daha uzun ömürlüdür.
İç lastikler ısıya, sürtünmeye, deniz suyuna, yağa, mazota ve kimyasallara dayanıklıdır.

RUBBER SHAFT BEARINGS
The external housing of the **ERMAKSAN** rubber shaft bearings are made of bronze, sitel pipe, GRP (glass rein forced polyester) and internal sections are made of rubber. They are easy to install and remove. Because the rubber bearing is water cooled and water lubricated, they shoul generally be used in water. The **ERMAKSAN** rubber shaft bearings eliminate the noise and vibrations caused by the revolution of the prooeller and have a longer life than the other bearings.

The internal rubber parts are resistent against heat, friction, sea water, oil, diesel fuel and chemicals.

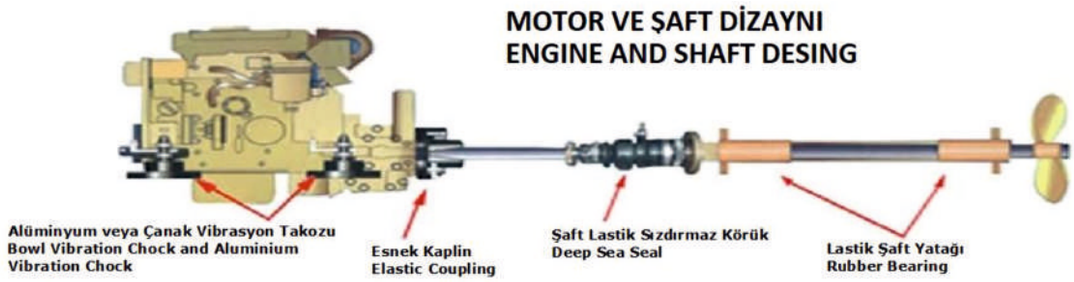








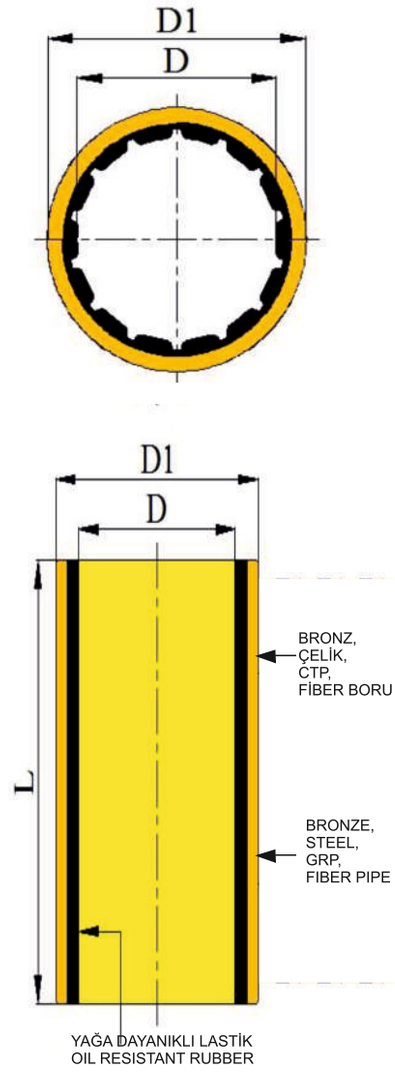
ŞAFT LASTİK YATAKLARI
Rubber Shaft Bearings



ŞAFT YATAĞI ÜRÜN LİSTESİ - KEEP OUR SEAS AND LAKES CLEAN

ŞAFT ÇAPI MM ÖLÇÜSÜNE GÖRE
SHAFT DIAMETER MM BY SIZE

D	D1			L
mm	mm	inch	mm	
20	32	1 1/4"	31,75	80
22	35	1 3/8"	34,92	88
25	40	1 1/2"	38,10	100
28	42	1 5/8"	41,27	112
30	45	1 3/4"	44,45	120
32	45	1 3/4	44,45	128
35	48	1 7/8"	47,62	140
38	50	2"	50,80	152
38	55	2 1/8	53,97	152
40	55	2 1/8"	53,97	160
45	60	2 3/8"	60,32	178
45	65	2 1/2"	63,50	178
50	70	2 5/8"	66,67	200
55	75	3"	76,20	220
60	80	3 1/4"	82,55	240
65	85	3 1/2"	88,90	260
70	90	3 1/2"	88,90	280
70	95	3 3/4"	95,25	280
75	95	3 3/4"	95,25	300
75	100	4"	101,60	300
80	100	4"	101,60	320
85	105	4 1/8"	104,77	340
85	110	4 1/4"	107,95	340
90	110	4 1/2"	114,30	360
95	115	4 1/2"	114,30	380
100	125	5"	127,00	400
100	130	5 3/8"	136,52	400
105	130	5 1/4"	133,35	420
110	135	5 3/8"	136,52	440
110	140	5 1/2"	139,70	440
115	145	5 1/2"	139,70	460
120	156	6"	152,40	480
125	165	6 1/2"	165,10	500
130	170	6 5/8"	168,27	520
135	170	6 5/8"	168,27	522
140	180	7"	177,80	560
145	180	7"	177,80	562
150	190	7 1/2"	190,50	600
155	190	7 1/2"	190,50	600
160	200	8"	203,20	602
165	210	8 3/8"	212,72	602-660
170	220	8 3/4"	222,25	602-680
175	230	9"	228,60	602
180	230	9"	228,60	602-720
185	230	9"	228,60	602

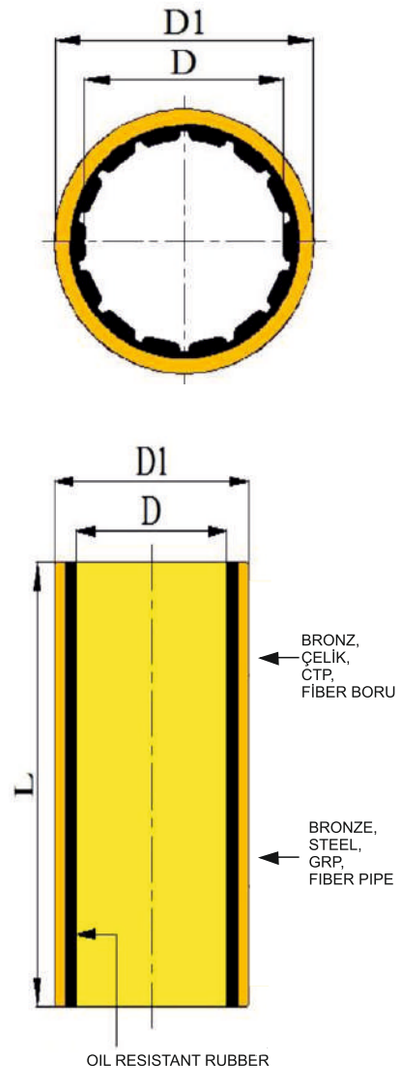


ŞAFT ÇAPI INCH ÖLÇÜSÜNE GÖRE
SHAFT DIAMETER INCH BY SIZE

D	D1	L
7/8"	1 3/8"	3 1/2"
1"	1 1/2"	4"
1 1/8"	1 5/8"	4 3/8"
1 1/4"	1 3/4"	5"
1 3/8"	1 7/8"	5 1/2"
1 1/2"	2"	6"
1 1/2"	2 1/8	6"
1 3/4"	2 3/8"	7"
1 3/4"	2 1/2"	7"
2"	2 5/8"	8"
2"	2 3/4"	8"
2"	3"	8"
2 1/4"	3"	8 3/4"
2 3/8"	3 1/4"	9 1/2"
2 1/2"	3 1/4"	10"
2 1/2"	3 3/8"	10"
2 1/2"	3 1/2"	10"
2 15/16"	4"	12"
3"	4"	12"
3 1/4"	4"	13"
3 1/4"	4 1/4"	13"
3 3/8"	4 1/4"	13 3/8"
3 1/2"	4 3/8"	14"
3 3/4"	4 1/2"	15"
3 7/8"	5"	16"
4"	5"	16"
4"	5 3/8"	16"
4 1/8"	5 1/4"	16 1/2"
4 1/4"	5 1/2"	16"
4 3/8"	5 1/2"	17"
4 1/2"	5 5/8"	18"
4 5/8''	6 1/8''	18 7/8''
4 3/4"	6 1/8"	19"
5"	6 1/2"	20"
5 1/2"	7"	22"
5 3/4"	7"	22"
6"	7 1/2"	23 1/2"
6 1/8"	7 1/2"	23 1/2"
6 1/4"	8"	23 5/8"
6 1/2"	8 3/8"	23 5/8"
6 3/4"	8 3/4"	23 5/8"
6 7/8"	8 7/8"	23 5/8"
7"	8 7/8"	23 5/8"
7"	8 7/8"	23 5/8"
7 1/2"	9 1/2"	23 5/8"
7 5/8"	9 1/2"	23 5/8"

ŞAFT LASTİK YATAKLARI / Rubber Shaft Bearings

190	240	9 1/2"	241,30	602
195	250	9 7/8"	250,80	724
195	255	10"	254,00	724
200	260	10 1/4"	260,35	748
205	260	10 1/4"	260,35	748
210	265	10 1/2"	266,70	774
215	270	10 3/4"	273,05	800
220	275	11"	279,40	825
225	280	11"	279,40	850
230	290	11 1/2"	292,10	875
235	290	11 1/2"	292,10	875
240	295	11 3/4"	298,45	900
245	305	12 1/8"	307,97	925
250	310	12 3/8"	314,32	950
255	310	12 3/8"	314,32	950
260	320	12 5/8"	320,67	1000
265	325	12 7/8"	327,00	1000
265	330	13 1/8"	333,37	1000
270	325	12 7/8"	327,00	1015
275	330	13 1/8"	333,15	1015
280	340	13 1/2"	342,90	1054
285	345	13 3/4"	349,25	1079
290	355	14 1/8"	358,77	1104
295	365	14 3/8"	365,12	1130
300	365	14 3/8"	365,12	1130
305	370	14 1/4"	374,65	1155
310	380	15"	381,00	1180
315	385	15 1/4"	387,85	1205
320	390	15 1/2"	393,70	1230
325	390	15 1/2"	393,70	1230
330	400	15 7/8"	403,20	1270
335	405	16 1/8"	409,57	1295
340	415	16 3/8"	415,92	1315
345	430	16 5/8"	422,27	1345
350	435	17 1/4"	422,27	1345
355	430	17"	431,8	1370
*360	435	17 1/8"	434,97	1300
*365	435	17 1/8"	434,97	1300
*370	445	17 1/2"	444,50	1350
*375	445	17 1/2"	444,50	1350
*380	460	18"	457,20	1380
*380	460	18 1/8"	460,37	1380
*385	460	18"	457,20	1380
*385	460	18 1/8"	460,37	1380
*390	470	18 1/2"	469,90	1410
*395	470	18 1/2"	469,90	1410
*400	480	18 7/8"	479,42	1450
*405	480	18 7/8"	479,42	1450
*410	490	19 1/4"	488,95	1480
*415	490	19 1/4"	488,95	1480
*420	500	19 5/8"	498,47	1520
*425	500	19 5/8"	498,47	1520
*430	510	20"	508	1550
*435	510	20"	508	1550
*440	520	20 3/8"	517,52	1600
*440	520	20 1/2"	520,70	1600
*445	520	20 3/8"	517,52	1600
*445	520	20 1/2"	520,70	1600
*450	530	20 3/4"	527,05	1630
*450	530	20 7/8"	530,22	1630
*455	530	20 3/4"	527,05	1630
*455	530	20 7/8"	530,22	1630
*460	540	21 1/4"	539,75	1670
*465	540	21 1/4"	539,75	1670
*470	550	21 5/8"	549,27	1700
*475	550	21 5/8"	549,27	1700
*480	560	22"	558,80	1740
*485	560	22"	558,80	1740
*490	570	22 3/8"	568,32	1775

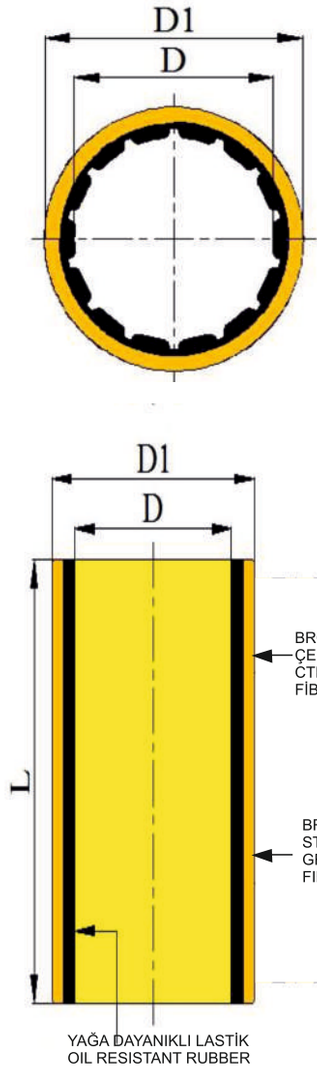


7 3/4"	9 7/8"	28 1/2"
7 7/8"	10 1/4"	29 1/2"
8"	10 1/4"	29 1/2"
8 1/4"	10 1/2"	30 1/2"
8 1/4"	10 1/2"	30 1/2"
8 1/2"	10 3/4"	31 1/2"
8 3/4	11"	32 1/2"
8 7/8"	11 1/4"	33 1/2"
9"	11 1/4"	33 1/2"
9 1/4"	11 1/2"	34 1/2"
9 1/2"	11 3/4"	35 1/2"
9 5/8"	12 1/8"	36 1/2"
9 3/4"	12 1/8"	36 1/2"
9 7/8"	12 3/8"	37 1/2"
10"	12 3/8"	37 1/2"
10 1/4"	12 5/8"	39"
10 1/2"	12 7/8"	39 1/2"
10 1/2"	13 1/8"	39 1/2"
10 5/8"	12 7/8"	40"
10 3/4"	13 1/8"	40"
10 7/8"	13 1/8"	40"
11"	13 1/2"	41 1/2"
11 1/4"	13 3/4"	42 1/2"
11 1/2"	14 1/8"	43 1/2"
11 5/8"	14 3/8"	44 1/2"
11 3/4"	14 3/8"	44 1/2"
11 7/8"	14 3/8"	44 1/2"
12"	14 3/4"	45 1/2"
12 1/4"	15"	46 1/2"
12 1/2"	15 1/4"	47 1/2"
12 5/8"	15 1/2"	48 1/2"
12 3/4"	15 1/2"	48 1/2"
13"	15 7/8"	50"
13 1/4"	16 1/8"	51"
13 1/2"	16 3/8"	51 3/4"
13 5/8"	16 5/8"	53"
13 3/4"	16 5/8"	53"
*14"	17"	54"
*14 1/8"	17 1/4"	53 1/4"
*14 1/4"	17 1/4	53 1/4"
*14 3/8"	17 1/4"	53 1/4"
*14 1/2"	17 5/8"	53 1/8"
*14 5/8"	17 5/8"	53 1/8"
*14 3/4"	17 5/8"	53 1/8"
*14 7/8"	18 1/8"	54 5/16"
*15"	18 1/8"	54 5/16"
*15 1/8"	18 1/8"	54 5/16"
*15 1/4"	18 1/8"	54 5/16"
*15 3/8"	18 1/2"	55 1/2"
*15 1/2"	18 1/2"	55 1/2"
*15 5/8"	18 1/2"	55 1/2"
*15 3/4	18 7/8"	57 1/8"
*16"	18 7/8"	57 1/8"
*16 1/8"	19 5/16"	58 1/4"
*16 1/4"	19 5/16"	58 1/4"
*16 3/8"	19 516"	58 1/4"
*16 1/2"	19 3/4"	60"
*16 5/8"	19 3/4"	60"
*16 3/4"	19 3/4"	60"
*17	20 1/8	61"
*17 1/8"	20 1/8"	61"
*17 3/8"	20 1/2"	63"
*17 1/2"	20 1/2"	63"
*17 5/8"	20 1/2"	63"
*17 3/4"	20 7/8"	64 1/8"
*17 7/8"	20 7/8"	64 1/8"
*18"	20 7/8"	64 1/8"
*18 1/8	21 1/4"	65 3/4"
*18 5/16"	21 1/4"	65 3/4"

ŞAFT LASTİK YATAKLARI
Rubber Shaft Bearings

*495	570	22 3/8"	568,32	1775
*500	580	22 3/4"	577,85	1800
*500	580	22 7/8"	581,02	1800
*505	580	22 3/4"	577,85	1800
*505	580	22 7/8"	581,02	1800
*510	590	23 1/8"	587,37	1850
*510	590	23 1/4"	590,55	1850
*515	590	23 1/8"	587,37	1850
*515	590	23 1/4"	590,55	1850
*520	600	23 1/2"	596,90	1880
*520	600	23 5/8"	600,07	1880
*525	600	23 1/2"	596,90	1880
*525	600	23 5/8"	600,07	1880
*530	610	24"	609,60	1920
*535	610	24"	609,60	1920
*540	620	24 3/8"	619,12	1950
*545	620	24 3/8"	619,12	1950
*550	630	24 3/4"	628,65	1990
*555	630	42 3/4"	628,65	1990
*560	640	25 1/8"	638,17	2025
*565	640	25 1/8"	638,17	2025
*570	650	25 1/2"	647,70	2060
*570	650	25 5/8"	650,87	2060
*575	650	25 1/2"	647,70	2060
*575	650	25 5/8"	650,87	2060
*580	660	25 7/8"	657,22	2100
*580	660	26"	660,40	2100
*585	660	25 7/8"	657,22	2100
*585	660	26"	660,40	2100
*590	670	24 3/8"	669,92	2130
*595	670	26 3/8"	669,92	2130
*600	680	26 3/4"	679,45	2150
*605	680	26 3/4"	679,45	2150

(*) Arge ve yapım aşamasındadır.



*18 3/8"	21 1/4"	65 3/4"
*18 1/2"	21 3/4"	67"
*18 3/4"	21 3/4"	67"
*18 7/8"	22"	68 1/2"
*19"	22"	68 1/2"
*19 1/8"	22"	68 1/2"
*19 1/4"	22 1/2"	68 7/8"
*19 3/8"	22 1/2"	68 7/8"
*19 1/2"	22 1/2"	68 7/8"
*19 5/8"	22 7/8"	70 7/8"
*19 3/4"	22 7/8"	70 7/8"
*19 7/8"	22 7/8"	70 7/8"
*20 1/2"	23 5/8"	74"
*20 5/8"	23 5/8"	74"
*20 3/4"	23 5/8"	74"
*20 7/8"	24"	75 5/8"
*21"	24"	75 5/8"
*21 1/8"	24"	75 5/8"
*21 1/4"	24 1/2"	76 3/4"
*21 3/8"	24 1/2"	76 3/4"
*21 1/2"	24 1/2"	76 3/4"
*21 5/8"	24 7/8"	78 5/16"
*21 3/4"	24 7/8"	78 5/16"
*21 7/8"	24 7/8"	78 5/16"
*22"	25 1/4"	79 3/4"
*22 1/8"	25 1/4"	79 3/4"
*22 1/4"	25 1/4"	79 3/4"
*22 1/2"	25 5/8"	81 1/8"
*22 5/8"	25 5/8"	81 1/8"
*22 3/4"	25 5/8"	81 1/8"
*22 7/8"	26"	82 5/8"
*23"	26"	82 5/8"
*23 1/8"	26"	82 5/8"
*23 1/4"	26 1/2"	83 7/8"
*23 3/8"	26 1/2"	83 7/8"
*23 1/2"	26 1/2"	83 7/8"
*23 5/8"	26 7/8"	84 5/8"
*23 3/4"	26 7/8"	84 5/8"
*23 7/8"	26 7/8"	84 5/8"
*24"	26 7/8"	84 5/8"



Özel ölçüler için lütfen firmamızı arayınız.
Please call our company for special dimensions.

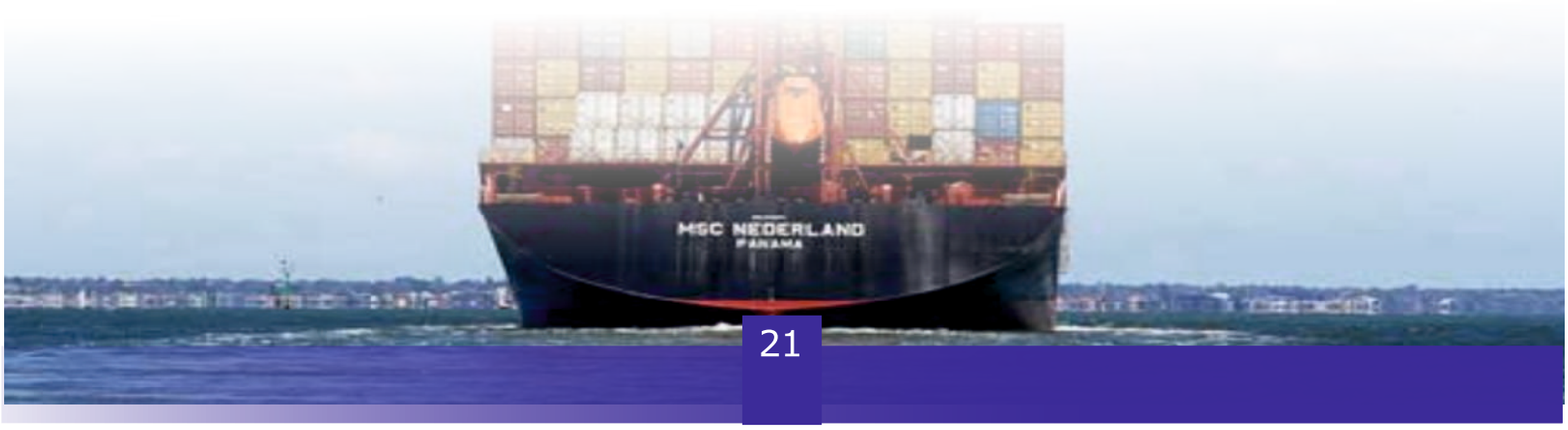
ŞAFT LASTİK YATAKLARI
Rubber Shaft Bearings

TEKNİK DETAYLAR

Firmamızın üretimini yapmış olduğu bu yataklar gemilerde, yatlarda ve su pompalarında kullanılan su kaydırmalı yataklardır. Kesinlikle yağ kullanılmaz. Denizden, gölden alınan su veya soğutuculardan dışarı atılan su yataklarda kaydırma suyu olarak kullanılır.
Lastik teknik özelliği olarak kuru zeminlerde frenleme görevi yapar. Fakat sulu yüzeylerde kayma görevini çok iyi yapan bir malzemedir. Örnek olarak; otomobil tekerlekleri kuru zeminde fren iyi olur fakat sulu zeminde iyi kayar. Lastik tekerlek üstündeki kanallar suyu dışarı atmak içindir. Zemine daha iyi basması içindir ki fren daha iyi olması sağlanır.
Fakat lastik yataklarda suyun daha bol verilmesi şaftın yatak üstünde kaymasını rahatlatır ve aşınmasını engeller. Onun için şaft lastik yataklar daha uzun ömürlüdür.
Aşınma miktarı minimum seviyededir.

TECHNICAL DETAILS OF THE RUBBER BEARINGS

Those bearings manufactured by our company are the water slider type of bearings used for the ships, yachts and water pumps. Oil is never used. The water taken from the sea or lakes or the water discharged by the coolers are used as lubricant in such bearings.
The rubber acts as a brake on dry surfaces as an intrinsic technical property.
But it is a material that allows good slipping on wet surfaces. As an example,
the car tires help brake effectively on dry surfaces, but slide easily on wet surfaces.
The threads in the tire are used for removing the water from the tire surface.
They also improve breaking by ensuring a better contact with the ground.
But, in the rubber bearings, supplying plenty of water facilitates better sliding of the shaft on the rubber and prevents wear. Therefore rubber shaft bearings exhibit a longer service life. The wear is minimized.



