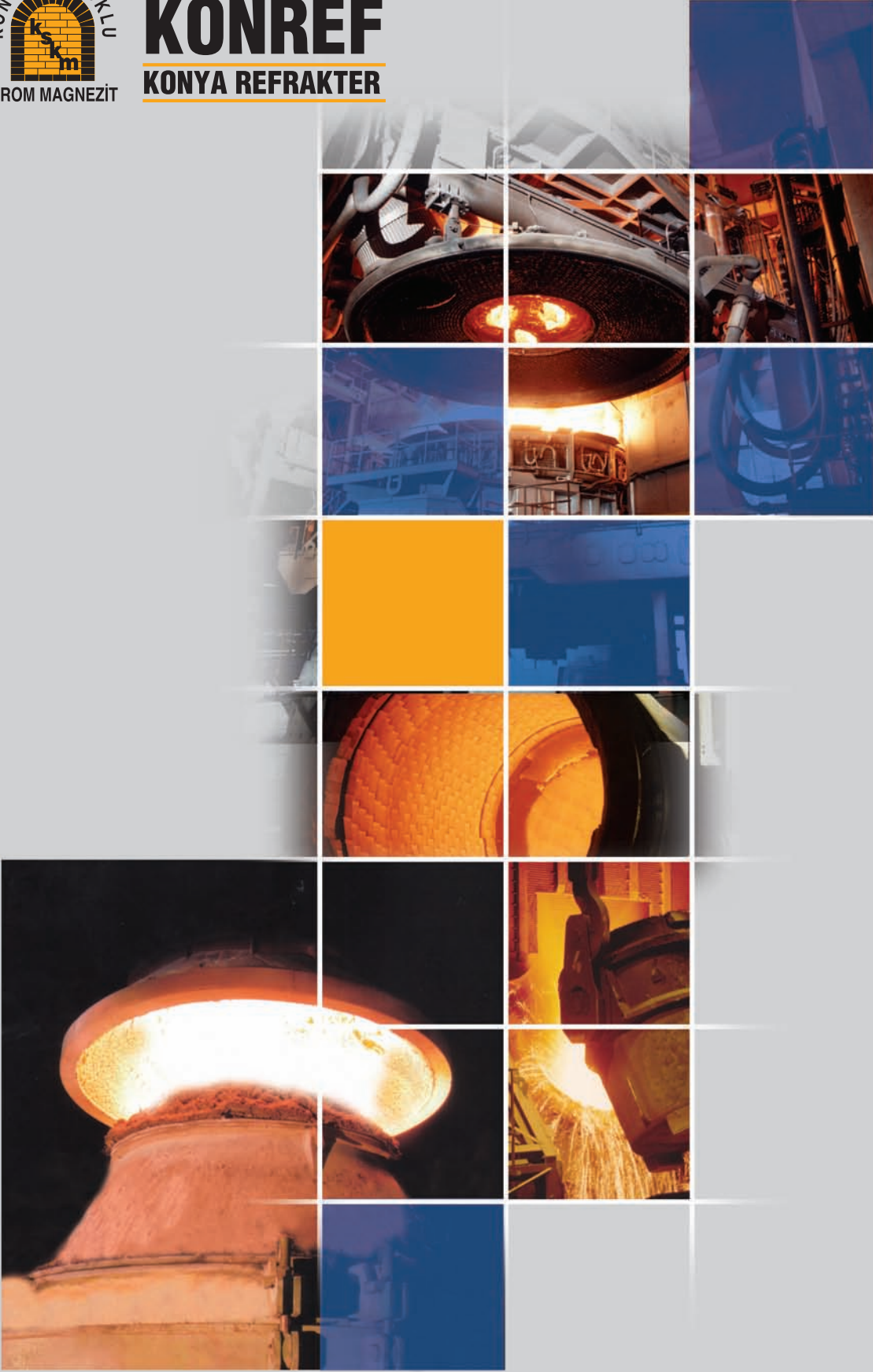




**KONREF**  
**KONYA REFRAKTER**



**KONYA SELÇUKLU KROM MAGNEZİT TUĞLA SANAYİİ A.Ş.**

**Demir - Çelik Endüstrisi Refrakterleri**  
Refractories for iron and steel industries

# KONYA SELÇUKLU KROM MAGNEZİT TUĞLA SANAYİİ



Konya Selçuklu Krom Magnezit, 10 Haziran 1968 tarihinde Türkiye ve Ortadoğu'nun ilk Entegre Bazik Refrakter Tesisi olarak üretime başladı. 1970, 1975, 1978 ve 1981 yıllarında hayata geçirilen idame-yenileme yatırımları ile 16500 tonluk başlangıç kapasitesi 48000 ton tuğla ve 36000 ton harç olmak üzere toplam 84000 tona ulaştı. 1990-1996 yılları arasında gerçekleştirilen yapısal nitelikli son modernizasyon projesi ile Konya Selçuklu Krom Magnezit bugün Dünya'nın en modern fabrikalarından birisidir. Sürekli olarak devam ettirilen modernizasyon yatırımları ile çağdaş teknoloji eş zamanlı olarak takip edilmektedir.