ŞAFT LASTİK YATAKLARI
Rubber Shaft Bearings

ŞAFT LASTİK YATAKLARINDAKİ TOLERANSLAR VE ÇALIŞMA ŞARTLARI:

THE TOLERANCES IN THE RUBBER SHAFT BEARINGS AND OPERATING CONDITIONS:

STANDART LASTİK YATAK BOŞLUĞU VEYA KLERENSLERİ - STANDARD RUBBER BEARING CLEARANCE

Şaft çapı Ø20 ile Ø100 mm arası boşluk klerensi - Shaft diameter Ø20 to Ø100 mm between clearance
Örnek olarak - For example: Ø100 mm şaft için - Ø100 mm for shaft
Şaft çapı - Shaft diameter x 0.005 + 0.05 mm = Boşluk klerensi - between clearance Ø100x0.005+0.05=0.55 mm

Şaft çapı Ø100ile Ø150 mm arası boşluk klerensi - Shaft diameter Ø100 to Ø150 mm between clearance
Şaft çapı - Shaft diameter x 0.005 + 0.1 mm = Boşluk klerensi - between clearance

Şaft çapı Ø150ile Ø200 mm arası boşluk klerensi - Shaft diameter Ø150 to Ø200 mm between clearance
Şaft çapı - Shaft diameter x 0.005 + 0.15 mm = Boşluk klerensi - between clearance

Şaft çapı Ø200ile Ø600 mm arası boşluk klerensi
Şaft çapı - Shaft diameter x 0.005 + 0.2 mm = Boşluk klerensi - between clearance
Örnek olarak - For example: : Ø400 mm şaft için – Ø400 mm for shaft Ø400x0.005+0.2=2.2 mm
Pompa yataklarında Pompa mil çapı x 0.004 veya 0.005 = boşluk klerensi
In pump bearings Pump shaft diameter x 0.004 or 0.005 = between clearance

Lastik yataklarda değiştirme boşluğu - Changing clearance of the rubber bearings = Şaft çapı x 0,020 ile 0,025
Örnek olarak – For Example : 100 mm bir şaft için - 100 mm a for shaft = 100x0,020 ile 0,025
= 2 mm ile 2,5 mm arasıdır.

Bu örnekle diğer çapları bulabilirsiniz. - The ofter shafts can be calculated from the above example.

Lastik yataklarda yüzeyde taşıma basıncı 4 bardır.(4KG/cm^2)

The surface carrying pressure on the rubber bearings is 4 bars (4 KG/cm²)

Şaft Çapı – Shaft Diameter D (cm)
Yatak Boyu – Bearings Length L (cm)
Yatağın Taşıma Kapasitesi KG - The Carrying Capacity of The Bearings KG = $\frac{DxπxLx4}{3}$

Örnek –Example:
Ø100 MM olan Şaftın Taşıma Kapasite - The Carrying Capacity of Ø100 mm Bearing: = $\frac{10x3,14x40x4}{3}$ = 1675 KG

Lastik yataklarda çevresel max. hız 8 m/sn - The maximum peripheral speed of the rubber bearings is 8 m/sec.

Şaft Çapına Göre Hız Dev/ Dak - The speed according to the shaft diameter (rpm) = $\frac{480000}{Dxπ}$

Örnek – Example:
D=100 MM Şaft Çapı - Shaft diameter D = 100 mm;
Şaft Çapına göre Hız Dev/Dak - The speed according to the shaft diameter = $\frac{480000}{100x3,14}$ = 1528 Dev/Dak

Kullanılması gereken minimum su miktarı - The minimum amount of water to be used;

Litre / saat = 0,008 x D x L , Şaft çapı - Shaft Diameter - D mm , Yatak boyu - L mm - Liter / hour = 0.008xDxL

Örnek– Example

Şaft çapı - Shaft diameter = 100mm
Litre / saat - Liter / hour = 0,008x100x400=320 L / s
Lastik yataklarda çalışma sıcaklığı -40°C+70°C' dir.
The operating temperature range of the rubber bearings is -40°C to +70°c.

Not : Üretimimiz metrik ve withwort sistemine göre yapılmaktadır. Özel ölçüler ve flanşlı bağlantı sistemleri için firmamızı arayabilirsiniz.

Note: Our production is made according to the metric and withworth systems. Please contact our company for the special sizes and flanged connection systems.

Marine & Offshore

Certificate number: 39989/B0 BV
File number: ACM119/2211/1
Product code: 0710H

This certificate is not valid when presented without the full attached schedule composed of 7 sections

www.veristar.com

TYPE APPROVAL CERTIFICATE

This certificate is issued to

ERMAKSAN GEMI TEKNE VE YAN SANAYI
ISTANBUL - TURKEY

for the type of product

BEARING
Rubber bearing - (Diameter 20 mm ~ 355 mm) - (Diameter 7/8" ~ 14")

Requirements:
Bureau Veritas Rules for the Classification of Steel Ships

This certificate is issued to attest that Bureau Veritas Marine & Offshore did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.

This certificate will expire on: 30 Jan 2025

For Bureau Veritas Marine & Offshore,
At BV ISTANBUL, on 30 Jan 2020,
Gurcan Yilmaz

This certificate remains valid until the date stated above, unless cancelled or revoked, provided the conditions indicated in the subsequent page(s) are complied with and the product remains satisfactory in service. This certificate will not be valid if the applicant makes any changes or modifications to the approved product, which have not been notified to, and agreed in writing with Bureau Veritas Marine & Offshore. Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on board vessels to which the amended regulations or standards apply. This certificate is issued within the scope of the General Conditions of Bureau Veritas Marine & Offshore available on the Internet site www.veristar.com. Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against Bureau Veritas Marine & Offshore for any liability arising out of errors or omissions which may be contained in said document, or for errors of judgement, fault or negligence committed by personnel of the Society or of its Agents in establishment or issuance of this document, and in connection with any activities for which it may provide.

Certificate No: TO.DEB.17-1353-10

TÜRK LOYDU

TYPE APPROVAL CERTIFICATE

This Certificate consists of 3 pages.

This is to certify that the

RUBBER BEARING

Manufactured by

ERMAKSAN GEMİ VE TEKNE YAN SANAYİ-TASVİRE ORAK
Tuzla-ISTANBUL/TURKEY
Is found to comply with

TS 2887 /ISO 2781 Rubber, vulcanized – Determination of density. TS / ISO 7619-1 Rubber, vulcanized or thermoplastic – Determination of indentation hardness. TS 1967 / ISO 37 Rubber, vulcanized or thermoplastic – Determination of tensile stress / strain properties, TS 4698 / ISO 34-1 Rubber, vulcanized or thermoplastic – Determination of tear strength. TS 4595 / 815 Rubber, vulcanized or thermoplastic – Determination of compression set at ambient, elevated or low temperatures . TS 11007 / ISO 4649 Rubber, vulcanized or thermoplastic. Determination of abrasion resistance using a rotation cylindrical drum devices. TS 9568 / ISO 4662 Rubber – Determination of rebound resilience of vulcanized. TS 1969 / ISO 188 Rubber vulcanized or thermoplastic Accelerated ageing and heat resistance test. TS2680 / ISO 1431-1 Rubber, vulcanized or thermoplastic – Resistance to ozone cracking. TS 3563 / ISO 1817 Rubber, vulcanized – Determination of the effect of liquids TS / ISO 813 Rubber, vulcanized or thermoplastic of adhesion to a rigid substrate and Türk Loydu Materials Rules for Classification of ship.

Application : Rubber Bearing to be used Ships, Tugs and Marine Industry.

Design : ERMAKSAN GEMİ VE TEKNE YAN SANAYİ-TASİRE ORAK

Sizes : See Attached Appendix

Address of Manufacturer : Aydıntepe Mah.Vural Sokak No:13
Tuzla-ISTANBUL/TURKEY

Place and date : Tuzla-ISTANBUL / 17.10.2018

Subject to the conditions referred to 2nd pages, this certificate is valid until 07.10.2023.

Emrah SÖĞÜTÇÜ
New Building Division Manager

Ulaş DEMİR
Surveyor

79256

ERMAKSAN
GEMİ KAUÇUK SANAYİ
www.ermaksangemi.com

ÇANAK VİBRASYON TAKOZU
Bowl-Type Vibration Chocks





ÇANAK VİBRASYON TAKOZU

Bu takozlar dik konumda veya max 15º eğimli yerlerde emniyetle kullanılır.Çanak tipi dizaynı gereği yatay titreşimleride yok eder. Lastik sertliği 55 shore Q=kg/mm max.yük/esneme miktarı, 20 º de

- Lastik sertliği 40 shore olan çanak takozlarda üretmekteyiz. Q=kg taşıma değeri ½ kg daha azdır
- Çanak tip vibrasyon takozları gemi egzoz sisteminde kullanıldığı zaman taşıyıcı kulak ile vibrasyon takozu arasına ısı izalasyon malzemesi koyulmalıdır.

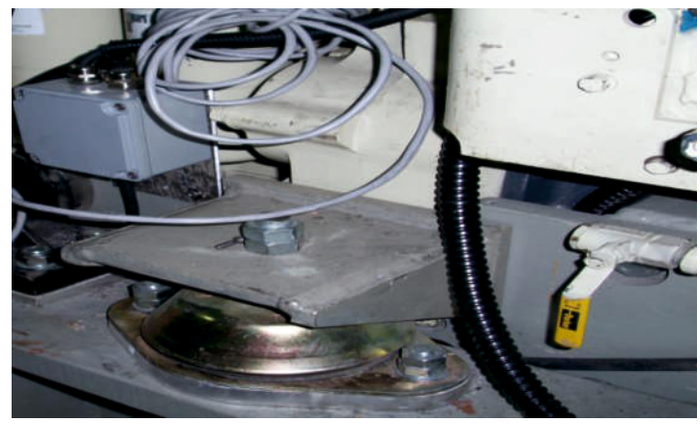
Örneğin; 10 – 20 mm kalınlığında Fiber levha ve diğerleri.

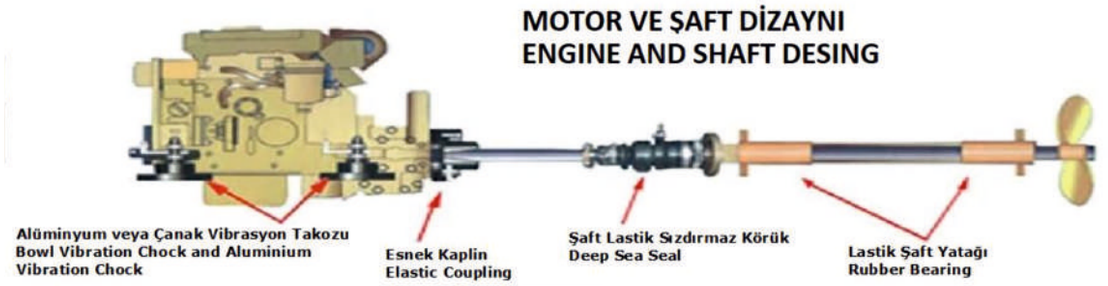
BOWL-TYPE VIBRATION CHOCKS

Those chocks are used safely in vertical position or at an angle of maximum 15º. The bowl type can also eliminate the horizontal vibrations due to its design. The rubber hardness is 55 shore, Q=kg/mm, max. load/flexion at 20º

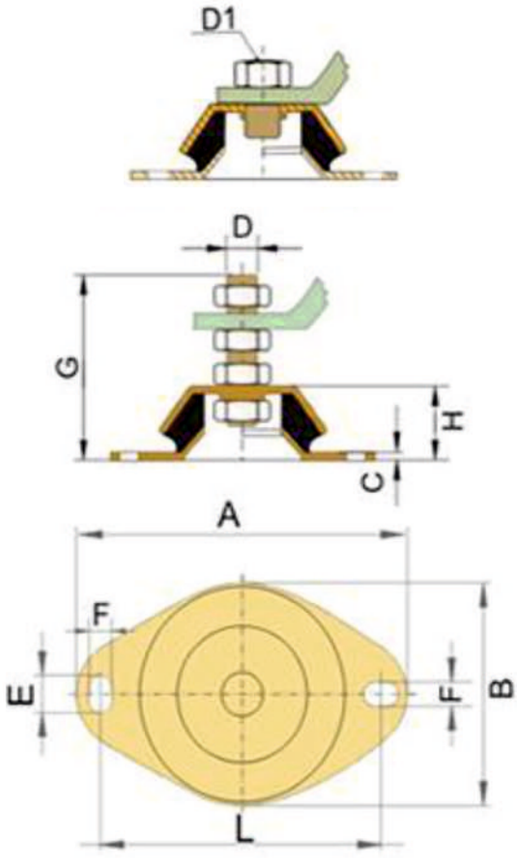
- We also produce bowl-type chocks with a rubber hardness of 40 shore. The supporting value, Q=kg, is ½ kg less.
- When bowl type vibration chock are used in the ship's exhaust system, heat insulation material should be placed between the carrier bracket and the vibration chock.

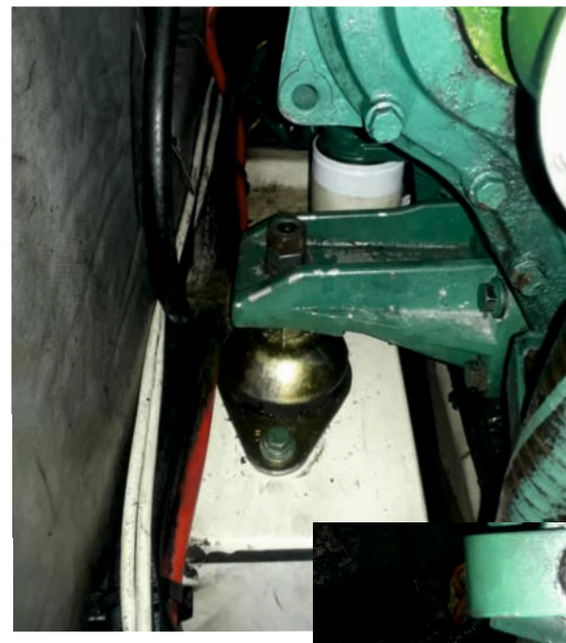
For example; 10 - 20 mm thick Fiber and others.





ÇANAK VİBRASYON TAKOZU
Bowl-Type Vibration Chocks





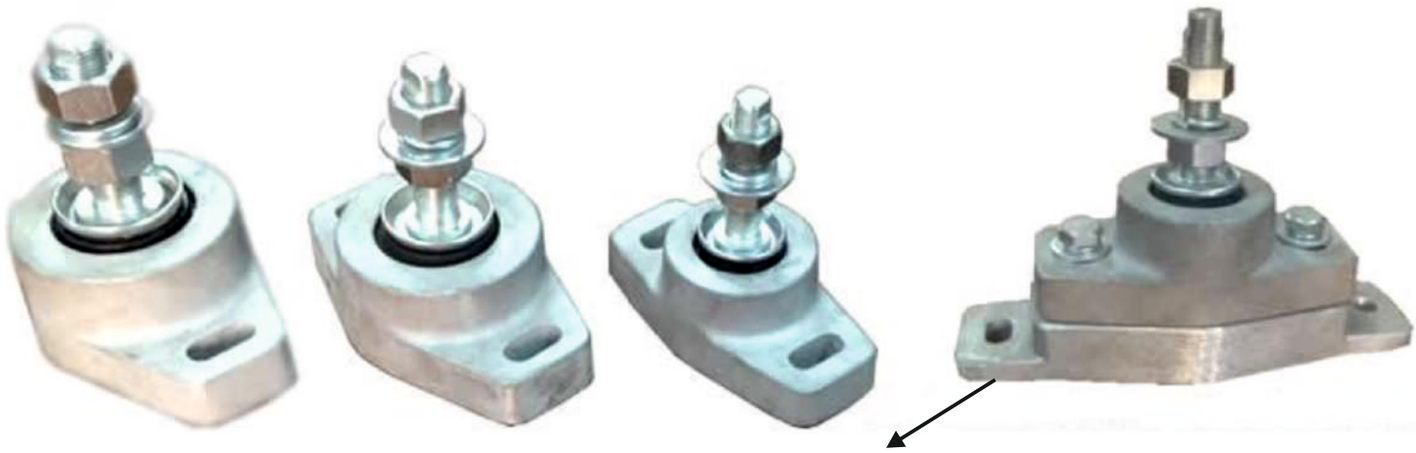


KOD - TYPE	A	B	C	E	F	G	H	L mm	L inch	Q Kg/mm	D	D1	Ağırlık Weight KG.
ÇVT0	79	48	2.5	8.5	6.5	55	24	65	2 ½"	10/1	M8	M8x20	0,120
ÇVT1	96	61	2.5	10	8.2	60	28	75	3"	25/1.5	M8	M8x20	0,170
ÇVT2	106	64	2.5	14	8.4	75	33	85	3 ½"	50/2	M10	M10x25	0,230
ÇVT3	121	77	3	18	11.5	95	38	100	4"	120/2	M12x1.5	M12x1.5x30	0,360
ÇVT4	164	99	4	17	11	115	45	125	5"	200/3	M14x1.5	M14x1.5x35	0,730
ÇVT5	186	114	5	20	13	130	51	140	5 ½"	300/3	M16x1.5	M16x1.5x40	1110
ÇVT6	206	128	5	23	15	140	60	160	6 ½"	650/3	M18x1.5	M18x1.5x45	1,600
ÇVT7	228	144	5	26	17	160	65	180	7 ¼"	1100/3	M20x1.5	M20x1.5x50	2,100
ÇVT8	250	162	5	33	17	170	70	200	8"	1600/3	M20-M22	M20-22x60	2,960
ÇVT9	304	205	6	36	20	180	75	250	10"	3000/3	M24-	M24-27x70	4,920

ALÜMİNYUM GÖVDELİ VİBRASYON TAKOZLARI
Alüminum Construction Vibration Chocks

ALÜMİNYUM GÖVDELİ VİBRASYON TAKOZLARI AVT (1-1A-2-2A-2B-3)

ALUMINUM CONSTRUCTION VIBRATION INSULATOR AVT (1-1A-2-2A-2B-3)



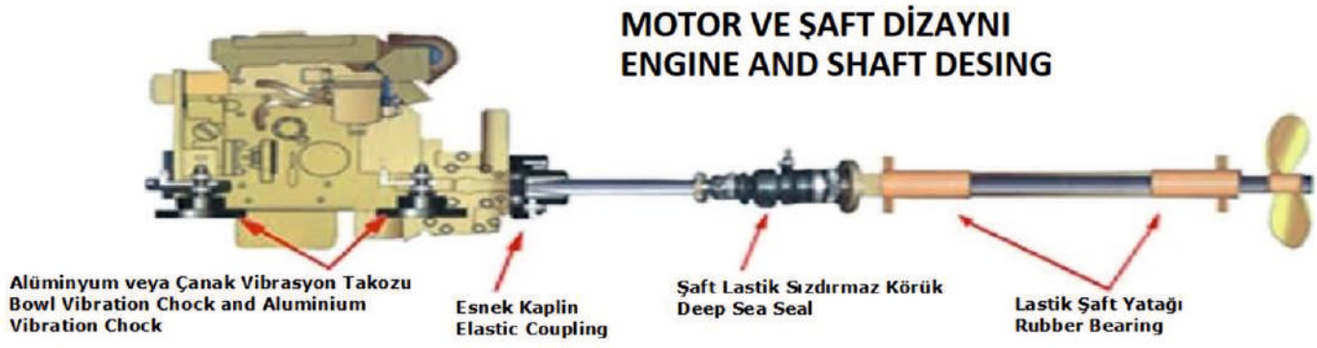
Alt bağlantısı adaptörlü vibrasyon takozu
Sub connection vibration mounting wint adapter

ALÜMİNYUM GÖVDELİ VİBRASYON TAKOZLARI

Bugüne kadar vibrasyon önleyici olarak dikey montaj için lastik takozlar yapılmıştır yani kendi halinde duran bir makinanın sarsıntısı yok edilmeye çalışılmıştır. Oysa ERMAKSAN imalatları marinlerde bütün motorun (pervanenin) itme gücü motor bağlantı takozlarındadır. ERMAKSAN vibrasyon takozları ileri,geri,aşağı,yukarı kuvvetlere göre dizayn edildiğinden her pozisyonda vibrasyonu en aza indirmektedir. Bu nedenledir ki marinlerin dışında da kullanılmaktadır. (jeneratör,kompresör) gibi. Aşağıdaki çizelgede motorun ağırlık durumuna göre seçebileceğiniz tipler mevcuttur.

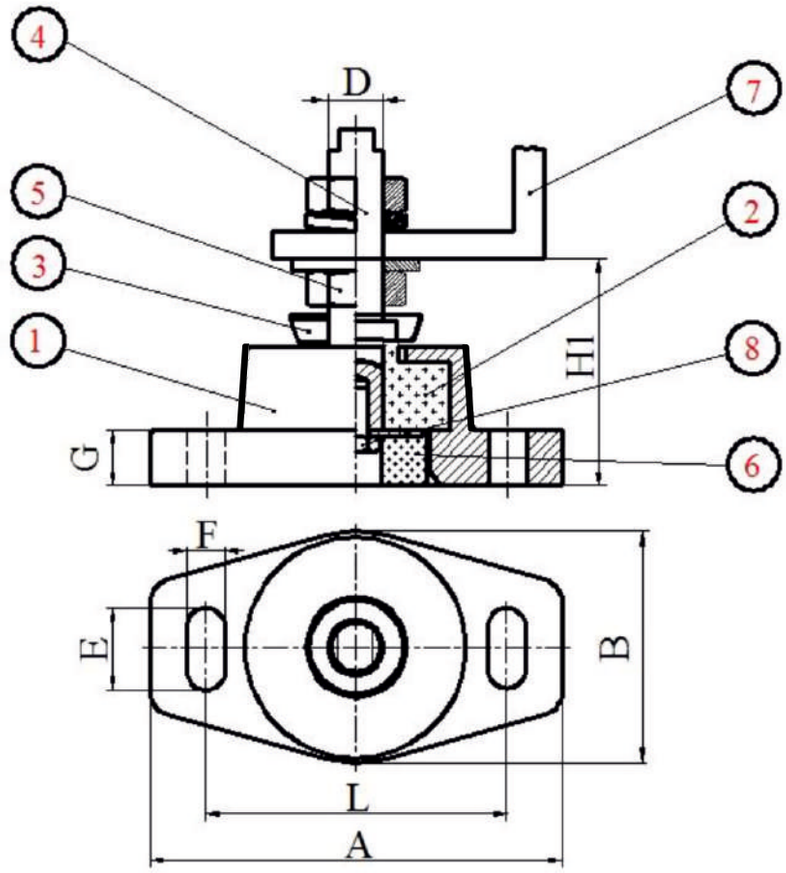
ALUMINUM CONSTRUCTION VIBRATION CHOCKS

So far vertical mount rubber chocks have been made as vibration suooressors; that is, te efforts have been directed to eliminate the vibraions generated by a free-standing engine. But with the ERMAKSAN made marine products, the entire propulsive power of the engine (propeller) is born by the engine mounting chocks (blocks). Because ERMAKSAN vibration chocks are designed for forward, backward, upward and downward forces, they minimize the vibrations for each position. Therefore, they are used for other apllications than marine use as well (generators, compressors etc.). The types selectable according to the weight of the engine are given in the table below.