Türkiye rezervinin %55'ine karşılık gelen 83 milyon tonluk toplam rezerviyle zengin Magnezit yataklarına sahip olan Konya Selçuklu Krom Magnezit, bu yataklardaki çok geniş kalite dağılımı ile hafif hizmet refrakterlerinden, süper hizmet refrakterlerine kadar çok geniş bir alanda hizmet verme imkanına sahip bulunmaktadır.

48 yıllık tecrübesiyle Türk Refrakter Sektörünün lideri olan Konya Selçuklu Krom Magnezit, Türk Sanayii ile beraber üç kıtada Dünya Sanayii'nin de hizmetindedir.

Toplam kaliteyi hedefleyen çağdaş kalite anlayışı ile 1996 yılı Haziran ayından itibaren TS-EN-ISO-9001 Kalite Sistem Belgesi sahibi olan Konya Selçuklu Krom Magnezit, 1998 yılı Haziran ayında özelleştirilmesinin ardından sahip olduğu çok daha aktif ve esnek yönetim anlayışıyla Dünya liderliğine koşmanın heyecanıyla çalışmalarına devam etmektedir. Konya Selçuklu Krom Magnezit, 2000 yılı başından itibaren Alümina Silikat esaslı refrakter üretimine de başlamıştır.

Kuruluşundan itibaren İndüksiyon Ocakları için Bazik Dövme Malzemesi üreten kuruluşumuz, son 10 yıldır Nötr / Spinel Dövme Malzemesi üretmekte olup 2008 yılından itibaren Asidik Dövme Malzemesi üretimine de başlamıştır.

*Konya Selçuklu Krom Magnezit was established in 1968 to produce basic refractories. It has large and high quality magnesite ore deposits. As the first integrated basic refractory producer in the Middle East. Besides 45000 tons/year DBM production Konya Selçuklu Krom Magnezit has an annual capacity of 36,000 tons/year unshaped products and 48,000 tons/years bricks as totally 84,000 tons/year.*

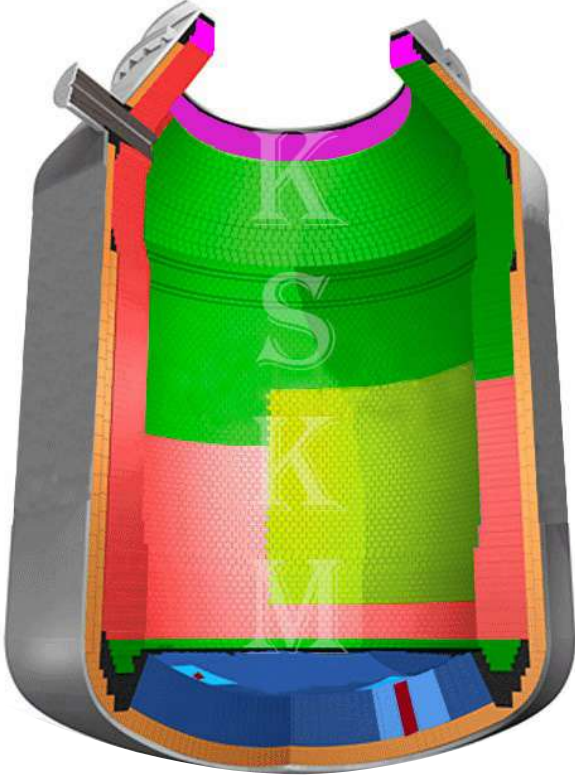
*Today, Konya Selçuklu Krom Magnezit has been competing in global market with its updated technology, high quality raw materials and perfect final products. Product lines are fully computerized.*

*Additionally, Konya Selçuklu Krom Magnezit with its 48 years experience, of course has a very high level quality system. Therefore quality has been improved*

*by competent and experienced engineers at the modern laboratory so as to solve customer's problems and much effort is made to guide in refractory usage. Since 1996 Konya Selçuklu Krom Magnezit has been holding TS-EN-ISO 9001 certificate. And Konya Selçuklu Krom Magnezit also started full range Alumina Silicate based refractories since the beginning of year 2000.*