ALÜMİNYUM GÖVDELİ VİBRASYON TAKOZLARI

Alüminum Construction Vibration Chocks



1	ALÜMİNYUM GÖVDE	1	ALUMINYUM BODY
2	ORTA LASTİK BURÇ	2	CENTER RUBBER BUSHING
3	YAĞ TOPLAMA ÇANAK SAÇI	3	OIL COLLECTION BOWL SHEET
4	BAĞLANTI MİLİ	4	CONNECTION SHAFT
5	MOTOR AYAR SOMUNU	5	ENGINE ADJUSTING NUT
6	LASTİK BESLEME-DÜZ PUL	6	RUBBER FEEDING-STRAIGHT WASHER
7	MOTOR BAĞLANTI AYAĞI	7	ENGINE MOUNTING FOOT

KOD-TYPE	A	B	D	E	F	G	H1	L		POZ 8	SHORE	Z	AĞIRLIK WEIGHT
AVT 1	139	68	M16x1,5	28	12,5	22	70	100	4"	M10x20	50	150/3	0,850KG
AVT 1A	139	68	M16x1,5	28	12,5	22	70	100	4"	M10x20	65	300/3	0,850KG
AVT 2	165	96	M16x1,5	28	13	25	75	133-*127	5¼"-5"	M12x20	65	500/3	1,580KG
AVT 2A	165	96	M18x1,5	28	13	25	75	133-*127	5¼"-5"	M12x20	65	500/3	1,580KG
AVT 2B	165	96	M20x1,5	28	13	25	75	133-*127	5¼"-5"	M12x20	65	500/3	1,580KG
AVT 3	183	104	M24x2	33	16	27	90	140-*127	5½"-5"	M14x25	70	800/3	2,120KG

Z : Ağırlığa göre / ortalama esneme miktarı (kg / mm)

Z : According to weight / avarage stretching quantity (kg/mm)

ALÜMİNYUM GÖVDELİ VİBRASYON TAKOZLARI
Alüminum Construction Vibration Chocks

ALÜMİNYUM GÖVDELİ VİBRASYON TAKOZLARI AVT (3A-4-4A-5-6)

ALUMINUM CONSTRUCTION VIBRATION INSULATOR AVT (3A-4-4A-5-6)



ALÜMİNYUM GÖVDELİ VİBRASYON TAKOZLARI TİP AVT (3A-4-4A-5-6)

AVT(3A-4-4A-5-6)modellerimiz diğer modellerimize göre AVT(1-1A-2-2A-2B-3) daha fazla yük taşıyabilen ve Marinlerde makine altına takıldığı zaman ‘’Line’’ ayarı 5 No.lu parça (Motor Ayar Somunu) ile rahat bir şekilde yapılabilen vibrasyon takozlarıdır.

Bu modellerimiz, montaj sırasında Poz 9 No.lu saplama somunları ile kontra yapılarak sıkılabilir, söküm durumunda da makine yukarı vinç sistemiyle kaldırılmadan çıkarılabilir ve tekrar montaj yapılabilir.

Vibrasyon Takozlarımız çeşitli sertliklerde (Shore A) yapılır.Sertlik oranına göre yük altında uğrayacağı deformasyon,vibrasyon ve salınımlar farklılık gösterir.Marin tipi motorlarda makinenin fazla sallanması, titreşime maruz kalması istenmeyen bir durumdur ve şaft,kovan ve yatak bölgelerine zarar verir.

Vibrasyon Takozu seçimi;Marin tipi motorlarda 1HP(BG) gücün itme kuvveti ortalama 10 kg’dır (98,1N). Bu değer Römorkör sistemlerinde 13 kg/HP(BG) civarındadır.

Örnek: 200HP Marin motorda kullanılması gereken vibrasyon takozu ve sayısı;

200 HP motorun İtme Gücü(ort.)= 200 HP x 10 kg=2000 kg
Kullanılması gereken vibrasyon takozu = 2000kg/4adet = 500 kg/Adet

Bu sonuç doğrultusunda çizelgeye bakıldığında Z değerine göre kullanılması gereken vibrasyon takozu AVT-2’dir.Bu değerlerde bile vibrasyon takozlarımızın Emniyet Kat Sayısı 2-3’tür.Büyük değerlerde takoz adedi 6 veya 8’e çıkarılabilir.
Kuvvet değerleri Newton’a da dönüştürülebilir. 1kg=9,81N , 1000N=1kN dur.
Daha geniş bilgi almak için Lütfen firmamızla iletişime geçiniz.

ALUMINUM CONSTRUCTION VIBRATION INSULATOR TYP AVT (3A-4-4A-5-6)

AVT (3A-4-4A-5-6) are the vibration insulators that able to carry more loads with respect to other models (AVT 1 - AVT 1A - AVT 2 - AVT 2A - AVT 2B - AVT 3) and when they are placed under the machines in the marines, with the No. 5 tool (motor adjuster nut), it is very easy to make any required adjustments.

In these models, during the montage, it is also possible to use No. 9 pivot nut to

ALÜMİNYUM GÖVDELİ VİBRASYON TAKOZLARI
Alüminum Construction Vibration Chocks

Tighten, during the disassembly it does not need any lifter to be lifted as well and they become available for re-montage again.

Our insulators are being produced in a variety of rigidities (Shore A). The deformation, vibration and oscillations of the insulator that it will be subjected to load, of course, will differ with accordance to the rigidity of the insulator. In marine type of motors, it is not wanted the motor's exposition to vibration since it will harm the shaft, gear housing and bearing.

The Selection of Vibration Insulator: In marine type motors, 1HP refers to 10 Kg (98,1N) as a repelling force. That value is close to 13 kg/HP in tugboats.

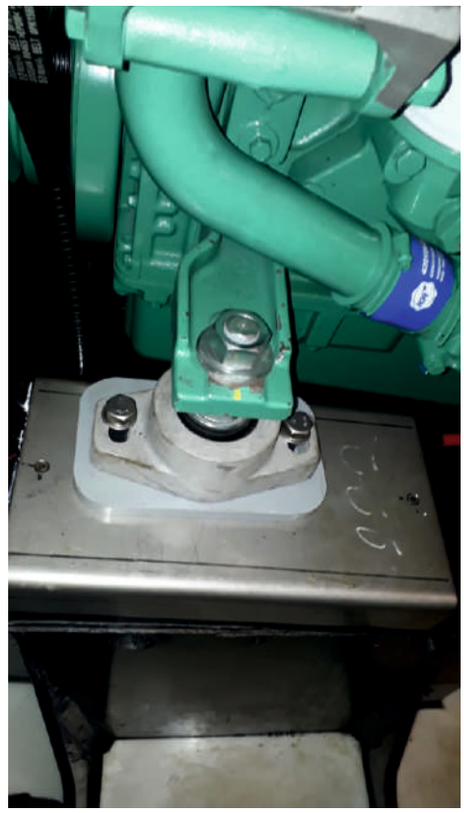
For instance: The type of insulator and numbers of it to be used in 200HP Marine motors;

The repelling force of 200HP motor (approximately)= 200HP x 10 Kg = 2000 kg
The type of vibration insulator that is required = 2000kg/4insulators = 500 kg/insulator

That means, for the result, according to Z values, AVT-2 is the vibration insulator that we should use. In such values security coefficient of our insulators is 2-3. For greater values, numbers of insulators may increase to 6 or 8.

Values of forces can be transformed to Newton. 1kg=9,81N , 1000N=1kN.

For detailed information, please contact us.

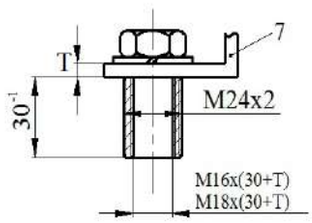




ALÜMİNYUM GÖVDELİ VİBRASYON TAKOZLARI
Alüminum Construction Vibration Chocks

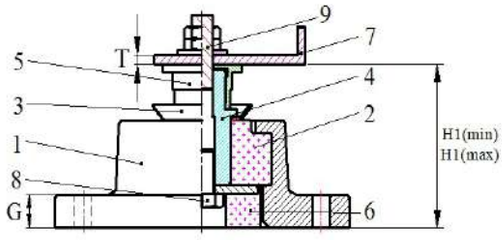




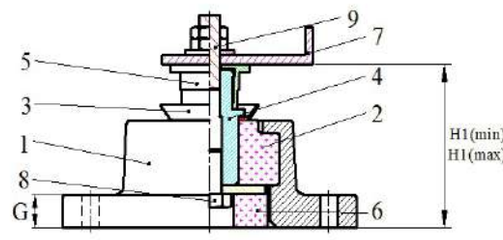
VİDALI MONTAJ ADAPTÖR



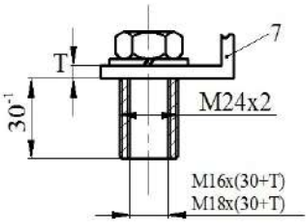
AVT 3-A - AVT 4 - AVT 4-A

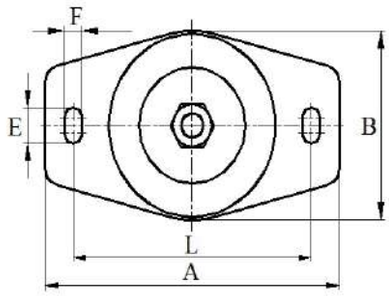


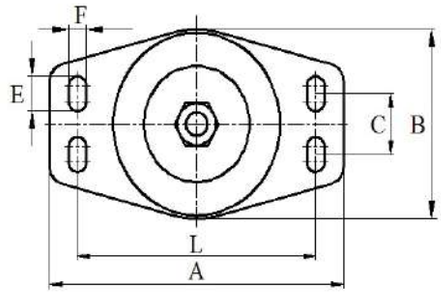
AVT 5 - AVT 6



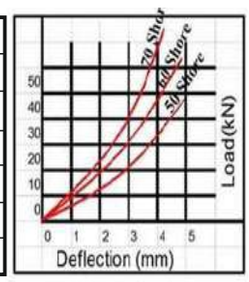
SCREW MOUNTING ADAPTER







1	ALÜMİNYUM GÖVDE	1	ALUMINUM BODY
2	ORTA LASTİK BURÇ	2	CENTER RUBBER BUSHING
3	YAĞ TOPLAMA ÇANAK SACI	3	OIL COLLECTION BOWL SHEET
4	BAĞLANTI MİLİ	4	CONNECTION SHAFT
5	MOTOR AYAR SOMUNU	5	ENGINE ADJUSTING NUT
6	LASTİK BESLEME DÜZ PUL	6	RUBBER FEEDING-STRAIGHT WASHER
7	MOTOR BAĞLANTI AYAĞI	7	ENGINE MOUNTING FOOT



KOD-TYPE	A	B	C	E	F	G	L	H1 MİN	H1 MAX	Z	SHORE	POZ8	POZ9	AĞIRLIK WEIGHT
AVT-3-A	210	117	-	36	18	29	160 (6 ½")	100	115	900/3	A-70	M16x30	M24x2x100	**3,300 KG**
AVT-4	235	135	-	38	19	30	180 (7 ⅛")	110	125	1200/3	A-70	M20x30	M24x2x110	**4,450 KG**
AVT-4-A	260	145	-	38	21	30	200 (7 ⅞")	120	135	1800/3	A-70	M20x40	M24x2X120	**5,570 KG**
AVT-5	310	185	60	36	19	35	250 (9 ⅞")	150	165	2500/3	A-70	M24x40	M30x2x140	**10,200 KG**
AVT-6	375	250	70	40	22	38	300 (11⅞")	185	210	4000/3	A-70	M27x50	M36x3x160	**17,200 KG**

Z : Ağırlığa göre / ortalama esneme miktarı (kg/mm)
Z : Acording to weight / avarage stretching quantity (kg/mm)

Not : (Avt 3-A / Avt 4 / Avt 4-A) Modelleri bağlantı saplama kısmı civatalı adaptör sistemi ile civata ile bağlanabilir.
Note: (Avt 3-A / Avt 4 / Avt 4-A) Models can be connected with bolts with bold adapter system.

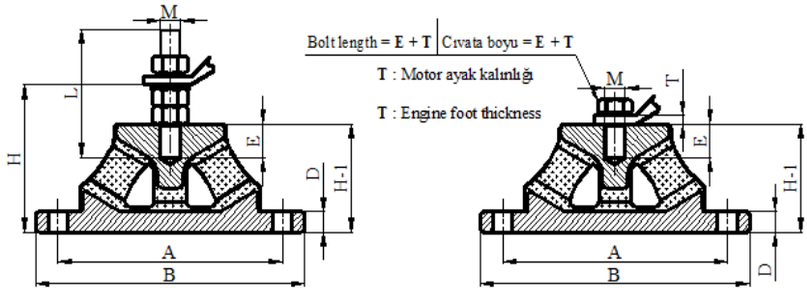
(KTVT) KÖPRÜ TİP VİBRASYON TAKOZU
Arch Type Vibration Chocks

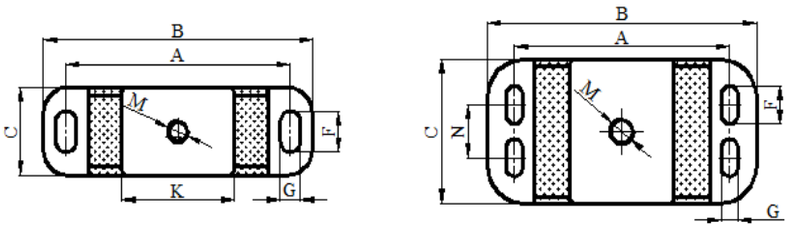


Köprü tipi vibrasyon takozları üretimini yaptığımız bu tip vibrasyon takozları ileri,geri,aşağı,yukarı kuvvetlerde lastiğin diğer takozlarımızdan daha kalın olması ve ileri,geri hareketlerinde iki açısal yüzeye ve üst bağlantı parçasınında açılı olması sebebiyle bu yüzey kuvvetleride ve vibrasyonu daha esnek bir şekilde karşılamaktadır.

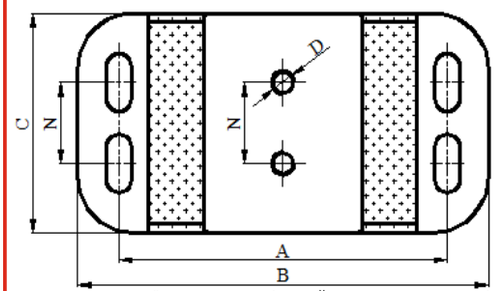
Aşağıdaki detay ölçülerindede görüleceği gibi köprü sistemi ayaklar ve destek lastikleri ile kuvvetlendirilmiştir.Ürün kodlarımız şu şekilde ifade edilir; **"E: vibrasyon takozunun bağlantı ekseni mm ve inch şeklinde ifade edilir."**

Örneğin: E:100-E:105-E:125-E:140-E:160-E:175-E:180-E:200-E:250-E:300 gibi.





TYPE : KTVT E:250 - E: 300



KTVT E:250 - E:300 ÜSTTEN TEK ve ÇİFT BAĞLANTILI 2 AYRI MODELİ VARDIR.

KTVT E:250 - E:300 THERE ARE 2 SINGLE AND DOUBLE CONNECTED 2 DIFFERENT MODELS FROM ABOVE.

TYPE : KTVT	A	B	C	D	N	AĞIRLIK-WEIGHT-KG.
KTVT-E:250	250 - 9 7/8"	315	156	M20	60	6,650
KTVT-E:300	300 - 11 7/8"	375	190	M20	70	10.200

Z: AĞIRLIĞINA GÖRE ORTALAMA ESNEME MİKTARI (kg/mm)

Z: ACCORDDING TO WEIGHT AV AREGE STRETCHING QUANTITY (kg/mm)

TYPE KTVT : KÖPRÜ TİP VİBRASYON TAKOZU DETAY ÖLÇÜLERİ
TYPE KTVT : ARCH TYPE VIBRATION CHOCKS DETAIL DIMENSIONS

TYPE : KTVT	A	B	C	D	E	F	G	H mim - max	H-1	K	L	M	N	Z SERTLİK - HARDNESS SHORE A+3 MAY BE TOLERANCE SHORE A:40	SHORE A:50	SHORE A:60	SHORE A:70	AĞIRLIK WEIGHT KG
KTVT - E:100	100 - 4"	130	60	14	15	25	12	72 - 90	50	55	75-(85)	M12-(M16)	-	170/3	270/3	300/3	600/3	0,700
KTVT - E:105	105 - 4 1/8"	126	49	11	15	Ø10	Ø10	72 - 90	50	53	75	M12	-	95/3	150/3	240/3	310/3	0,500
KTVT - E:125	125 - 127 - 5"	152	50	11	20	19	10	80 - 100	56	61	85	M14	-	80/3	170/3	190/3	225/3	0,700
KTVT - E:140	140 - 5 1/2"	170	60	12	20	24	12	85 - 115	66	68	95	M16	-	90/3	190/3	225/3	335/3	1,000
KTVT - E:160	160 - 4 1/4"	200	95	17	25	32	16	88 - 110	65	73	105	M18	-	260/3	400/3	435/3	760/3	1,750
KTVT - E:175	175 - 6 7/8"	210	65	15	25	29	14	103 - 120	80	85	95	M16	-	120/3	230/3	280/3	400/3	1400
KTVT - E:180	180 - 7 1/8"	225	110	20	30	35	18	100 - 130	75	89	120	M20	-	270/3	530/3	650/3	1000/3	2,700
KTVT - E:200	200 - 8"	260	125	22	30	45	22	110 - 145	80	95	120	M20	-	360/3	550/3	680/3	1260/3	3,350
KTVT - E:250	250 - 9 7/8"	315	156	25	45	40	20	140 - 160	100	120	150	M24	60	43 5/3	83 0/3	930/3	1680/3	6,500
KTVT - E:300	300 - 11 7/8"	375	190	25	45	50	22	157 - 178	116	145	160	M30	70	600/3	1250/3	1500/3	2300/3	10,600

NOT : (T) ÖLÇÜSÜNÜ MOTOR AYAK KALINLIĞINI İFADE EDER. BU ÖLÇÜLERDE DEĞİŞİKLİK GÖSTEREBİLİR.
CİVATA BOYUNU BULMAK İÇİN (E) DİŞ DERİNLİK ÖLÇÜSÜNSÜ+(T) MOTOR AYAK KALINLIĞININ ÖLÇÜSÜNÜ TOPLAYIP BULABİLİRSİNİZ.

BU RESİM ERMAKSAN'IN MALI OLUP HİÇ BİR ŞEKİLDE DAĞITILAMAZ,
KOPYALANAMAZ. HER TÜRLÜ DEĞİŞİKLİK YAPMA HAKKI SAKLIDIR.

ERMAKSAN
GEMİ KAUÇUK SANAYİ

(KTVT) KÖPRÜ TİP VİBRASYON TAKOZU

Arch Type Vibration Chocks

Her modelimizin dört çeşit lastik sertliği vardır.Shore A 40,50,60,70 sertlikleri vardır ve her delik eksenine göre absorbe edecek güçte **(E)** eksen bulunabilir.
KTVT-E:175 – 6 7/8" kodlu olan vibrasyon takozumuz **YANMAR** makine takozu eksenlerine uygundur ve daha esnek (flexible) dır.
Diğer motor takozlarına da çok rahat bir şekilde bağlanılabilir.

KTVT köprü tipi vibrasyon takozunun motorunuza göre seçimi şu şekilde yapabilirsiniz.
Motorunuz marin tipi ise çizelgede "**Z"** ile gösterilen kg/mm esnemeyi ifade eder.

Yukarıda sertlik; Shore A: 40 , 50 , 60 , 70 olarak verilmiştir.Çizelgede 3 mm deki esneme kg değeri 10'a bölündüğünde çıkan rakam bir vibrasyon takozuna gelen (HP) beygir gücüdür 4 ile çarpıldığında motorun gücünü bulmuş olursunuz bu değer emniyet katsayılıdır.

Örnek: 80 HP gücünde motorun eski takoz ekseni E:140 ise yine aynı eksene KTVT E:140, Shore A 50 sertlikteki vibrasyon takozunu kullanmalısınız çünkü;

Z değeri = 190/3 mm dir;
Örnek: 190 /10 = 19 HP x 4 = 76 HP ifade eder.

Marin dışında jenaratör kompresör vibrasyonla iligili başka makinelerde vidalı sistemi kullanabilirsiniz ve 3 mm esnemedeki kuvveti alarak montaj yapılan takoz miktarı ile çarparak taşıma gücünü bulabilirsiniz bu kuvvet maksimumdur %50 kuvvete kadar düşürülebilir.











(KTVT) KÖPRÜ TİP VİBRASYON TAKOZU
Arch Type Vibration Chocks

(KTVT) ARCH TYPE VIBRATION CHOCKS

Due to that the rubbers of the arch type vibration chocks are thicker than this arch type vibration chocks that we produce at forward-backward, upward-downward movements, they have two angular surfaces and upper connecting piece is angular at forward-backward movements, this surface meets forces and vibration more flexibly.

Also as it will be seen in the following detail sizes, the arch system is strengthened with the feet and support rubbers. Our product codes are expressed as follows;

"E: connection axis of the arch type vibration chocks is expressed as mm and inch."

For example:Such as **E:100-E:105-E:125-E:140-E:160-E:175-E:180-E:200-E:250-E:300**

Each of our models has four types of tire hardness. Shore A has hardnesses of 40,50,60,70 and there can be an **(E)** axis strong enough to absorb it according

to each hole axis.

Our KTVT arch type vibration chocks with KTVT-E:175 - 6 7/8" code is appropriate to **YANMAR** machine mount axes and it is more flexible. It can be easily connected to other engine mounts.

You may make selection of the KTVT arch type vibration chocks according to your engine.

If your engine is marine type, the ones shown as **"Z"** in the chart express kg/mm flexion.

The following hardness was given as Shore A: 40 , 50 , 60 , 70. The figure when the flexion kg value at 3 mm of the chart is divided into 10 is (HP) horsepower value corresponding to anti-vibration chocks. When multiplying with 4, you may find the power of the engine, this value is safety coefficient.

Example: If the old chock axis of the 80 HP in power is E: 140, you should use the vibration chock with KTVT E: 140, Shore A 50 hardness on the same axis because;

Z value is equal to 190/3 mm;

It expresses 190 /10 = 19 HP x 4 = 76 HP.

You may use the screw system at other machines related to the generator compressor vibration except marine.

and you can find the carrying power by taking the force from the 3 mm stretch and multiplying it with the amount of wedge assembled. This force is maximum. It can be reduced to 50% force.

DİKKAT !!! - Vibrasyon takozu ve lastik flexible kaplinlerinizi yağdan ve motorinden koruyunuz.

IMPORTANT: Protect your vibration chock and flexible rubber couplings from oil and motorine.

Teknik bilgi için firmamızı arayabilirsiniz.

LASTİK ŞAFT SIZDIRMAZ KÖRÜK SİSTEMİ
Marine Shaft Seal Systems



LASTİK ŞAFT SIZDIRMAZ KÖRÜK SİSTEMİ

Bu sistemler bir sürtünme diski ile sürtünme bileziğinin birbirine sürterek çalışması ile sızdırmazlık sağlanmıştır. Genellikle şaftlarda salmastra sisteminin yerine kullanılmaktadır. Salmastra sistemin de salmastra şaftı sıktığı için motora güç kaybettirmektedir. Körük sisteminde, salmastra takma derdi yoktur. Sızdırmaz körük sisteminde sürtünme olayı çok düşük bir kuvvet olduğundan ve sızdırmazlık olmadığından tekneniz her zaman kuru kalacaktır. Sistemde körük ve gövde lastiği yağlara ve kimyasallara dayanıklı kauçuktan imal edilmiştir.

NOT: Şaft üzerindeki körük kısmı herhangi bir arıza durumunda emniyet kelepçe boğazı olan kısım kelepçe ile sıkılarak suyun damlama pozisyonunda bırakılarak bu şekilde körüksüz olarak kullanılabilir. Körük baskı kuvvetini körük ayar bileziği ile ayarlayınız körükteki iki boğum arası birbirine birleşmemeli sızdırmayacak kadar (3-8mm) arası sıkınız. Su verme ve hava alma yerinden su verilirse iyi olur, kuru kalmaz ve dışa gelen tarafındaki yataklara kum ve pislik gelmesini engellemiş olur.
Kullanılan su basıncı max. 0,2 - 0,4 Bar. Veya 3-6 Psi dir. Körük kısmına aşırı basınç gelmemeli eğer basınç fazla ise körüğü şişirmek ister onun için çatal su verme rekoru bağlanır.
Bir taraftan su verilir diğer taraftan denize tahliye eder.

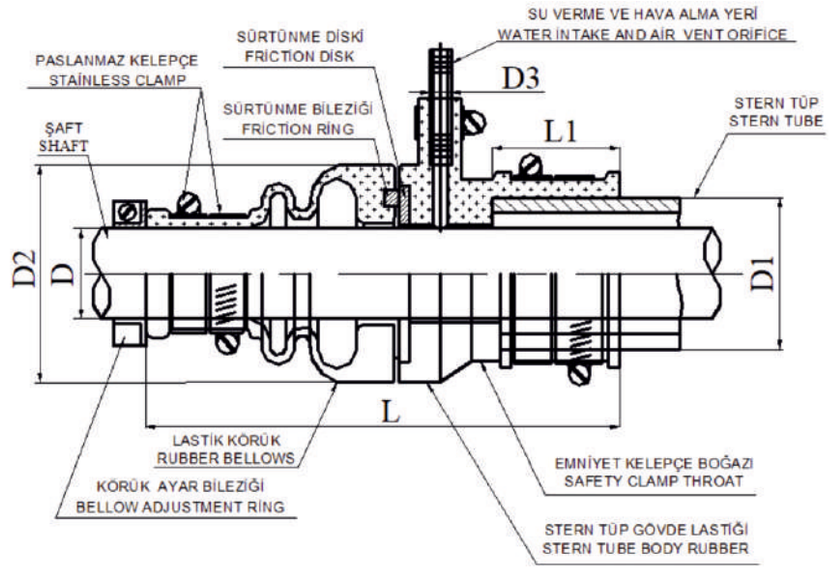
MARİNE SHAFT SEAL SYSTEMS

Those systems provide a good seal using a friction disk and friction ring rubbing to eache other. They are generally used in place of a packing (glen) system on the shafts. In the packing installtion problem is eliminated. with the bellows seal system, the friction force is very small and a good seal is assured, hence the vessel will remain dry at all times. The bellows and rubber body of the system are made of oil chemical-resistant rubber.

NOTE: In case of any failure, the bellows section on the shaft may be tightened with a clamp and left to the dripping position of the water, thus allowing to use the system without the bellows. the bellows pressure force can be adjusted with the billows adjustment ring and the two knuckles in the bellaws must not be joined togethertightened just enough to prevent leaking (3-8 mm.) Sending water entry and venting orifice is better because the system does not remain dry and the ingress of sand and dirt in to bearings at the external glen side is prevented.
The water pressure used is from max. 0,2 to 0,4 bar. or 3-6 psi is. Should not more pressure if the extreme pressure of the bellows to inflate the bellows connects the record did not want to fork water for him. Water is supplied from somewhere on the other hand is connected to discharge into the sea.

LASTİK ŞAFT SIZDIRMAZ KÖRÜK SİSTEMİ

Marine Shaft Seal Systems



KOD-TYPE	D mm	D inch	L mm	L1 mm	D1 mm	D2 mm	D3 mm	Max. Usable Speed RPM/Min	AĞIRLIK KG WEIGHT KG ±
LSK 25	25	1"	145	35	42 - 48	60	6	2500	0,380
LSK 30	30	1 1/4"	165	40	51 - 55	73	6	2200	0,510
LSK 35	35	1 3/8"	185	43	60	84	8	2000	0,820
LSK 40	40	1 1/2"	200	44	65 - 70	93	8	1850	1,000
LSK 45	45	1 3/4"	215	48	70 - 75	108	10	1850	1,510
LSK 50	50	2"	225	50	80 - 90	120	10	1800	1,600
LSK 55	55	2 1/8"	225	50	85 - 90	132	10	1800	1,910
LSK 60	60	2 3/8"	225	50	90 - 100	135	10	1600	2,080
LSK 65	65	2 5/8"	230	50	100	145	10	1500	2,380
LSK 70	70	2 3/4"	230	50	105	150	10	1450	2,400
LSK 75	75	3"	230	50	105	150	10	1400	2,520
LSK 80	80	3 1/4"	235	50	110	155	12	1300	2,540
LSK 85	85	3 3/8"	235	50	115	160	12	1200	2,700
LSK 90	90	3 1/2"	235	50	120	165	12	1100	2,720
LSK 95	95	3 3/4"	235	50	125	170	12	1000	2,930
LSK 100	100	4"	235	50	140 - 145	190	14	1000	3,490
LSK 105	105	4 1/8"	235	50	150	195	14	1000	3,770
LSK 110	110	4 1/4"	235	50	155	200	14	950	3,820
LSK 115	115	4 1/2"	235	50	165	215	16	950	4,440
LSK 120	120	4 3/4"	235	50	175	220	16	900	4,510
LSK 125	125	4 7/8"	235	50	175	220	16	900	4,530
LSK 130	130	5"	250	50	185	230	16	850	5,040
LSK 135	135	5 3/8"	250	50	185	230	16	850	5,050
LSK 140	140	5 1/2"	250	50	195	240	16	800	5,080
LSK 145	145	5 3/4"	250	50	195	240	16	800	5,100
LSK 150	150	6"	250	50	210	250	21	700	5,590
LSK 155	155	6 1/8"	250	50	210	250	21	700	5,620
LSK 160	160	6 1/4"	250	50	220	260	21	600	5,910
LSK 165	165	6 1/2"	250	50	220	260	21	600	5,950
LSK 170	170	6 11/16"	255	50	230	270	26	550	6,800
LSK 175	175	6 7/8"	255	50	230	270	26	550	6,650
***LSK 180**	180	7 1/8"	280	50	240	280	26	550	
***LSK 185**	185	7 5/16"	280	50	240	280	26	550	
***LSK 190**	190	7 1/2"	280	50	250	290	26	550	
***LSK 195**	195	7 11/16"	280	50	250	290	26	550	
***LSK 200**	200	8"	285	50	260	300	33	550	
***LSK 205**	205	8 1/8"	285	50	260	300	33	550	
***LSK 210**	210	8 3/8"	285	50	270	310	33	550	
***LSK 215**	215	8 1/2"	285	50	270	310	33	550	
***LSK 220**	220	8 11/16"	285	50	280	320	33	500	
***LSK 225**	225	8 7/8"	285	50	280	320	33	500	

(*) Arge ve yapım aşamasındadır.
(*) Research and Development and is under construction.

LASTİK ŞAFT SIZDIRMAZ KÖRÜK SİSTEMİ
Marine Shaft Seal Systems













AĞIR TİP SIZDIRMAZLIK SİSTEMİ
Shaft Sealing System For Heavy Duty





AĞIR TİP SIZDIRMAZLIK SİSTEMİ

Ağır hizmet tipi salmastra kutuları gövde bronzdan saplamaları krom olarak imal edilmiş olup şaft sisteminde soğutma suyu verme rekorları ve orta bilezik kısmından yağlanarak kayma sağlamış olur. Büyük şaft sistemlerinde kullanılan bir sistemdir.

Teknik speklerdede görülebileceği gibi 4 nolu şaft keçeleri donyağlı veya teflon ürü salmastıra kullanılabilir. Sızdırmazlık bu sistemde mükemmel bir biçimde sağlanmış olur, sürtünme az olması ve verilen su hem şaft yataklarını ve salmastra kutusunu iyi soğutmuş olur. bu nedenle tercih edilen bir sistemdir.
Daha detaylı bilgi ve değişik ölçüler için firmamızı arıyabilirsiniz.

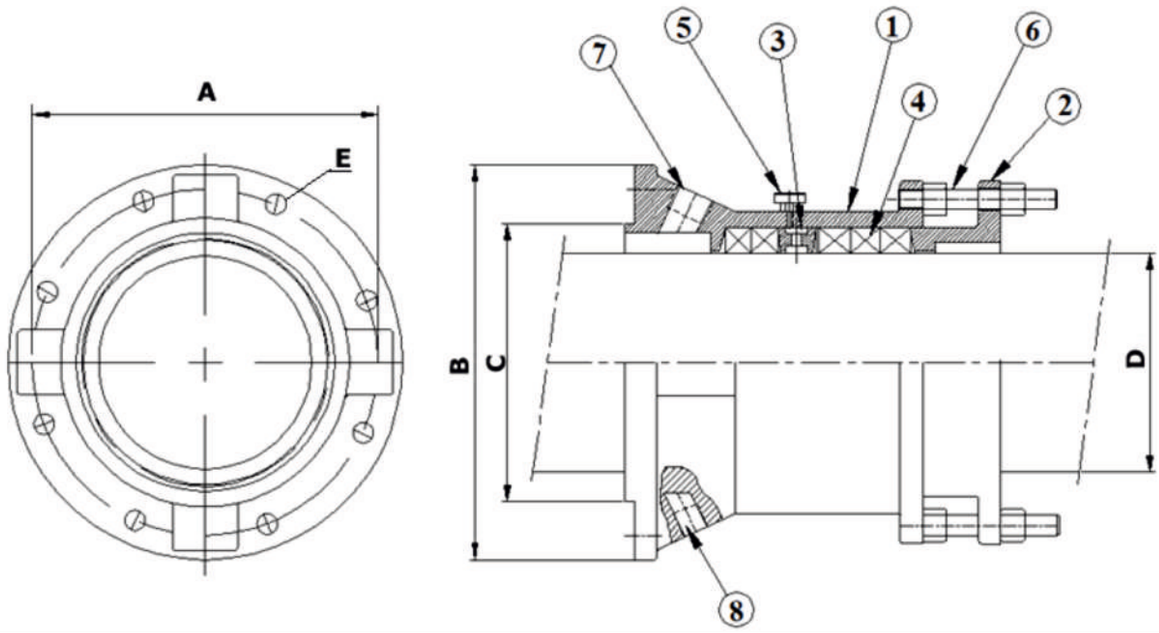
SHAFT SEALING SYSTEM FOR HEAVY DUTY

Generally , Stuffing box to provide a watertight seal for the Heavy Duty propeller shaft. A stuffing box is consist of house, gland seal and pins. House is made of bronze and pins are made of chrome material.It is possible to used gland seal with tallow or teflon. Please, you can see, part no:4 for the typical stuffing box arrangement .

Water and lub oil for gland seal are required to lubricate, when these two items are enough to
provide sufficient lubrication for the box. In this situation that friction is less and water provide more cooling capability for shaft bearings. For the this advantage, stuffing box is preferred.

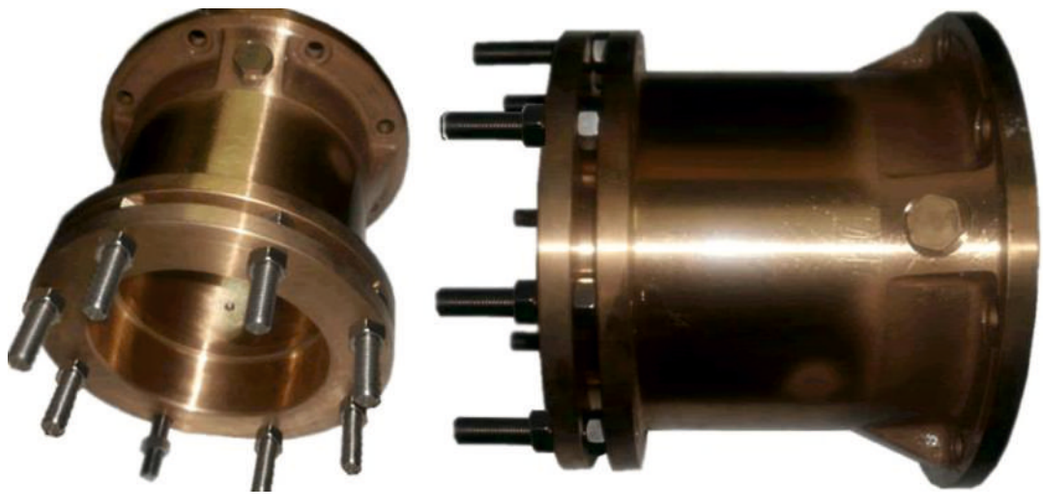
If you have any question and more information, don't hesitate to contact us.

AĞIR TİP SIZDIRMAZLIK SİSTEMİ
Shaft Sealing System For Heavy Duty



NO	PARÇA ADI	PART NAME
1	SALMASTRA GLEN GÖVDESİ	BODY OF PACKING GLEN
2	SALMASTRA BASKISI	PACKING PUSH RING
3	KESTAMİD YAĞLAMA BİLEZİĞİ	CAST POLYAMID LUBRİCATION RING
4	SALMASTRA	SEAL (PACKING)
5	GRASÖRLÜ	GREASE NIPPLE
6	KROM SAPLAMA	CHROME SCREW
7	SU VERME REKORU	FITTING TO FILL WATER
8	SU BOŞALTMA TAPASI	DRAIN PLUG

KOD - TYPE	A	B	C	D	E	4	6	7	8
165 - 170	295	340	230	165 (6 1/2")	8x17	19mm - 3/4"	M16x100	G1"	G3/4"
190 - 195	320	365	260	195 (7 3/4")	8x19	22mm - 7/8"	M18x120	G1 1/4"	G1"
215 - 220	340	365	273	215 (8 1/2")	8x22	25mm - 1"	M20x130	G1 1/2"	G1"
245 - 250	380	420	330	245 (10")	8x22	25mm - 1"	M20x130	G1 1/2"	G1"



Sertifika
Certificate

Certificate No: TO.DEB.17-1353-13

TÜRK LOYDU

TYPE APPROVAL CERTIFICATE

This Certificate consists of 3 pages.

This is to certify that the

MARINE SHAFT SEAL SYSTEM

With type designations

-

Manufactured by

ERMAKSAN GEMİ VE TEKNE YAN SANAYİ-TASVİRE ORAK
Tuzla-ISTANBUL/TURKEY
Is found to comply with

TS 2887 /ISO 2781 Rubber, vulcanized – Determination of density. TS / ISO 7619-1 Rubber, vulcanized or thermoplastic – Determination of indentation hardness. TS 1967 / ISO 37 Rubber, vulcanized or thermoplastic – Determination of tensile stress / strain properties, TS 4698 / ISO 34-1 Rubber, vulcanized or thermoplastic – Determination of tear strength. TS 4595 / 815 Rubber, vulcanized or thermoplastic – Determination of compression set at ambient, elevated or low temperatures . TS 11007 / ISO 4649 Rubber, vulcanized or thermoplastic. Determination of abrasion resistance using a rotation cylindrical drum devices. TS 9568 / ISO 4662 Rubber – Determination of rebound resilience of vulcanized. TS 1969 / ISO 188 Rubber vulcanized or thermoplastic Accelerated ageing and heat resistance test. TS2680 / ISO 1431-1 Rubber, vulcanized or thermoplastic – Resistance to ozone cracking. TS 3563 / ISO 1817 Rubber, vulcanized – Determination of the effect of liquids. TS / ISO 813 Rubber, vulcanized or thermoplastic of adhesion to rigid substrate and Türk Loydu Materials Rules for Classification of ship.

Application : Deep Sea Seal to be used Ships, Tugs and Marine Industry..

Design : ERMAKSAN GEMİ VE TEKNE YAN SANAYİ-TASİRE ORAK

Sizes : See Attached Appendix

Address of Manufacturer : Aydıntepe Mah.Vural Sokak No:13
Tuzla-ISTANBUL/TURKEY

Place and date : Tuzla-ISTANBUL / 17.10.2018

Subject to the conditions referred to 2nd pages, this certificate is valid until 07.10.2023

Emrah SÖĞÜTÇÜ
New Building Division Manager

Ulaş DEMİR
Surveyor

79259

Form No: CE191-09/ 01st January 2018

Page 1 of 3

MOTOR VE ŞAFT DİZAYNI
ENGINE AND SHAFT DESING



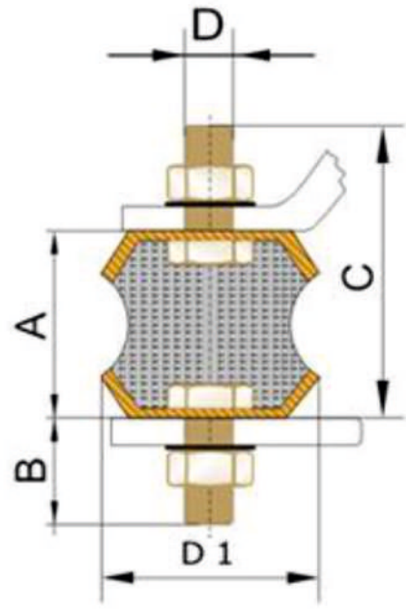
Alüminyum veya Çanak Vibrasyon Takozu
Bowl Vibration Chock and Aluminium Vibration Chock

Esnek Kaplin
Elastic Coupling

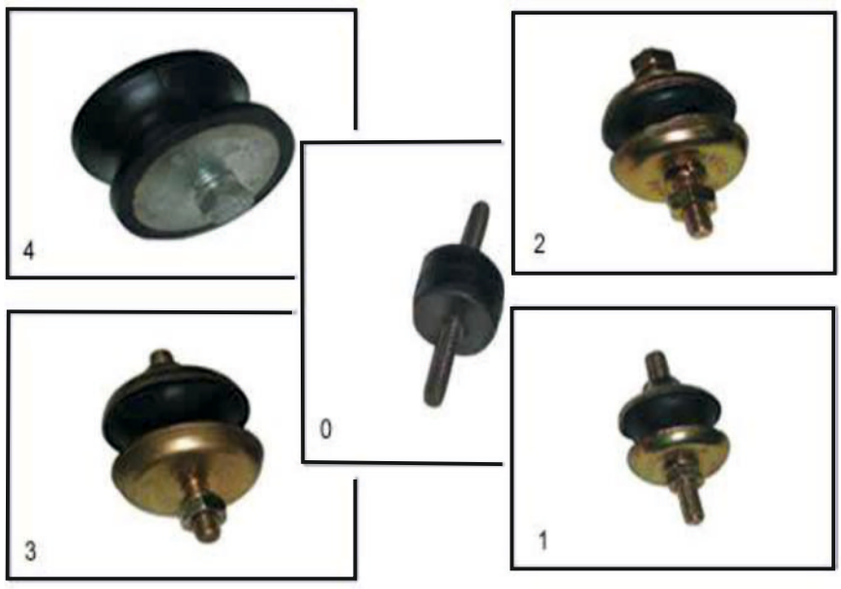
Şaft Lastik Sızdırmaz Körük
Deep Sea Seal

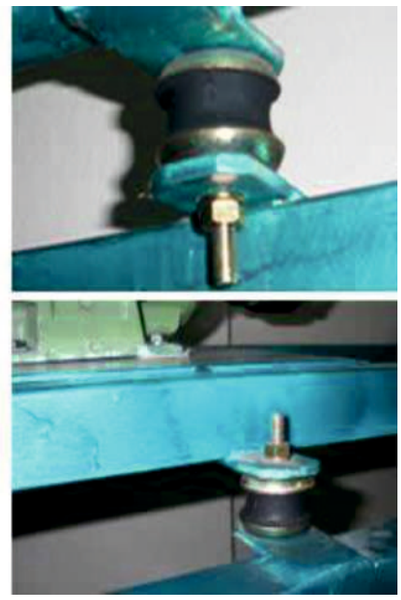
Lastik Şaft Yatağı
Rubber Bearing

FLEXSTOP VİBRASYON TAKOZLARI
Flexstop Vibration Chocks



KOD - TYPE	A	B	C	D	D1	Q Kg/mm	Ağırlık Weight Kg ±
FLT 0	15	20	35	M6	25	5/1 - 10/2	0,035
FLT 1	32	27,5	60	M8	40	10/1 - 15/2	0,130
FLT 2	38	27,5	66	M10	52	25/2	0,240
FLT 3	51	27,5	79	M10	58	35/2	0,300
FLT 4	51	Üstten - Nut	Vidalı - Bolted	M14	90	60/2	0,720
FLT 5	57	Saplamalı - Bolted	Vidalı - Bolted	M16	100	80/2	1,180





FLEXSTOP VİBRASYON TAKOZLARI
Flexstop Vibration Chocks

FLEXSTOP VİBRASYON TAKOZLARI

Bu takozlar dik konumda veya max. 15º eğimli yerlerde emniyetle kullanılır.
Çanak tipi dizaynı gereği yatay titreşimleri yok eder.
Lastik sertliği 55 Shore.
Q=Kg/mm max. Yük/esneme miktarı
Lastik sertliği 40 shore olan takozlarda üretmekteuiz.
Q=kg taşıma değeri 1/2 kg daha azdır. Fakat esnekliği aynıdır.
FLT 4 üstünden vida ile montajlıdır.
NOT: Büyük modellerimizde mevcuttur.

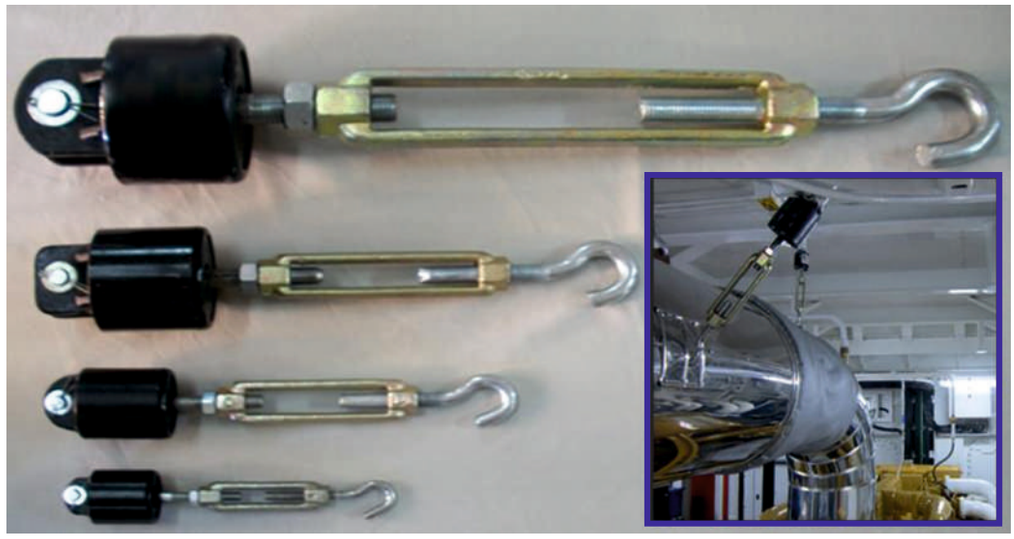
FLEXSTOP VIBRATION CHOCKS

Those chocks are used safely in vertical position or at an angle of maximum 15º.
The lowl type eliminates the horizontal vibrations due to its desing.
The rubber hardness is 55 shore, Q=kg/mmi max. load/flexion.
We also produce bowl-type chocks with a rubber hardness of 40 shore. The supporting value, Q=kg, is 1/2 kg less but has the same flexibility. Screw-mounted over FLT 4
NOTE: Larger models are available.






ASKI SÜSPANSİYON TAKOZLARI
Hanger Suspension Chocks



ASKI SÜSPANSİYON TAKOZLARI

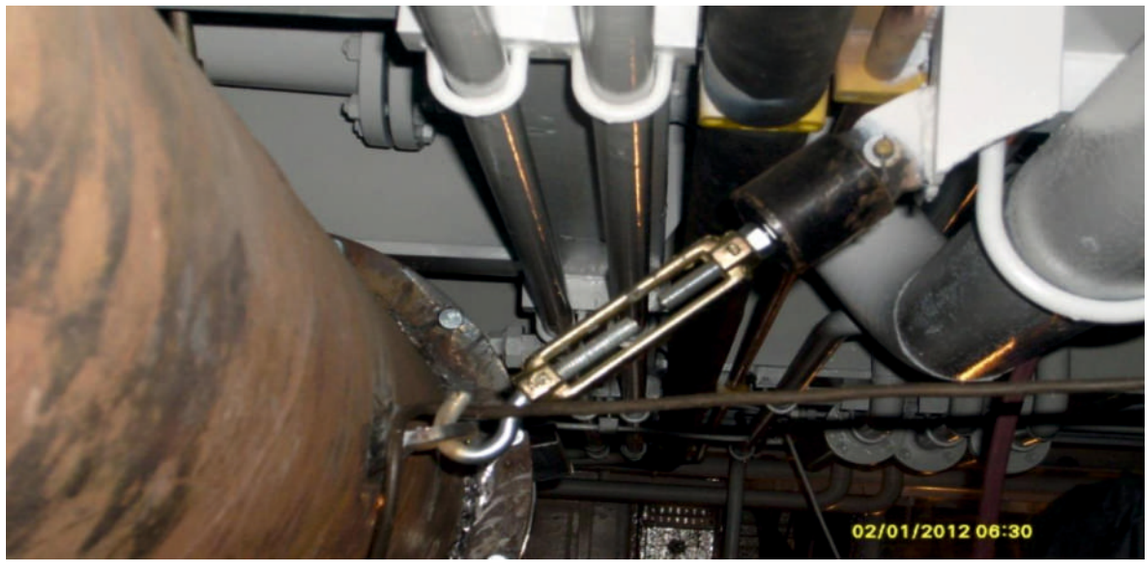
Bu tip askı süspansiyonları genellikle askı halinde duran sistemlerde kullanılır.Gemi ve Yatlarda egzoz sistemlerinde sıcaklıktan doğan genleşmeler sabit kaynak sisteminde kaynakları koparır, bu sistemlerle asıldığı zaman sıcaklıktan doğan uzamayı alır ve sistemde istenmeyen sesler yaratmaz. Çünkü lastikler sayesinde esnemiş olur, metalle hiçbir teması yoktur.

- Egzoz devrelerinde dikey pozisyonda genellikle 45° ± 5° açı ile bağlanması uygundur. Gergi kancası egzoz borusuna bağlanacaktır.

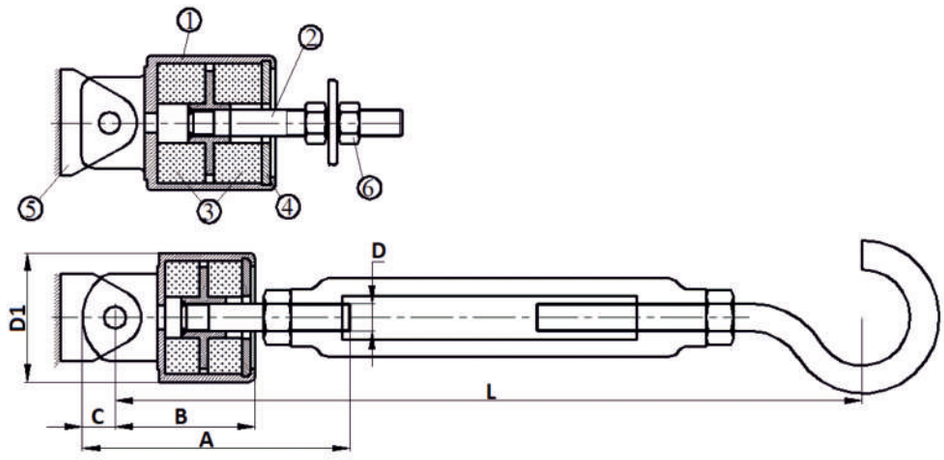
HANGER SUSPENSION CHOCKS

This type hanger suspension chocks are used for the suspended systems generally. The expansions resulting from the heat cause the welding to break in the fixed welding systems of the ship and yacht engine exhaust systems, but when those systems are suspended, the elongation is compensated for and no unwanted noises are created in the system. This is because, the systems can flex thanks to the rubber chocks and have no contact with metal.

- In the exhaust circuits, it is generally suitable to be connected at an angle of 45 ° ± 5 ° in vertical position. The tension hook will be connected to the exhaust pipe.

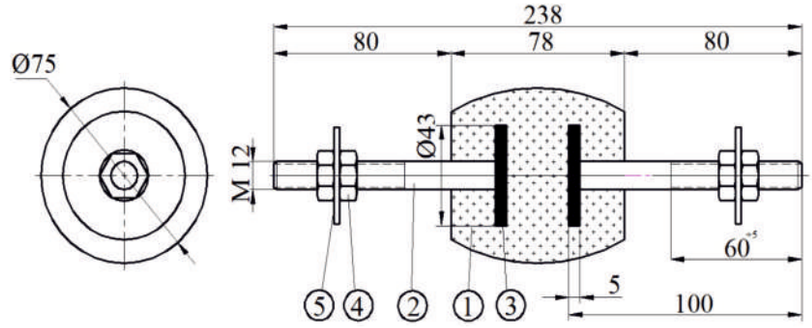


ASKI SÜSPANSİYON TAKOZLARI
Hanger Suspension Chocks



NUMARA-NO	PARÇA ADI	NAME OF THE PART
1	Çelik kovan (GS 38)	Steel Case(GS 38)
2	Göbek mili (ST 37)	Central Shaft (ST 37)
3	Süspansiyon Lastiği (NR 60SH)	Suspansion Rubber (NR 60SH)
4	Kapak (ST 37)	Cap (ST 37)
5	Kulak (ST 37)	Ear (ST 37)
6	Somun (M8 – 12 – 16 - 1'')	Nut (M8 – 12 – 16 - 1'')

KOD - TYPE	A	B	C	D	D1	D2	L Min.	L Max.	Max. taşıyabileceği Yük Kg Max. Usable load Kg	Kopma Mukavemeti Kg Breaking Strength Kg	Ağırlık Kg Weight Kg
ST0	120	58	8	M8	45	8	200	260	75	1000	0,490
ST1	154	78	10	M12	58	10.5	280	360	200	2200	1,190
ST2	196	98	18	M16	83	13	350	450	400	6700	2,660
ST3	240	125	30	1"	118	20	560	750	800	19000	8,180



Numara-No	Parça Adı	Name of the part
1	Askı Lastik Top. (NR)	Suspansion Rubber Ball (NR)
2	Bağlantı Mili (ST 37)	Connecting Shaft (ST 37)
3	Tutucu Pul (Ø 43Xm 12 x5)	Retainer Washer (Ø43xM 12x5
4	Somun (M12)	Nut (M12)
5	Yaylı Pul (M12)	Spring Washer (M12)

20 Cº de kopma mukavemeti ±840 kg. 60 ºC de taşıyabileceği yük ±50 kg.

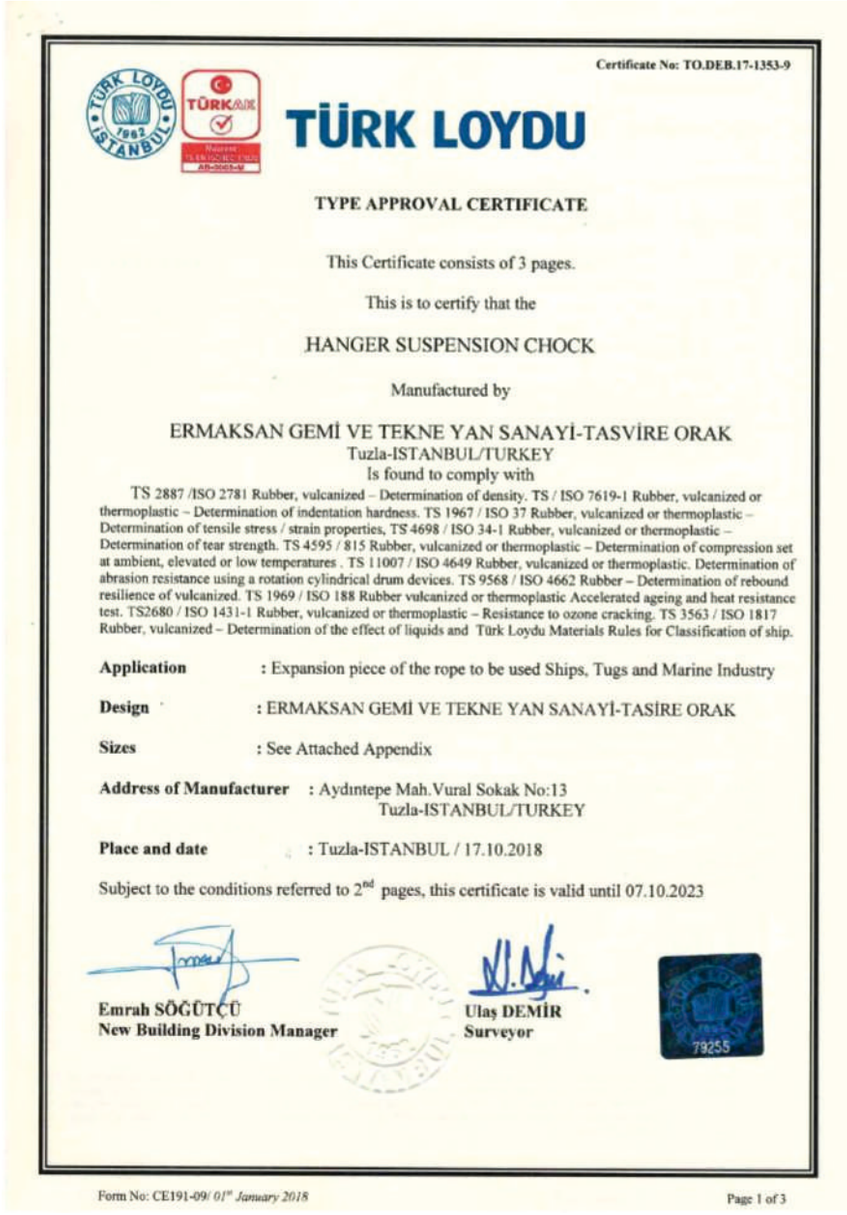
20 Cº breaking strength ±840 kg. 60 ºC supportable load ±50 kg.

ASKI SÜSPANSİYON TAKOZLARI
Hanger Suspension Chocks





Sertifika
Certificate



Certificate No: TO.DEB.17-1353-9

TÜRK LOYDU

TYPE APPROVAL CERTIFICATE

This Certificate consists of 3 pages.

This is to certify that the

HANGER SUSPENSION CHOCK

Manufactured by

ERMAKSAN GEMİ VE TEKNE YAN SANAYİ-TASVİRE ORAK
Tuzla-ISTANBUL/TURKEY
Is found to comply with

TS 2887 /ISO 2781 Rubber, vulcanized – Determination of density. TS / ISO 7619-1 Rubber, vulcanized or thermoplastic – Determination of indentation hardness. TS 1967 / ISO 37 Rubber, vulcanized or thermoplastic – Determination of tensile stress / strain properties, TS 4698 / ISO 34-1 Rubber, vulcanized or thermoplastic – Determination of tear strength. TS 4595 / 815 Rubber, vulcanized or thermoplastic – Determination of compression set at ambient, elevated or low temperatures . TS 11007 / ISO 4649 Rubber, vulcanized or thermoplastic. Determination of abrasion resistance using a rotation cylindrical drum devices. TS 9568 / ISO 4662 Rubber – Determination of rebound resilience of vulcanized. TS 1969 / ISO 188 Rubber vulcanized or thermoplastic Accelerated ageing and heat resistance test. TS2680 / ISO 1431-1 Rubber, vulcanized or thermoplastic – Resistance to ozone cracking. TS 3563 / ISO 1817 Rubber, vulcanized – Determination of the effect of liquids and Türk Loydu Materials Rules for Classification of ship.

Application : Expansion piece of the rope to be used Ships, Tugs and Marine Industry

Design : ERMAKSAN GEMİ VE TEKNE YAN SANAYİ-TASİRE ORAK

Sizes : See Attached Appendix

Address of Manufacturer : Aydıntepe Mah.Vural Sokak No:13
Tuzla-ISTANBUL/TURKEY

Place and date : Tuzla-ISTANBUL / 17.10.2018

Subject to the conditions referred to 2nd pages, this certificate is valid until 07.10.2023

Emrah SÖĞÜTÇÜ
New Building Division Manager

Ulaş DEMİR
Surveyor

79255

Form No: CE191-09/ 01st January 2018

Page 1 of 3

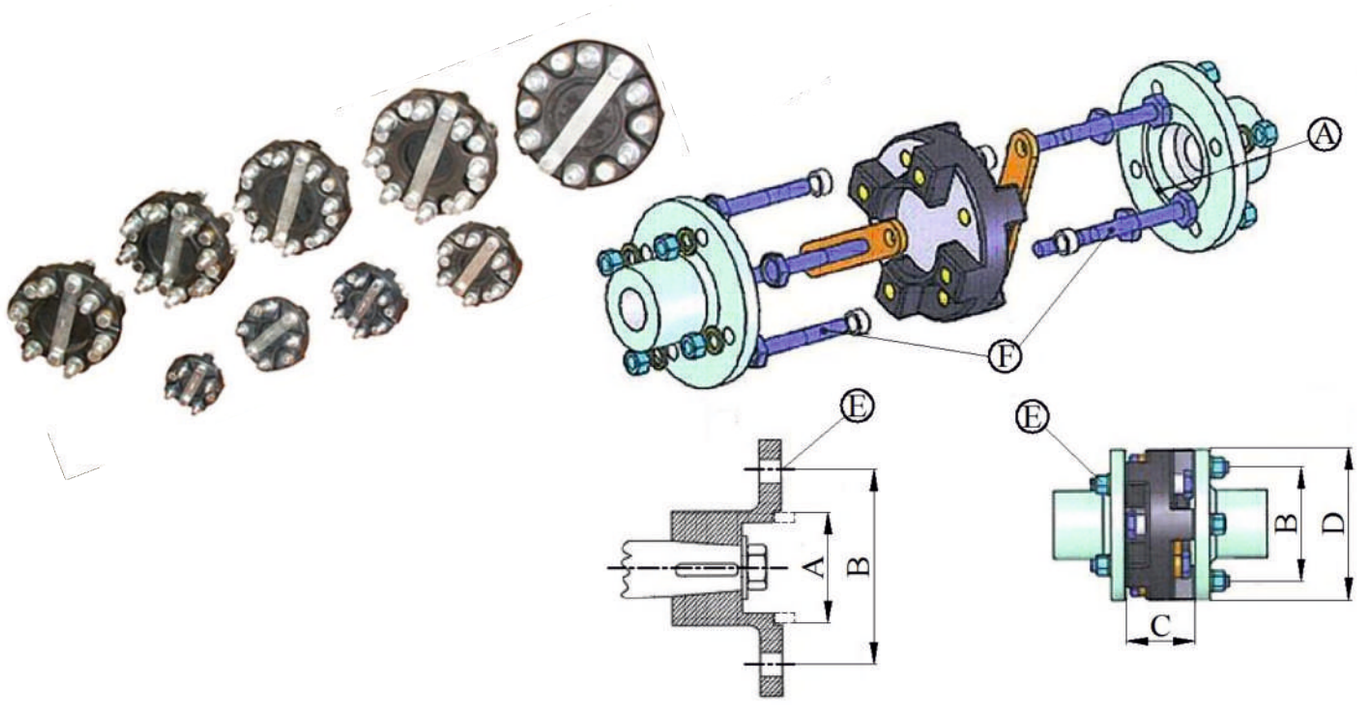
LASTİK KAPLİNLER
Rubber Couplings

LASTİK KAPLİNLER

Bu tip kaplinler sağa sola, ileri ve geri pozisyonda olan kuvvetleri esneklikle alır, montajı kolaydır, İki çelik kaplin arasına kolaylıkla montajı yapılabilir . Max. 2° açıdaki line kaçıklıklarını ve ani darbeleri lastik oluşundan dolayı azaltır.

RUBBER COUPLINGS

Those couplings absorb the left, right, forward and backward forces flexibly and are easy to install. Can be installed between two stell couplings. Being made of rubber, can reduce any misaligments up to max. Max. 2° of angle and other shocks.



KOD - TYPE	A Merkezleme çapı Centering diameter mm - inch	B Delik Eksen çapı Hole axis diameter mm - inch	C Kaplin Kalınlığı Coupling Thickness	D Kaplin Dış Çapı Coupling exterior Diameter mm - inch	E Civata Sayısı Number Of bolts	F Montaj Civatası Mounting Bolt	Q	MAX. Nm	AĞIRLIK KG WEIGHT KG
FLK 50x78	50 - 1,97	78 - 3,07	50	105 - 4,14	4	M 10x70 (W 7/16"x3")	53	249	1,040
FLK 60x80	60 - 2,36	80 - 3,15	50	108 - 4,25	4	M 10x70 (W 7/16"x3")	54	255	1,050
FLK 2 1/2"x3 1/4"	63,5 - 2 1/2	82,55 - 3 1/4	50	110 - 4,33	4	M 10x70 (W 7/16"x3")	56	263	1,055
FLK 2 1/2"x4 1/4"	63,5 - 2 1/2	107,95 - 4 1/4	50	139 - 5,47	4	M 10x70 (W 7/16"x3")	92	430	1,350
FLK 2 1/2"x4 1/4"x6	63,5 - 2 1/2	107,95 - 4 1/4	50	140 - 5,50	6	M 10x70 (W 7/16"x3")	124	581	1,800
FLK 65x100	65 - 2,56	100 - 3,94	50	134 - 5,28	4	M 10x70 (W 7/16"x3")	85	400	1,900
FLK 65x90x6	65 - 2,56	90 - 3,54	50	113 - 5,23	6	M 10x70 (W 7/16"x3"	91	430	1,750
FLK 70x90x6	70 - 2,75	90 - 3,54	50	115 - 4,5	6	M 10x70 (W 7/16"x3")	92	431	1,760
FLK 65x95x6	65-256	95-3 3/4"	50	118-4,65	6	M10x70 (W 7/16x3)	95	450	1,800
FLK 70x100x6	70 - 2,75	100 - 3,93	50	130 - 5,10	6	M 10x70 (W 7/16"x3")	102	479	1,820
FLK 3"x4 3/4"	76,2 - 3	120,65 - 4 3/4	50	158 - 6,22	6	M 16x1,5x80 (W 1/2"x3")	169	794	2,550
FLK 3 3/4"x6"	95,25 - 3 3/4	152,4 - 6	57	198 - 7,8	6	M 16x1,5x90	278	1303	5,380
FLK 120x156x6	120	156	62	200 - 7 7/8"	6	M 16x1,5x90	300	1450	6,140
FLK 140x180	140 - 5,51	180 - 7,09	66	230 - 9,06	6	W 3/4"x4" UNF	443	2077	8,330
FLK 140x196	140 - 5,51	196 - 7,71	65	245 - 9,64	8	M 16x1,5x100	536	2513	8,200
FLK 6"x7 1/2"	152,4 - 6	190,5 - 7 1/2	66	237 - 9,33	8	W 3/4"x4" UNF	521	2443	9,380
FLK 5"x8 3/4"	127 - 5	222,25 - 8 3/4	72	275 - 10,82	8	M 22x110	778	3648	13,600
FLK 160x240	160 - 6,30	240 - 9,44	80	305 - 12	6	M 24x120	945	4432	16,800

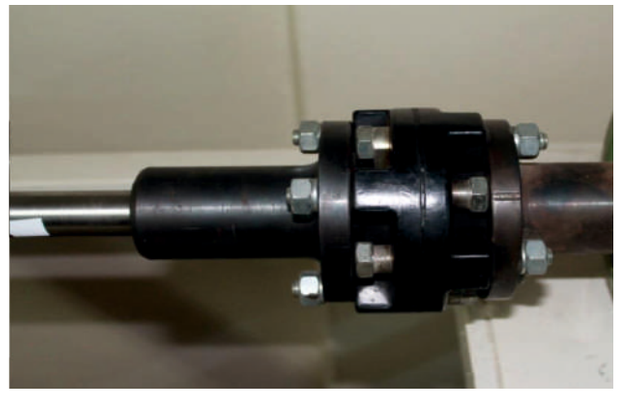
Q= 1500 DEVİRDE TAŞIYABİLECEĞİ MAX. GÜÇ (RPM) /HP

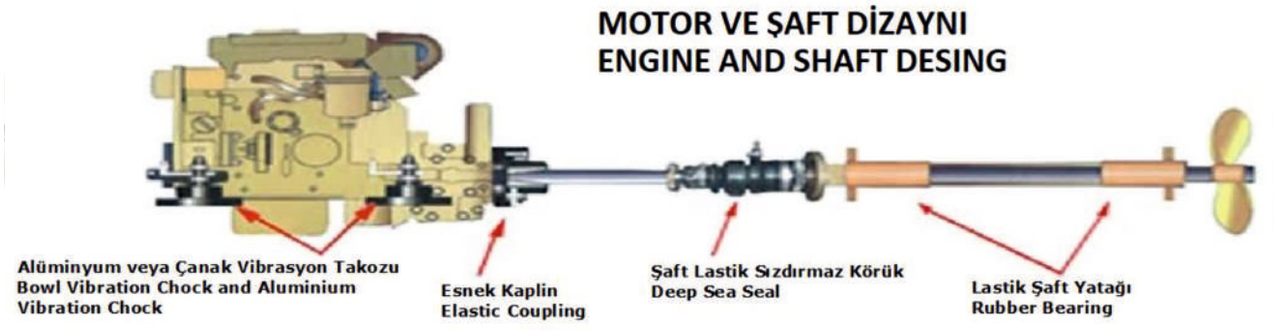
Q= MAX. POWER THAT CAN BE CARRIED AT 1500 RPM/HP

LASTİK KAPLİNLER
Rubber Couplings











FLEXIBLE KAPLİNLER
Flexible Couplings



FLEXIBLE KAPLİNLER

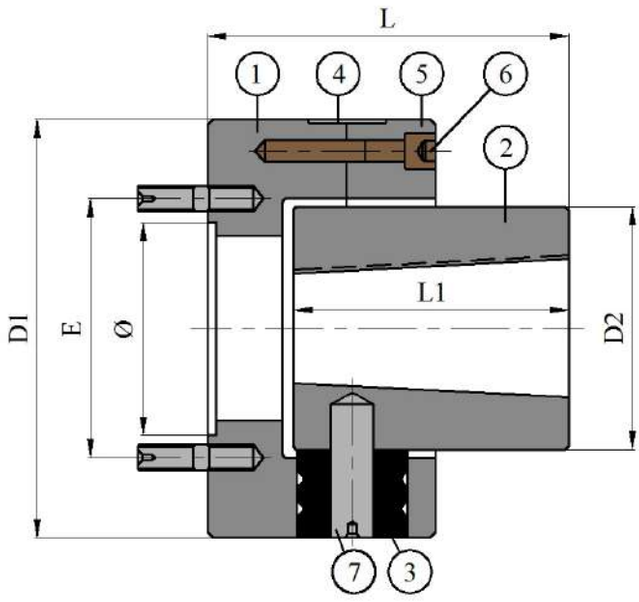
TİP (4x127)-145-168-225-278(16X278) 1500devirde/20HP ile 1200HP arası Motorun tam çizgiye (line) almak olanaksız gibidir. Ancak çeşitli tiplerdeki **ERMAKSAN** Elastik Kaplinleriyle bu problem ortadan kalkar. **ERMAKSAN** Elastik Kaplinleri,marinler için şanzıman çıkışı ile pervane şaftı arasına konduğunda şaftın çizgi uyumsuzluğunu önler. Dolayısıyla pervaneden doğabilecek darbe ve vibrasyonları da engeller. Radyal ve Aksiyel (ileri,geri,sağa,sola) yüklere dayanıklıdır.Tüm yüzey ve kanallar torna ve frezelerde simetrik olarak işlendiğinden TİP (4X127), 145, 168, 225, 278, 355, 450 ler 2000dev/dak ya kadar balans gerektirmez

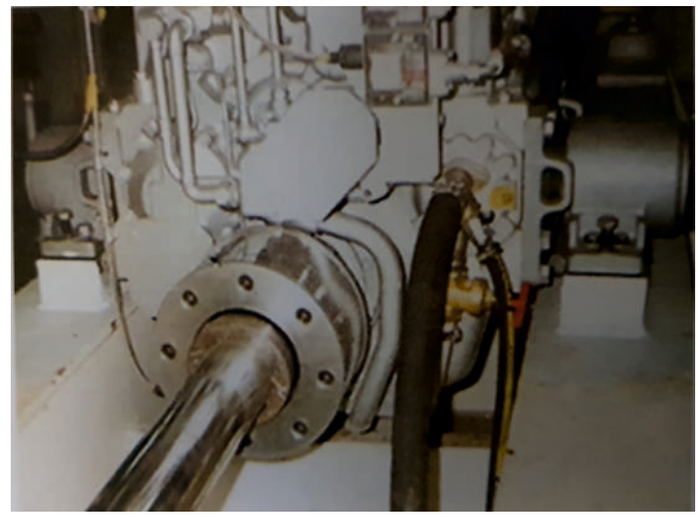
FLEXIBLE COUPLINGS

Pefect alingnement of the engine is almost impossible. But, with the ERMAKSAN flexible Couplings of various types, this problem is eliminated. When the ERMAKSAN Flexible Couplings are installed between the transmission output and propeller shaft for the marine engines, they prevent the line aberration of the shaft, thus preventing the shocks and vibrations that may be generated by the propeller. Because all the surfaces and channels are machined with lathes and milling machines, balancing is not required up tp 2000 rpm for TYPE (4x127), 145, 168, 225, 278, 355, 450.



FLEXIBLE KAPLİNLER
Flexible Couplings





NO	PARÇA ADI	NAME OF THE PART
1	ALÜMİNYUM GÖVDE	ALUMINUM HULL
2	ÇELİK GÖBEK	STELL CORE
3	LASTİK TAKOZ	RUBBER CHOCK
4	MUHAFAZA SACI (KROM)	PROTECTIVE PLATE (CHROMIUM)
5	ALÜMİNYUM KAPAK	ALUMINUM CAP
6	İmbus Cıvata METRİK (10x30),(10x35),(12x45),(14x50),(14x120), (22x80),(22x150),(22x240),(27x165),(27x275)	Imbus BOLTS METRIK (10x30),(10x35),(12x45),(14x50),(14x120), (22x80),(22x150),(22x240),(27x165),(27x275)
7	TAŞIYICI PİM	SUPPORT PIN

KOD -TYPE	D1	D2	L	L1	Q	Max Nm	Ağırlık Weight Kg.	Kullanılabilir şaft çapı Available for shaft diameters
FLK 4 x 127	127	56	81	60	55	255	2.8	25..35 mm
FLK 145	145	73	100	75	100	480	4.6	30..40 mm
FLK 168	168	96	110	80	165	775	7.5	40..50 mm
FLK 225	225	117	138	100	375	1766	16	50..70 mm
8 FLK 278	278	146	165	120	630	2962	25.8	60..90 mm
16 FLK 278	278	146	215	160	1260	5924	41	80..100 mm
8 FLK 355	355	205	233	180	1665	7800	75 - 125	90..130 mm
16 FLK 355	355	205	298	240	3330	15600	150	90..140 mm
8 FLK 450	450	240	245	210	3675	17236	200	120..160 mm
16 FLK 450	450	240	310	275	7350	34472	250	140..180 mm

Q= 1500 DEVİRDE TAŞIYABİLECEĞİ MAX. GÜÇ (RPM) /HP

Q= MAX. POWER THAT CAN BE CARRIED AT 1500 RPM/HP

TIRNAKLI KAPLİNLER
Spiked Couplings (Gear Couplings)

Tırnaklı fleksibl kaplinler genellikle şanzıman - motor arasına veya jenaratörlerde alternatör – motor arasına makine konstrüksüyon bağlantı sistemlerinde hareketi esnek bir şekilde aktarmak için kullanılır.
En büyük özelliği lastik yaşlanmalarında veya deformasyon durumunda kopması halinde hiçbir yere zarar vermeden makine sistemini korumuş olur.

Spiked Flexible Couplings Are Usually Used For Transmitting The Movement Flexibly In Machine Consturction Connection Systems After Placed Between Alternator And Engine In Generators Or Between Transmission And Engine. Their Major Charactersictic Is To Protect The Machine System Without Damaging Anywhere When Ruptured In Cases Of Deformation Or Rubber Aging.

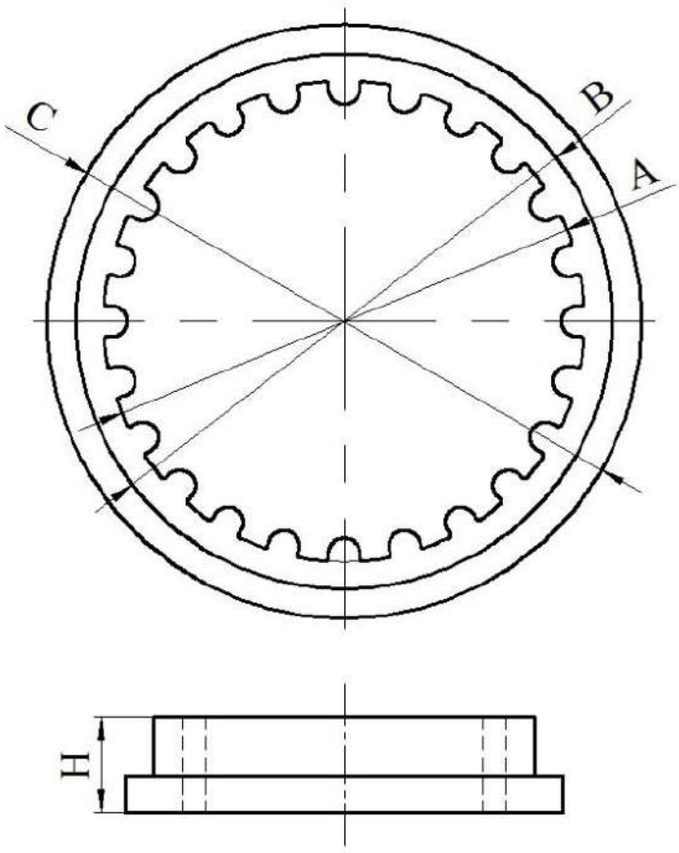








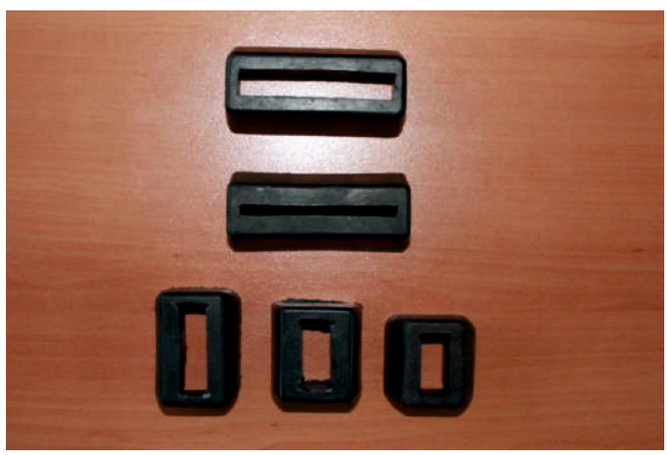
TIRNAKLI ALÜMİNYUM ÖLÇÜLERİ
Spiked Couplings (Gear Alüminum Measurements)



A	B	C	H	SAE NO
Ø276	Ø290	Ø352,4	55	SAE 11-1/2
Ø295	Ø315	Ø352,4	45	SAE 11-1/2
Ø300	Ø312	Ø352,4	66	SAE 11-1/2
Ø341	Ø362	Ø432	65	
Ø342	Ø361,2	Ø466,7	70	SAE 14
Ø380 (ÇİN)	Ø398	Ø466,7	115	SAE 14
Ø380 (ÇİN) 26 TIRNAKLI	Ø398	Ø466,7	60	SAE 14
Ø397	Ø417	Ø466,7	60	SAE 14
Ø404	Ø420	Ø466,7	64	SAE 14
Ø408	Ø432	Ø571,5	120	SAE 18
Ø412	Ø440	Ø571,5	117	SAE 18
Ø424	Ø441	Ø466,7	65	SAE 14
Ø450	Ø470	Ø571,5	75	SAE 18
Ø453	Ø480	Ø571,5	120	SAE 18
Ø527	Ø554	Ø673,1	90	SAE 21
Ø527	Ø550	Ø650	190	
Ø527	Ø570	Ø614	93	
Ø527	Ø580	Ø571,5	94	SAE 18
Ø527	Ø580	Ø571,5	130	SAE 18
Ø527	Ø553	Ø673,1	92	SAE 21
Ø535	Ø575	Ø571.5	105	SAE 18
Ø535	Ø575	Ø673.1	105	SAE 21
Ø562	Ø580	Ø673,1	125	SAE 21

Not : C ölçüsü SAE standartlarına göre büyük imal edilmiştir ölçüsüne göre torna edilecektir.
Note: The C dimension is manufactured according to SAE standards and will be turned according to the dimension.

Not : İstenilen ölçülerde alüminyum imalatı yapılabilir.
Note : Non-sized alüminum can be manufactured.



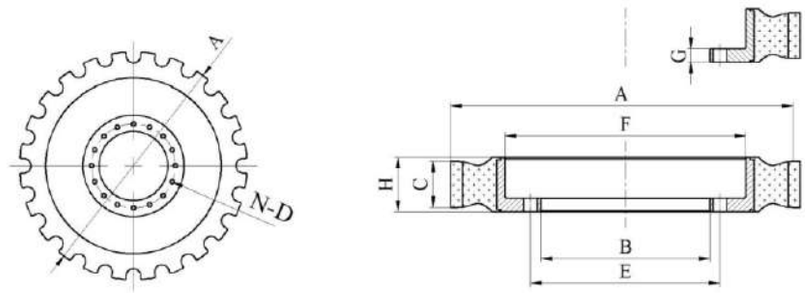


Not : İstenilen ölçülerde geçmeli tırnaklı kaplin parçası imalatı yapılır.
Note : Required dimensional type parts production is made.

LASTİK TIRNAKLI KAPLİN ÖLÇÜLERİ

Spiked Couplings (Gear Rubber Measurements)

MEVCUT TIRNAKLI KAPİNLER - AVAILABLE GEAR COUPLING



KOD - TYPE	A	B	C	H	E	N-D	F	G	TIR. SAY.	GÖBEĞİ DÜZ-AÇILI CENTER FLAT-ANGLE	DAR-GENİŞ SERİ
Ø275xØ80x24	Ø275	Ø80	35	48	100	12-Ø12,5	Ø132	15	24	DÜZ	
Ø295xØ95x16	Ø295	Ø95	35	40	115	12-16-Ø10,5	Ø148	10,5	16	135 HP T.K	
Ø300xØ70x24	Ø300	Ø70	40	66	95	8-11	120	15	24	KONİK – E: MAX 1200	
Ø335xØ100x24	Ø335	Ø100	40	36,5	135	8-Ø12,8	-	36,5	24	135 HP T.K	
+ Ø335xØ110x16	Ø335	Ø110	45	46	135	12- Ø13	Ø175	13	16	DÜZ	
+ Ø335xØ110x16	Ø335	Ø110	45	46	135	12-Ø13	Ø196	13	16	DÜZ	
Ø335xØ115x24	Ø335	Ø115	53	89	140 -	6-Ø13 -	Ø126-167	16 -	24	KONİK-DÜZ	
Ø375xØ125x24	Ø375	Ø125	74	102	156	12-Ø15	Ø191	20-30-40	24	DÜZ (ÇİN ŞANZUMAN KAPLİN)	
Ø395xØ132x24	Ø395	Ø132	53	53	160	12-Ø16	Ø210	15	24	DÜZ	
Ø400xØ155x24	Ø400	Ø155	51	55	180	8-Ø17	Ø265	17	24	DÜZ- E: MAX 2800	
– Ø405xØ106x24	Ø405	Ø106	58	80	130	-	Ø165	16	24	KONİK AÇILI E: 1600	
– Ø405xØ106x24	Ø405	Ø106	58	80	130	-	Ø200	16	24	DÜZ	
+ Ø405xØ130x24	Ø405	Ø130	61	102	160	12-Ø17	Ø204	20	24	DÜZ	
+ Ø405xØ132x24	Ø405	Ø132	61	102	-	-	Ø146,2	-	24	KONİK AÇILI	
Ø405xØ165x24	Ø405	Ø165	75	90	195	12-Ø17	Ø244	18	24	DÜZ	
Ø420xØ183x24	Ø420	Ø183	65	62	230	8-Ø22	-	-	24	KAPLİN İÇİ BURÇLU	
Ø425xØ170-Ø185x24	Ø425	Ø185	60	63	220	12-Ø22	Ø257	18	24	DÜZ	
Ø435xØ155x24	Ø435	Ø155	56	67	180	-	Ø300	17	24	DÜZ – E: MAX 5000	
Ø435xØ210x24	Ø435	Ø210	56	67	236	12-Ø17	Ø300	17	24	DÜZ – E: MAX 4000	
Ø440xØ155x24	Ø440	Ø155	-	62	-	-	Ø300	18	24	DÜZ	
Ø440xØ145x24	Ø440	Ø145	62	76	180	16-Ø17,5	Ø225	16	24	DÜZ	
Ø440xØ210x24	Ø440	Ø210	-	62	235 (9 ¼")	12-Ø17	Ø300	18	24	DÜZ	
Ø445xØ155-Ø160x24	Ø445	Ø155-Ø160	74	92	190	16-Ø18,2	Ø237,5	22	24	DÜZ	GENİŞ
Ø445XØ155-Ø160x24	Ø445	Ø160	60	62	190	12-Ø17,5	Ø240	18	24	DÜZ	DAR
Ø445xØ210x24	Ø445	Ø210	-	62	235 (9 ¼")	12-Ø17	Ø300	18	24	DÜZ	
Ø520xØ240-Ø250x24	Ø520	Ø240-Ø250	82	103	280	16-Ø21	Ø344,2	20	24	1000 Kw-1500 RPM DİZEL ALTENATÖR ARASI KAPLİN	
Ø525xØ180x24	Ø525	Ø180	-	-	235 (9 ¼")	8-Ø20	-	-	24	DÜZ	
Ø525xØ205x24	Ø525	Ø205	76	85	-	-	Ø320	25	24	DÜZ	
Ø525xØ240x24	Ø525	Ø240	76	85	270	12-24-M20	Ø320	25	24	DÜZ	
Ø525xØ250x24	Ø525	Ø250	84	103	280	16-Ø21	Ø344,2	20	24	DÜZ	
Ø532xØ205x24	Ø525	Ø205	78	85	250	16–Ø22	Ø320	25	44	DÜZ	
Ø560xØ240x24	Ø560	Ø240	89	100	280	16-Ø20,5	Ø371,2	25,2	24	DÜZ	

(+, –) **Aynı kalıpta 2 ayrı ürün basılıyor**

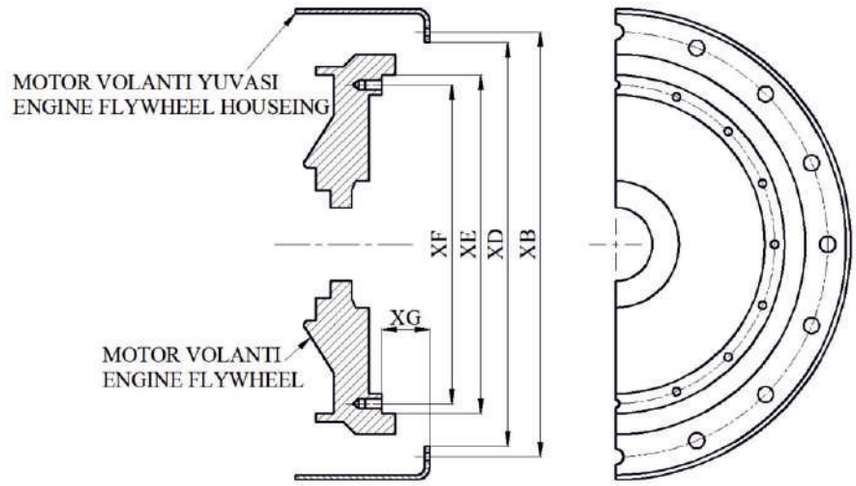
Not : İstenilen ölçülerde tırnaklı kaplin imalatı yapılır.
Note : Non-sized coupling can be manufactured.





MAKİNA VOLANT KAPLİN BAĞLANTI ÖLÇÜLERİ

Engine Flywheel Housing Dimensıons



MOTOR VOLANTI YUVA ÖLÇÜLERİ - ENGINE FLYWHEEL HOUSING DIMENSIONS

SAE NO	XD		XB		TAPPED HOLES	
	inch	mm	inch	mm	Adet - Qty	Ölçüler - Size
00	31,000	787,4	33,50	851	16	1/2" - 13
0	25,00	647,7	26,75	679,4	16	1/2" - 13
1/2	23,000	584,2	24,38	619,2	12	1/2" - 13
1	20,125	511,1	20,88	530,3	12	7/16" - 11, 5
2	17,652	448,3	18,38	466,8	12	3/8" - 10
3	16,125	409,5	16,88	428,7	12	3/8" - 10
4	14,250	361,9	15,00	381	12	3/8" - 10
5	12,375	314,3	13,12	333,2	8	3/8" - 10
6	10,500	266,7	11,25	285,7	8	3/8" - 10

MOTOR VOLANTI ÖLÇÜLERİ - ENGINE FLYWHEEL DIMENSIONS

SAE NO	XE		XF		XG		TAPPED HOLES	
	inch"	mm	inch"	mm	inch"	mm	Adet - Qty	Ölçüler - Size
SAE 21	26,500	673,1	25,25	641,3	0	0	12	5/8" - 16
SAE 18	22,500	571,5	21,38	543	0,62	15,7	6	5/8" - 16
SAE 14	18,375	466,7	17,25	438,1	1,00	25,4	8	1/2" - 13
SAE11-1/2	13,875	352,4	13,12	333,2	1,56	39,6	8	3/8" - 10
SAE 10	12,375	314,3	11,62	295,1	2,12	53,8	8	3/8" - 10
SAE 8	10,375	263,5	9,62	244,3	2,44	61,9	6	3/8" - 10
SAE7-1/2	9,500	241,3	8,75	222,2	1,19	30,2	8	5/16" - 8
SAE 6-1/2	8,500	215,9	7,88	200	1,19	30,2	6	5/16" - 8
Delco 17,75	17,755	450,9	15,50	393,7	0,72	18,2	8	5/8" - 16
Delco 15,50	15,500	393,7	13,88	352,5	0,72	18,2	8	5/8" - 16
Delco 12,75	12,750	323,8	11,00	279,4	0"	0	4	1/2" - 13

DİYAFRAM KAPLİNLER
Diaphragm Couplings

Bu tip kaplinler genellikle tırnakli kaplin sisteminle aynı özelliği gösterir. Bunlarda diyagram şeklindedir istenildiğinde tek olarak montaj yapılır veya çift olarak birbirlerine montaj yapılır bu durum da tork değerleri ikiye katlanmıştır. Kaplinin parçalanması durumunda sisteme hiçbir zarar vermez içleri sac bilezik ve kord bezi ile kuvvetlendirilmiştir.

These Types Of Couplings Generally Show The Same Characteristic With The Spiked Coupling System. The Difference Is That These Are In The Shape Of Diaphragams And If Desired They Can Be Assemled As One Or Two After Being Connected To One Another And If So They Double Their Torque Value. In Case They Break; They Never Cause Any Harm To The System Because Their Inside Is Reinforced With Steel Ring And Cord Fabric.



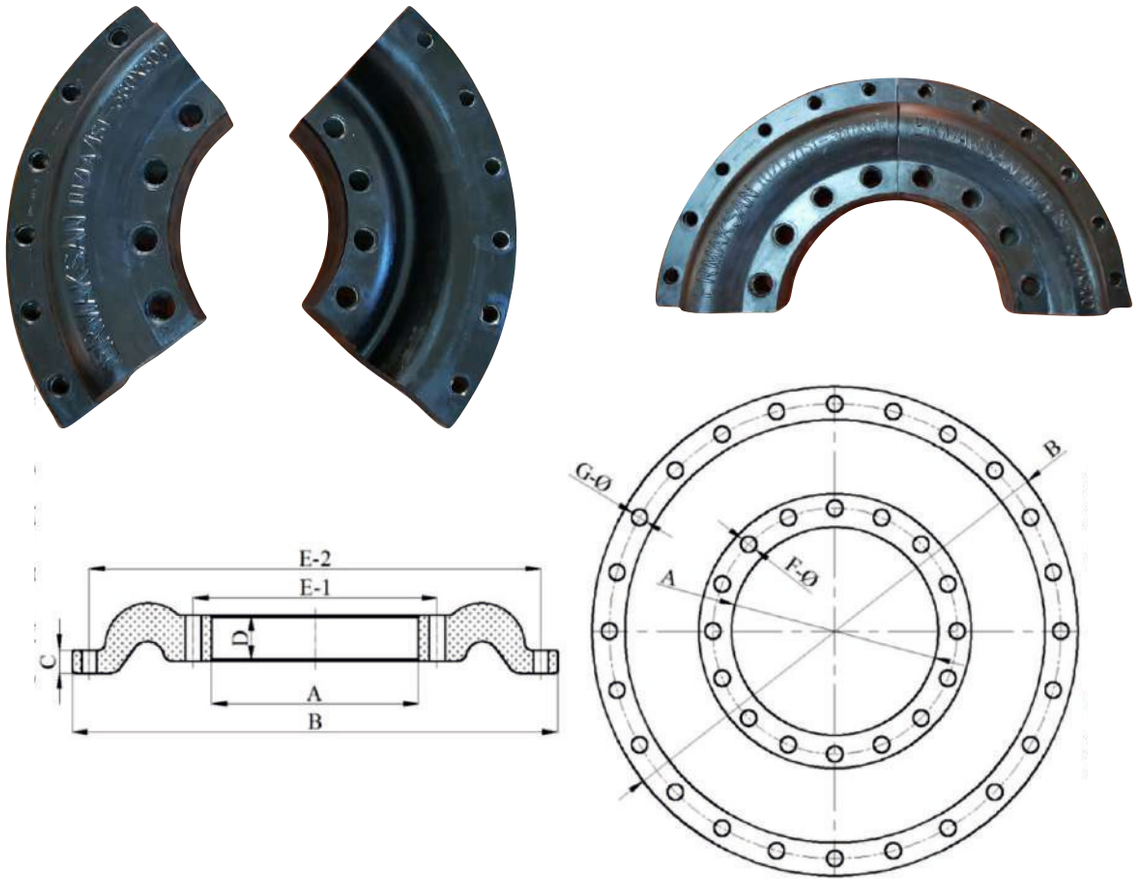








DİYAFRAM KAPLİNLER
Diaphragm Couplings

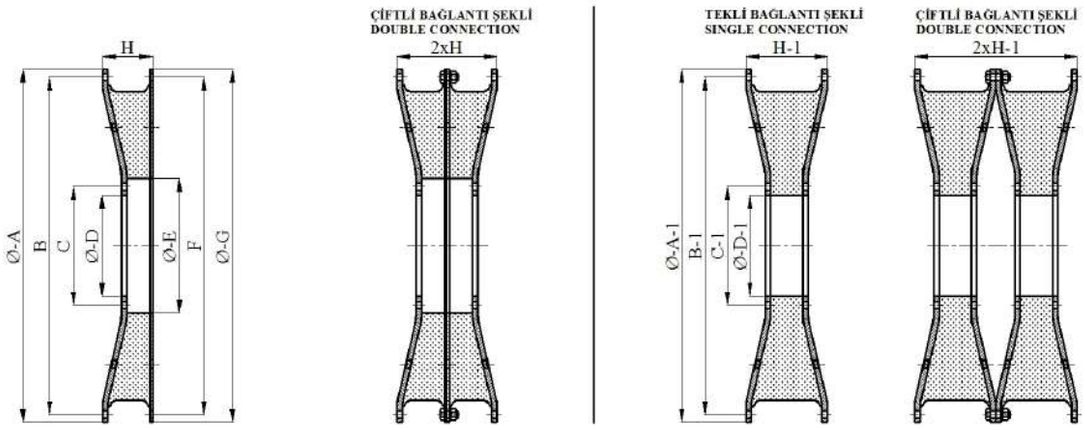


KOD - TYPE	A	B	C	D	E-1	E-2	F-Ø	G-Ø
Ø55,5xØ155	Ø55,5	Ø155	8	7	68	140	12 - Ø7	12 - Ø7
Ø82xØ206	Ø82	Ø206	10	14	100	190	12 - Ø8	12 - Ø8
Ø95xØ240	Ø95	Ø240	12	19	118	218	12 - Ø10	12 - Ø10
Ø108,5xØ180	Ø108,5	Ø180	12	19	118	218	12 - Ø10	12 - Ø10
Ø108,5xØ280	Ø108,5	Ø280	19	32	146	254	8 - Ø11,5	8 - Ø7,6
Ø110xØ280	Ø110	Ø280	16	26	135	254	12 - Ø11	12 - Ø11
Ø140xØ340	Ø140	Ø340	17	32	170	315	12 - Ø14	12 - Ø10
Ø170xØ395	Ø170	Ø395	21	35	200	365	12 - Ø16	12 - Ø11,5
Ø180xØ410	Ø180	Ø410	20	40	210	380	14 - Ø12,5	16 - Ø12,5
Ø194xØ460	Ø194	Ø460	25	46	230	420	12 - Ø16	12 - Ø11.5
Ø225xØ530	Ø225	Ø530	27	57	265	502	12 - Ø16	16 - Ø12
Ø257xØ600	Ø257	Ø600	40	58	302	565	12 - Ø20	12 - Ø15
Ø263xØ630	Ø263	Ø630	36	68	320	585	16 - Ø22	16 - Ø17
Ø272xØ630	Ø272	Ø630	30,7	58,8	318	588	16 - M20	16 - M18
Ø315xØ740	Ø315	Ø740	35	69	372	688	16 - Ø24	16 - Ø22
Ø360xØ800-4 PARÇALI	Ø360	Ø800	42	84	416	755	16 - Ø30	24 - Ø22
*Ø375xØ865	Ø375	Ø865	42	87	440	808	18 -Ø28,5	16 - Ø26
*Ø480xØ1060	Ø480	Ø1060	70	113	560	990	16 Ø32	24 Ø32

``*'' Arge ve yapım aşamasındadır.

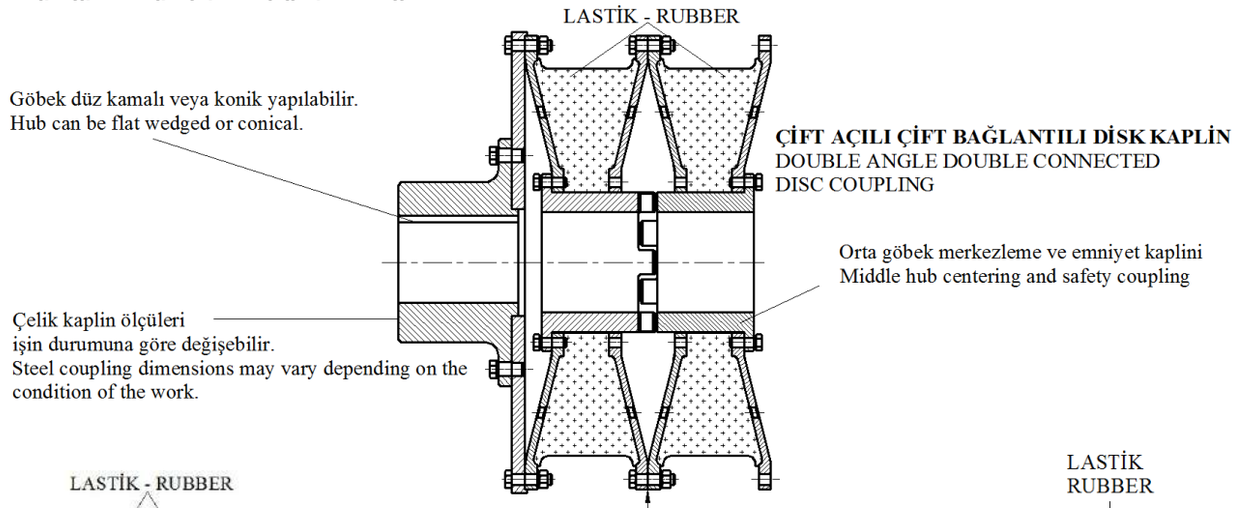
Not : İstenilen ölçülerde diyafram kaplin imalatı yapılabilir.
Note : Non-sized diaphragm can be manufactured.

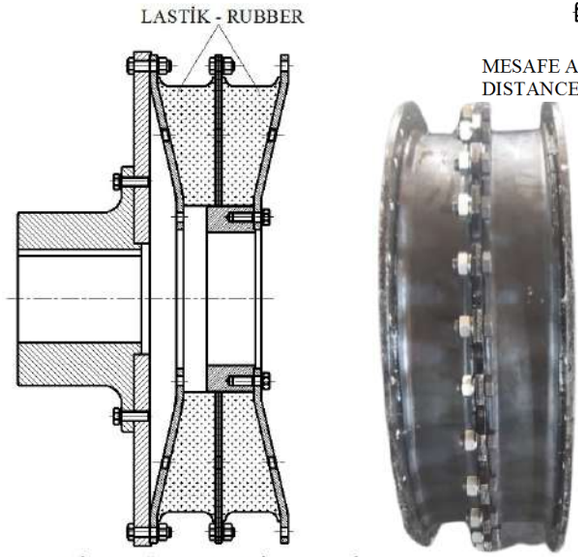
DİSK KAPLİN ÜRÜN DETAYI ve TEKNİK ÖLÇÜLERİ
DISC COUPLING PRODUCT DETAILS and TECHNICAL DIMENSIONS



Ø-A	B	C	Ø-D	Ø-E	F	Ø-G	H(mm)	2xH	Ø-A-1	B-1	C-1	Ø-D-1	H-1 (mm)	2xH-1
Ø508	E:480-24-Ø13,2	E:176-24-Ø8,5	Ø161	Ø191	E:480-36-Ø11,1	Ø502	68,5	137	Ø680	E:650-32-Ø16,5	E:240-24-M14	Ø210	184	368
Ø635	E:610-32-Ø13,5	E:232-24-Ø8,5	Ø216,1	Ø241	E:610-48-Ø11,1	Ø630	86	172	Ø730	E:700-32-Ø14,5	E:232-24-M14x1,5	Ø208	180	360
Ø730	E:700-32-Ø14,5	E:232-24-M14x1,5	Ø208	Ø260	E:700-32-Ø14,5	Ø730	104	208	Ø790	E:755-32-Ø16,5	E:265-24-Ø16,5	Ø225	182	364
Ø790	E:755-32-Ø16,5	E:265-24-Ø16,5	Ø225	Ø301	E:755-32-Ø16,5	Ø790	112	224						
Ø920	E:880-32-Ø20	E:312-24-Ø16	Ø262	Ø351	E:880-32-Ø20	Ø920	133	266						

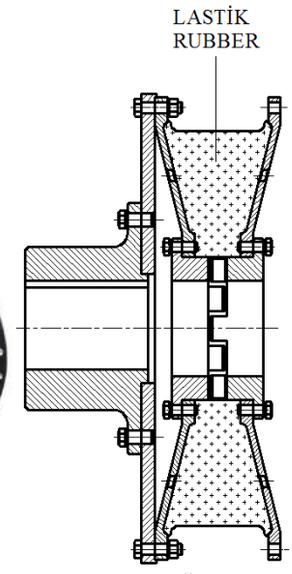
Merkezd





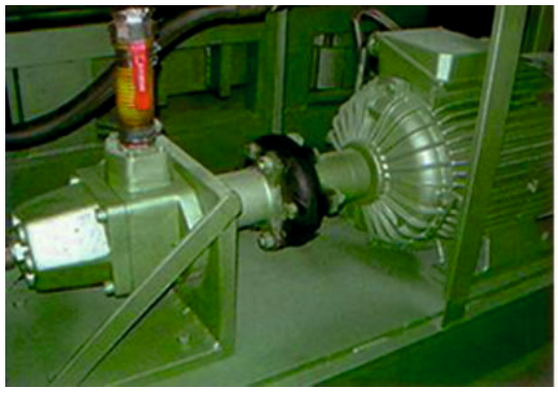
TEK AÇILI ÇİFT BAĞLANTILI DİSK KAPLİN
SINGLE ANGLE DOUBLE CONNECTED DISC COUPLING





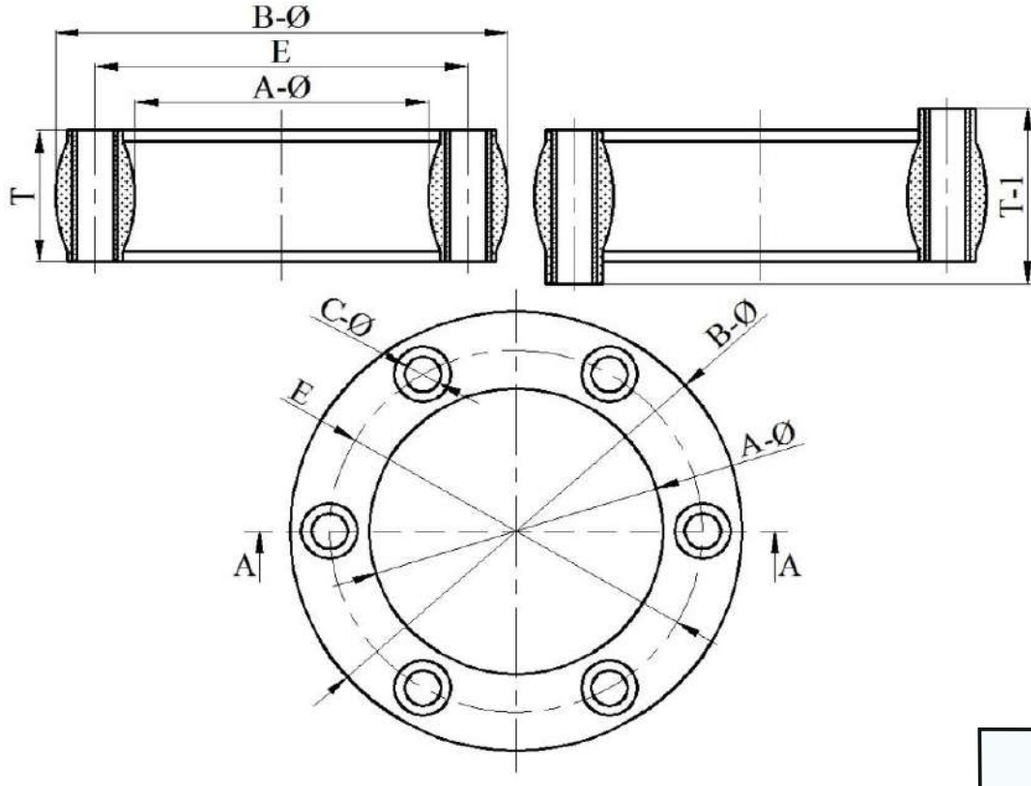
ÇİFT AÇILI TEK BAĞLANTILI DİSK KAPLİN
DOUBLE ANGLE SINGLE COUPLING DISC COUPLING

SİMİT KAPLİNLER
Circular Couplings





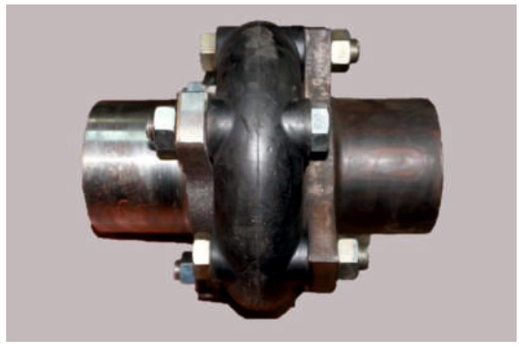
A-A KESİTİ



KOD - TYPE	A-Ø	B-Ø	C-Ø	E	T	T-1	Ağırlık Weight Kg ±
Ø120xE:90x6-Ø10,5	Ø60	Ø120	6-Ø10,5	90	44	56	0,780
Ø150xE:108x6-Ø12,5	Ø70	Ø150	6-Ø12,5	108	60	75	1,960
Ø230xE:186x6-Ø20,5	Ø112	Ø233	6-Ø20,5	186	68	-	3,500
Ø260xE:212x6-Ø20,5	Ø140	Ø263	6-Ø20,5	212	68	-	3,760
Ø260xE:210x8-Ø20,5	Ø140	Ø263	8-Ø20,5	210	78	-	4,740
Ø330xE:260x8-Ø23	Ø180	Ø330	8-Ø23	260	115	140,5	11,380
Ø575xE:475x16-Ø24,5	Ø375	Ø575	16-Ø24,5	475	168	225	48,220

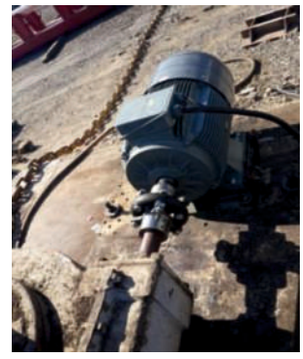
Not : İstenilen ölçülerde simit kaplin imalatı yapılır.
Note : Non-sized coupling can be manufactured.

SİMİT KAPLİNLER
Circular Couplings







PİMFLEX KAPLİNLER
Pinflex Couplings



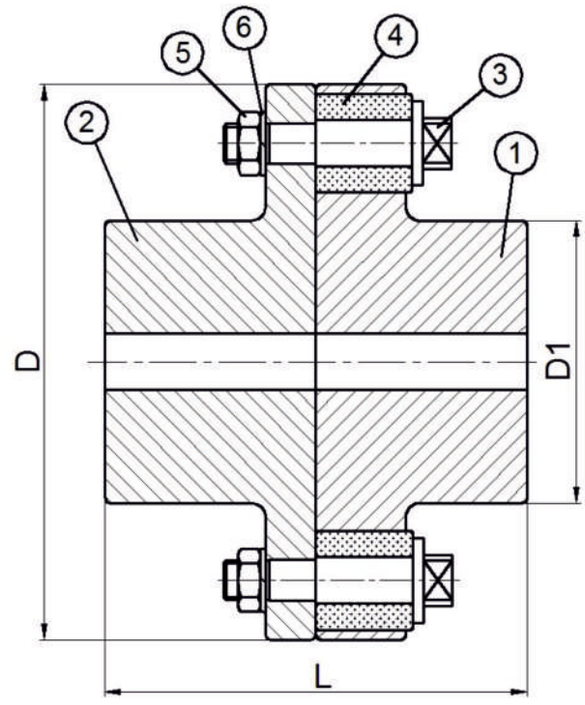








PİMFLEX KAPLİNLER
Pinflex Couplings



NO	PARÇA ADI	NAME OF PART
1	LASTİK YUVA TUTUCU ÇELİK KAPLİN - ST40	RUBBER HOLDER STEEL COUPLING - GS40
2	PİM TUTUCU ÇELİK KAPLİN - ST40	PIN HOLDER STEEL COUPLING - GS40
3	VİDALI KADEMELİ PİM – ST37	SCREW GRADUAL PIN – GS37
4	LASTİK BURÇ SHORE A 70+5	RUBBER SIGN SHORE A 70+5
5	SOMUN	NUT
6	YAYLI PUL	SPRING STAMP

KOD - TYPE	D	D1	L	ÇEVREDE PİM SAYISI NUMBER OF PINS ON THE ENVIRONMENT	Max.Tork (Nm)	AĞIRLIK KG WEIGHT KG
PFK 150	150	72	136	8	681	15
PFK 155	155	70	140	8	681	18
PFK 170	170	80	140	8	773	20
PFK 197	197	100	152	10	1199	25
PFK 245	245	120	242	8	2765	45
PFK 290	290	150	242	10	4321	62
PFK 350	350	220	280	12	6567	110
PFK 450	450	240	340	10	11419	185
PFK 490	490	300	300	14	19669	230
PFK 550	550	300	300	16	25290	265
PFK 650	650	400	800	16	60537	-
PFK 680	680	400	800	16	54622	-

Not : İstenilen ölçülerde pimflex kaplin imalatı yapılır.
Note : Non-sized pinflex coupling can be manufactured.

FRENGİ TAPASI
Scupper Plugs

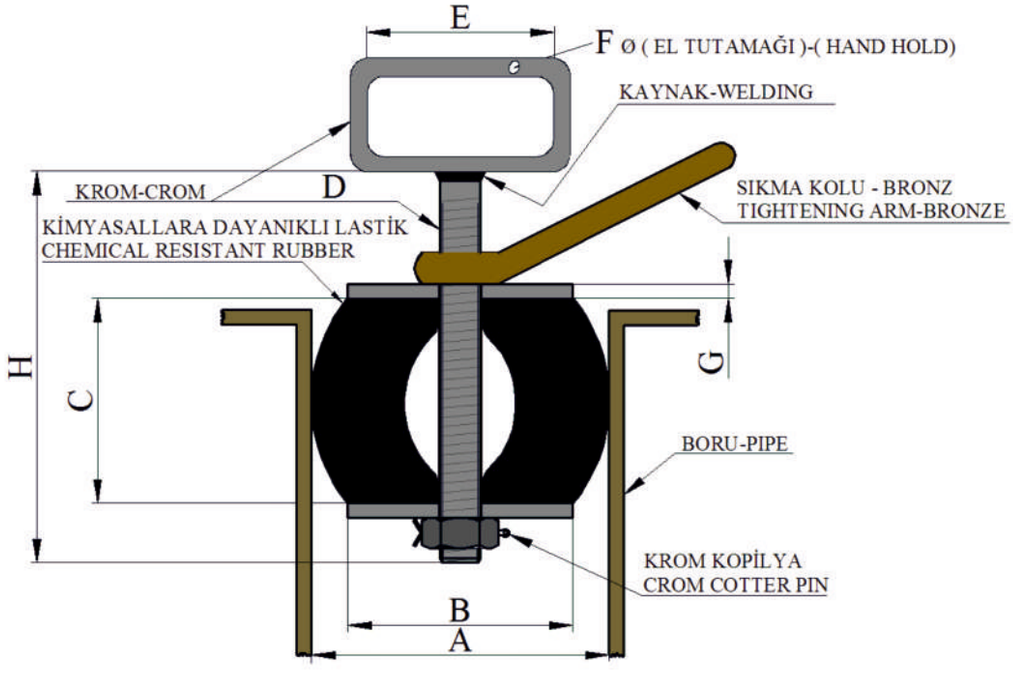


FRENGİ TAPASI

Kimyasal madde taşıyan tankerlerde, güvertelerde ve tankların olduğu yerlerde bulunan deliklerin dolum esnasında kapatılması gerekir. Bu yüzden, bizim ürettiğimiz bir sistemle rahat bir şekilde kapatabilirsiniz. Boru iç çapı (A) ölçüsü lastik esnekliğinden dolayı 10 ile 50mm arası esneyerek büyür. Dolayısı ile kaynaktan ovallenmiş olan veya bozuk yüzeye lastik kendi formunu verir ve sızdırmazlık görevi yapmış olur.

SCUPPER PLUG

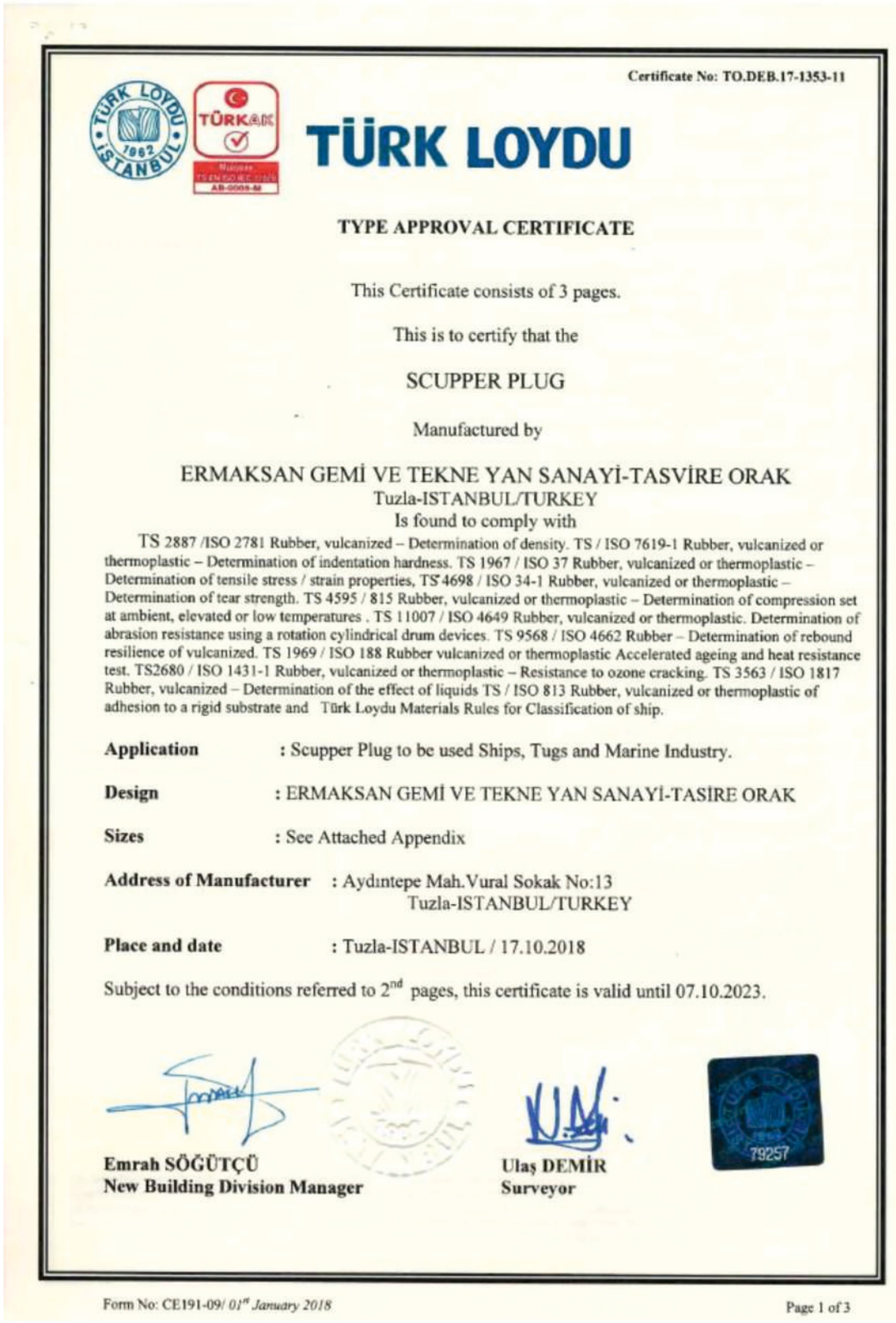
The holes situated around the decks and tanks have to be closed in the tankers carrying chemicals during the filling operations. Therefore, this can be achieved easily with a system manufactured by us. The internl diameter of the pipe (A) flexes and gets larger by10to 50 mm due to the flexibility of the rubber. Thus, the rubber adapts its shape to the oval of irregular shapes caused by welding and ensures a good seal.



FRENGİ TAPASI
Scupper Plugs

KOD - TYPE	A	B	C	D	E	F	G	H	AĞIRLIK KG WEIGHT KG
Tip30	Ø 30	Ø 25	30	M10	80	Ø10	15	140	0,340
Tip35	Ø 35	Ø 30	30	M10	80	Ø10	15	140	0,340
Tip40	Ø 40	Ø 35	40	M10	80	Ø10	4	140	0,440
Tip45	Ø 45	Ø 35	40	M10	80	Ø10	4	140	0,450
Tip50	Ø 50	Ø 43	44	M10	80	Ø10	4	140	0,450
Tip55	Ø 55	Ø 43	55	M12	80	Ø12	4	140	0,550
Tip60	Ø 60	Ø 43	55	M12	80	Ø12	4	140	0,600
Tip65	Ø 65	Ø 43	55	M12	80	Ø12	4	140	0,580
Tip70	Ø 70	Ø 43	55	M12	80	Ø12	4	140	0,740
Tip75	Ø 75	Ø 43	75	M12	80	Ø12	4	140	0,770
Tip80	Ø 80	Ø 63	55	M16	80	Ø12	5	165	1,160
Tip85	Ø 85	Ø 63	70	M16	80	Ø12	5	165	1,180
Tip90	Ø 90	Ø 63	70	M16	80	Ø12	5	165	1,210
Tip95	Ø 95	Ø 76	70	M16	80	Ø12	5	165	1,400
Tip100	Ø 100	Ø 76	70	M16	80	Ø12	5	165	1,430
Tip 105	Ø 105	Ø 76	70	M16	80	Ø12	5	165	1,500
Tip 110	Ø 110	Ø 76	75	M16	80	Ø12	5	165	1,560
Tip 115	Ø 115	Ø 76	82	M16	80	Ø12	5	165	1,670
Tip 120	Ø 120	Ø 76	82	M16	80	Ø12	5	165	1,770
Tip 125	Ø 125	Ø 100	82	M20	80	Ø12	6	195	2,230
Tip 130*	Ø 130	Ø 100	82	M20	80	Ø12	6	195	2,740
Tip 135	Ø 135	Ø100	82	M20	80	Ø12	6	195	2,460
Tip 140*	Ø 140	Ø 108	90	M20	80	Ø12	8	195	2,940
Tip 145	Ø 145	Ø 108	90	M20	80	Ø12	8	195	2,970
Tip 150	Ø 150	Ø 108	90	M20	80	Ø12	8	195	4,250
Tip 155*	Ø 155	Ø 137	95	M20	80	Ø12	8	195	4,310
Tip 160	Ø 160	Ø 137	95	M20	80	Ø12	8	195	4,310
Tip 165*	Ø 165	Ø 137	95	M20	80	Ø12	8	195	4,310
Tip 170 - 185	Ø 170 - Ø185	Ø 150	95	M20	80	Ø12	8	195	4,480
Tip 185 - 200	Ø 185 - Ø200	Ø 165	100	M20	80	Ø12	10	195	4,820
Tip 200 - 225	Ø 200 - Ø 225	Ø 175	100	M20	80	Ø12	10	195	5,120
Tip 225 - 250	Ø 225 - Ø 250	Ø 196	105	M20	80	Ø12	10	195	6,560
Tip 250 - 300	Ø 250 - Ø 300	Ø 250	130	M20	80	Ø12	8	250	10,920
Tip 300 - 350	Ø 300 - Ø 350	Ø 300	140	M24	80	Ø12	8	250	16
Tip 350 - 400	Ø 350 - Ø 400	Ø 340	150	M24	80	Ø12	10	250	25
Tip 400 - 450	Ø 400 - Ø 450	Ø 390	165	M24	80	Ø12	10	250	28
Tip 450 500	Ø 450 Ø 500	Ø 440	165	M24	80	Ø12	10	250	33

Sertifika
Certificate



Certificate No: TO.DEB.17-1353-11

TÜRK LOYDU

TYPE APPROVAL CERTIFICATE

This Certificate consists of 3 pages.

This is to certify that the

SCUPPER PLUG

Manufactured by

ERMAKSAN GEMİ VE TEKNE YAN SANAYİ-TASVİRE ORAK
Tuzla-ISTANBUL/TURKEY
Is found to comply with

TS 2887 /ISO 2781 Rubber, vulcanized – Determination of density. TS / ISO 7619-1 Rubber, vulcanized or thermoplastic – Determination of indentation hardness. TS 1967 / ISO 37 Rubber, vulcanized or thermoplastic – Determination of tensile stress / strain properties, TS 4698 / ISO 34-1 Rubber, vulcanized or thermoplastic – Determination of tear strength. TS 4595 / 815 Rubber, vulcanized or thermoplastic – Determination of compression set at ambient, elevated or low temperatures . TS 11007 / ISO 4649 Rubber, vulcanized or thermoplastic. Determination of abrasion resistance using a rotation cylindrical drum devices. TS 9568 / ISO 4662 Rubber – Determination of rebound resilience of vulcanized. TS 1969 / ISO 188 Rubber vulcanized or thermoplastic Accelerated ageing and heat resistance test. TS2680 / ISO 1431-1 Rubber, vulcanized or thermoplastic – Resistance to ozone cracking. TS 3563 / ISO 1817 Rubber, vulcanized – Determination of the effect of liquids TS / ISO 813 Rubber, vulcanized or thermoplastic of adhesion to a rigid substrate and Türk Loydu Materials Rules for Classification of ship.

Application : Scupper Plug to be used Ships, Tugs and Marine Industry.

Design : ERMAKSAN GEMİ VE TEKNE YAN SANAYİ-TASİRE ORAK

Sizes : See Attached Appendix

Address of Manufacturer : Aydıntepe Mah.Vural Sokak No:13
Tuzla-ISTANBUL/TURKEY

Place and date : Tuzla-ISTANBUL / 17.10.2018

Subject to the conditions referred to 2nd pages, this certificate is valid until 07.10.2023.

Emrah SÖĞÜTÇÜ
New Building Division Manager

Ulaş DEMİR
Surveyor

79257

Form No: CE191-09/ 01st January 2018

Page 1 of 3

AĞIR TİP VİBRASYON TAKOZU
Heavy Type Vibration Chocks



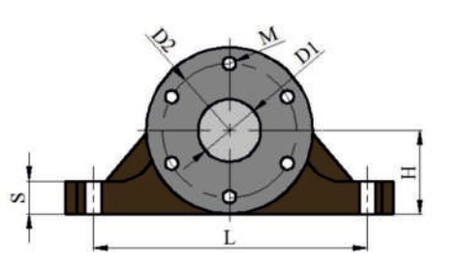


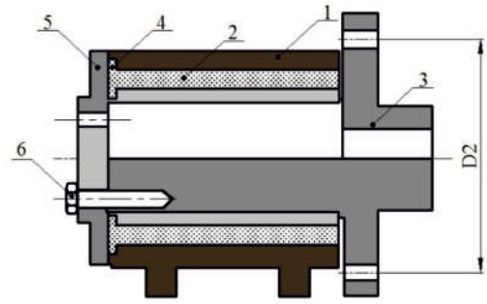
AĞIR TİP VİBRASYON TAKOZU

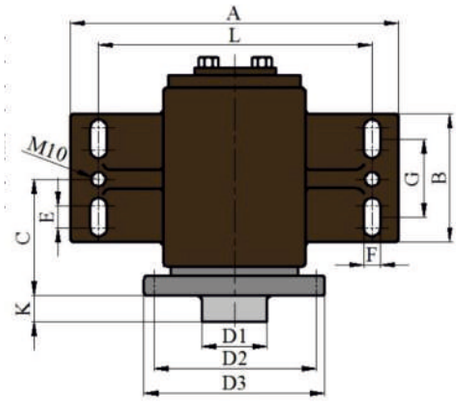
Ağır tip vibrasyon takozlarımızradyal ve aksiyal güçlerde kullanılır. 500 HP ile 3000 HP arası motorlarada rahatlıkla takılabilir. Çizelgede görüleceği üzere yüke göre seçilebilecek değerler verilmiştir.

HEAVY TYPE VIBRATION CHOCKS

Our heavy duty vibration chocks are used with radial and axial forces. May be insstalled for engines between 500 and 3000 HP without problem. The values selectable according to the load rates are given as seen in the table.



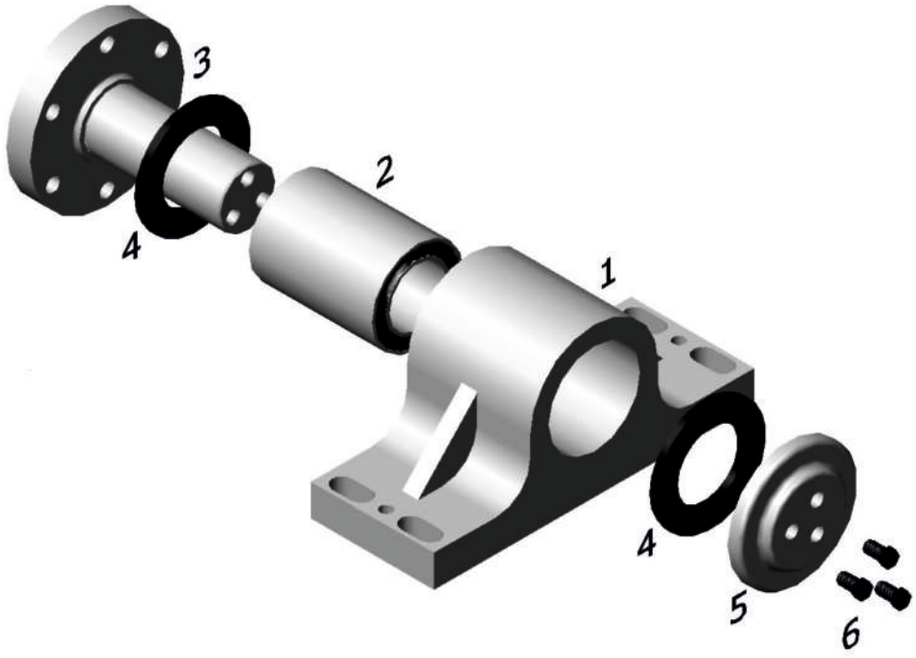




NO	PARÇA ADI	NAME OF PART
1	ALÜMİNYUM GÖVDE	ALUMINUM HULL
2	SÜSPANSİYON BURCU	SUSPANSION BUSHING
3	TAŞIYICI MİL	SUPPORT SHAFT
4	KORUYUCU LASTİK PUL	PROTECTIVE RUBBER WASHER
5	KAPAK	COVER
6	KAPAK BAĞLANTI CİVATASI	COVER MOUNTING BOLTS

KOD - TYPE	D1	D2	D3	K	A	B	C	H	S	L	G	E	F	M	Vertical Load (N)	Lateral Load (N)
ATVT 98	90	180	208	33	360	122	120	105	30	300	60	17	20	16-8	100000 N/1.5mm	19000 N/2.5mm
ATVT 70	70	150	175	27	300	112	105	90	28	250	60	17	17	14-6	60000 N/1.5mm	13000 N/2.5mm
ATVT 50	50	110	135	20	280	110	85	75	28	240	60	17	17	12-6	56000 N/1.5mm	8000 N/2.5mm

AĞIR TİP VİBRASYON TAKOZU
Heavy Type Vibration Chocks



NO	PARÇA ADI	NAME OF PART
1	ALÜMİNYUM GÖVDE	ALUMINUM HULL
2	SÜSPANSİYON BURCU	SUSPENSION BUSHING
3	TAŞIYICI MİL	SUPPORT SHAFT
4	KORUYUCU LASTİK PUL	PROTECTIVE RUBBER WASHER
5	KAPAK	COVER
6	KAPAK BAĞLANTI CİVATALARI	COVER CONNECTION BOLTS

Detaylı bilgi için lütfen firmamızla iletişime geçiniz.



İSKELE BAĞLANTI GERGİ LASTİĞİ
Rubber Mooring Tensioning Line





İSKELE BAĞLANTI GERGİ LASTİĞİ

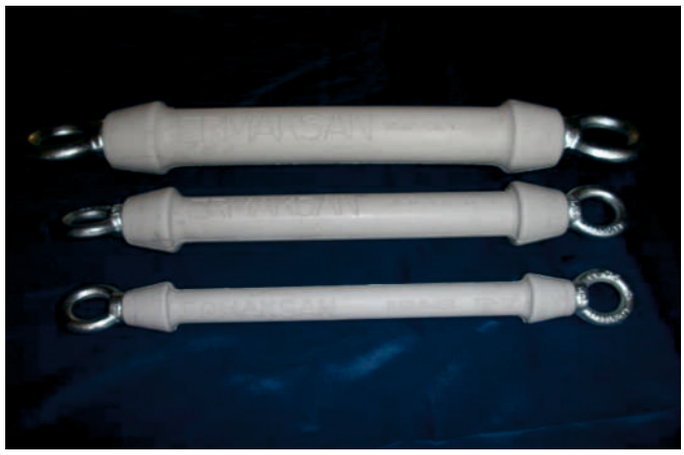
Teknenin iskele veya rıhtım ile olan ara mesafeye bağlanır.Dalgaların oluşumu ve rüzgardan doğan halattaki ani gerilmeleri esnek bir şekilde yok eder.Bu sayede teknedeki ani darbeleri yok olur.İskeleye gelen ani darbe kuvveti esnek bir şekilde alınmış olur.İskele babalarına halat veya bir kilit ile bağlanabilir.Lastik ozona karşı dayanıklı olduğundan da daha uzun ömürlüdür.

Herhangi bir şekilde lastiğin kopması halinde bile tekneniz yinede emniyet altındadır.Çünkü Lastik dışında krom emniyet zinciri bulunmaktadır.

RUBBER MOORING TENSIONING LINE

Tied between the distance form the vessel tothe berth op pier. Eliminates the sudden stresses in the line caused by waves and winds. Thus, the sudden shocks in the vessel are eliminated and the sudden shock forces applied to the pier are absorbed. It may be fastened to the bollards on the pier with a line or lock. The ozone-resistant rubber has a long service life.

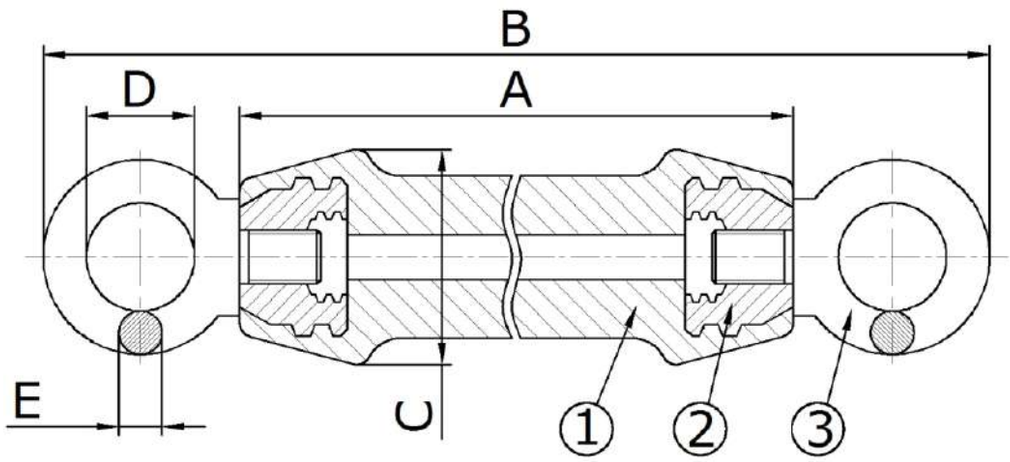
Your boat will still be safe even if the rubber may break suddenly, because there is a chrome safety chainoutside the rubber.





Zincir ile bağlantı
Connection wiht chain

İSKELE BAĞLANTI GERGİ LASTİĞİ
Rubber Mooring Tensioning Line



NO	PARÇA ADI	PART NAME
1	GERGİ LASTİĞİ	TENSION RUBBER
2	MAPA LASTİK TUTUCU	EYEBOLT TIRE HOLDER
3	HALAT BAĞLAMA MAPASI	EYEBOLT

KOD - TYPE	A	B	Ø-C	Ø-D	E	Max. Esneme miktarı (mm) Max. Flexion (mm)	Max. Çekme Gücü Kg. Max.Tensile strength Kg.	Kullanılabilir Çekme Gücü Kg. UsableTensile strength Kg.	Ağırlık Kg. Weight Kg.
P.M10	130	230	42	24	10	80	350	150	0.490
P.M12	345	450	45	26	12	120	1250	500	0.900
P.M16	380	500	65	36	14	240	2200	1250	2.000
P.M22	440	620	85	48	20	280	3250	2400	4,700
P.M30	600	820	120	60	24	420	6500	5000	10,350
P.M36	750	1010	150	70	28	550	14000	11000	18,200



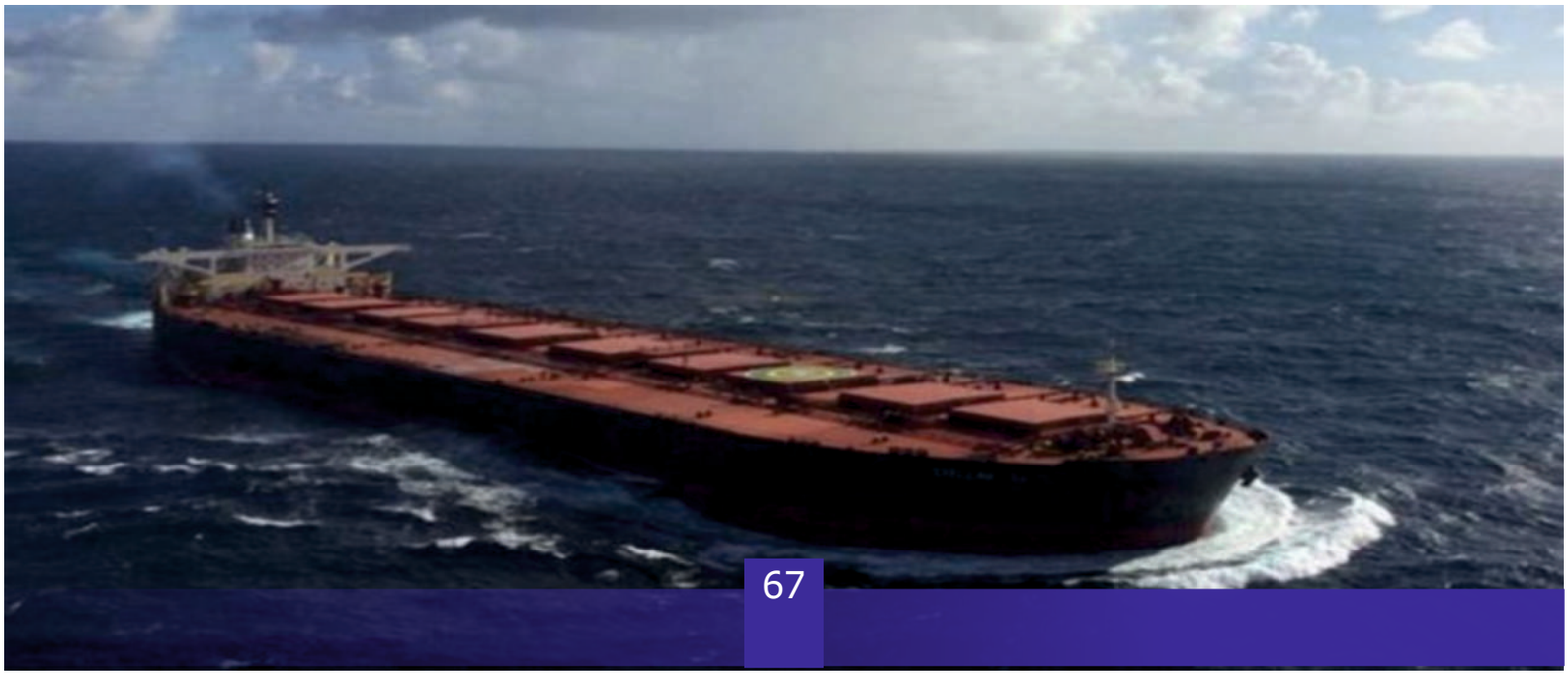


Halat ile bağlantı - Connection with rope

ÇELİK GÖVDELİ VİBRASYON BURÇLARI
Steel Body Vibration Rubber Bushing



ÇELİK GÖVDELİ LASTİK VİBRASYON BURÇLARI
DEĞİŞİK ÖLÇÜLERDE VİBRASYON BURÇLARI İÇİN BİZİ ARIYABİLİRSİNİZ.



ÇEKVALF - KLAPE
Checkvalve





ÇEKVALF

Pompalarda emişin daha iyi olabilmesi için emilen sıvının geri kaçmaması gerekir. Bizim sistemimiz lastik valfli olduğu için ve gövde kısmıda plastikten imal edilmiştir.

Bu nedenle bizim valflerimizi su-yağlı-mazotlu-asitli gibi sıvı sisteminde rahatlıkla kullanılabilir..

Takılabilir hortum ölçüleri:

R 1/2" - R 1"- R 1 1/4"- R 1 1/2"

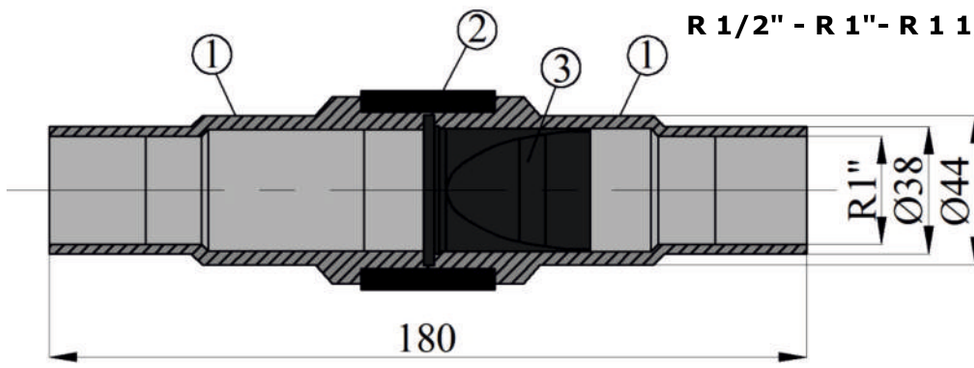
CHECKVALVE

The water sucked in should not be able to return to ensure a better suction for the pumps. Rubber valves are used in our system and the bodies are made of plastic.

Therefore, our valves can be used in any fluid systems containing water, oil, diesel fuel or acids without problem.

Attachable hose diameters:

R 1/2" - R 1"- R 1 1/4"- R 1 1/2"



NO	PARÇA ADI	PART NAME	PARÇA SAYISI NUMBER OF PARTS	MALZEME MATERIAL
1	HORTUM GÖVDESİ	PIPE BODY	2	MOBLEN PLASTİK
2	LASTİK TUTUCU GÖVDE	RUBBER HOLDER BODY	1	MOBLEN PLASTİK
3	LASTİK VALF	RUBBER VALVE	1	PLASTİK (NBR)

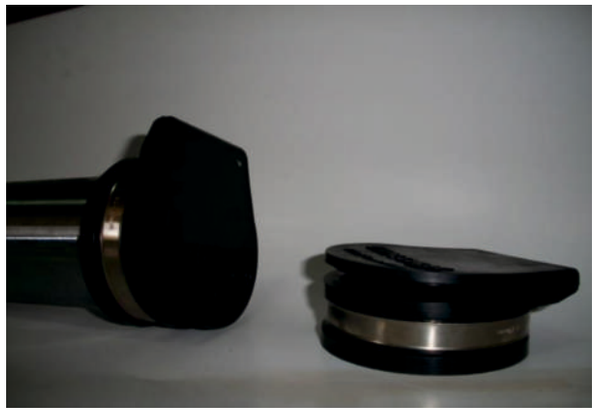
ÇEKVALF - KLAPE
Checkvalve

EKSOZ KLAPESİ

Bu tip klapeler anamakina eksoz çıkışlarında kullanılır. Motorun çalışmadığı zamanlarda tekneye vuran dalgalardan doğan basınçlı suyun motora girmesini engeller. Eksoz suyundan doğan istenmeyen ses ve gürültüyü klepe sayesinde aza indirmiş olur ve diğer deniz üstündeki canlı ve cansız pisliklerin motora girmesini engellemiş olur, eğer motorunuza deniz suyu girerse daha büyük masraflar açar.
Klape lastiği ısıya ve deniz suyuna güneş ışınlarına ozona dayanıklıdır.

EXHAUST SEAL VALVE

This type of valves are used ar the main engine exhaust discharge. They prevent the pressurized water caused by the waves from entering the engine when the engine is running. The sound and noise caused by the exhaust water are reduced by the valve, while the entry of any live or dead flotsam in to the engine is prevented. Ingress of water in to your engine results in much larger expenses. The rubber material of the valve is resistant against ozone, sea water and sun rays.









KOD-TYPE BORU DIŞ ÇAP mm	PIPE EXTERIOR DIAMETER Inch
Ø50	2″
Ø60	2 3/8″
Ø75	3″
Ø90	3 1/2″
Ø100	4″
Ø115	4 1/2″
Ø125	5″
Ø150	6″
Ø203	8″

ÖZEL İMALAT KAPLİN LASTİKLER
Special Flexible Coupling Rubbers



Not : Değişik tiplerde ve ölçülerde ANA MAKİNA ve JENARATÖR kaplinler için firmamızı arayabilirsiniz.
Note : You can reach Ermaksan for MAIN ENGINE and GENERATOR couplings in different tupes and sizes.





Not : İstenilen ölçülerde lastik kaplin lastikleri imalatı yapılır.
Note : Non-sized rubber coupling can be manufactured.