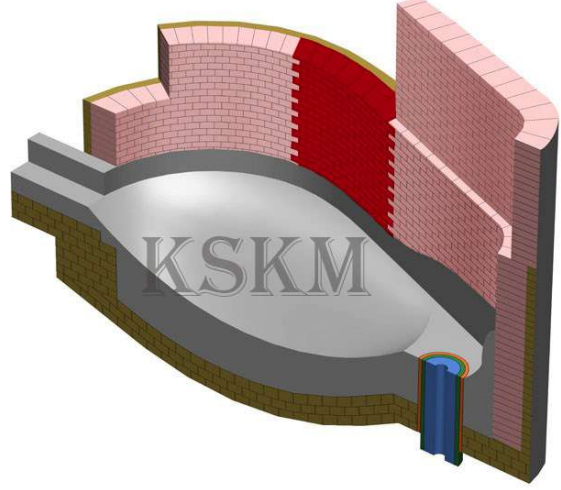
# CONVERTER



BÖLGE ZONE	ŞEKİLLİ SHAPED	ŞEKİLSİZ UNSHAPED
<b>ÇALIŞMA ASTARI</b> WORKING LINING	KOMACAR 15 GRE10	T2 PS
	KOMACAR 8 GRE10	ST3 PS
	KOMACAR 8 GR2	ST3 PSC
	KOMACAR 5 GR2	ST3 SY
	P 002 YI P 002 YSI	ST3 SD
<b>AĞIZ BÖLGESİ</b> MOUTH	KOMACAR 5 GR2	YD 026 E
	P 002 YI P 002 YSI	
	-	ZS 026
<b>EMNİYET ASTARI</b> PERMANENT LINING	P 001 N P 001 YK P 002 Y P 002	NA 010 YA 020

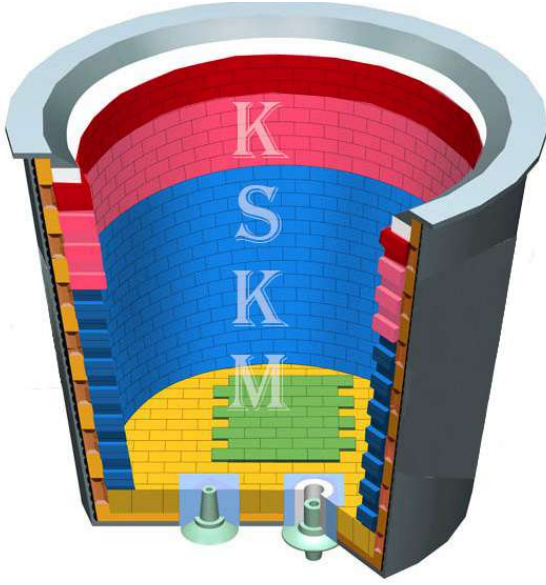
# ELECTRIC ARC FURNACE

(With Water Cooling and E.B.T. System)



BÖLGE ZONE	ŞEKİLLİ SHAPED	ŞEKİLSİZ UNSHAPED
<b>SICAK BÖLGELER</b> HOT SPOTS	KOMACAR 15 GR E10 KOMACAR 12 GR E10	T2 PS ST3 PS ST3 PSC ST3 SY ST3 SD
	KOMACAR 12 GR 2 KOMACAR 10 GR 2	YD 026 E
	-	KONRAM 93 KONRAM 93 ST YD 026 ND 016
	P 002 Y P 002 P 001 YK	YA 020 NA 010

## TREATMENT LADLE FOR SECONDARY METALLURGICAL PROCES



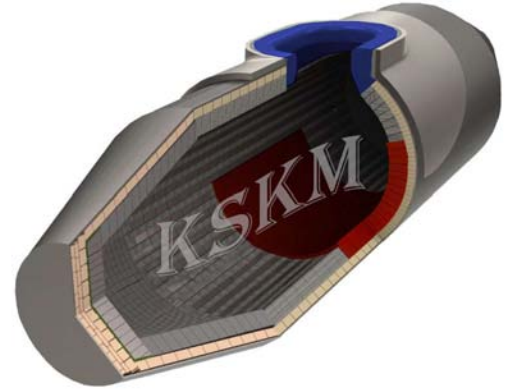
BÖLGE ZONE	ŞEKLİ SHAPED	ŞEKİLSİZ UNSHAPED
<b>CÜRUF SEVİYESİ</b> SLAG LEVEL	KOMACAR 15 GRE10 KOMACAR 12 GRE10 KOMACAR 12 GRD10 KOMACAR 10 GR2	-
<b>SERBEST BÖLGE</b> FREE BOARD	KOMACAR 12 GR2 P452 Y P451 YK	YA020 NA010
<b>EMNİYET ASTARI</b> PERMANENT LINING	P452 Y P451 YK	YA020 NA010
<b>METAL SEVİYE</b> METAL LEVEL	KOMACAR 10 GR2 KOMACAR 8 GR2	-
<b>ASTAR ALTI</b> WEAR LINIG BOTTOM	KOMACAR 10 GR2 KOMACAR 8 GR2 KOMACAR 5 GR2	-
<b>TABAN ÇALIŞMA ASTARI</b> BOTTON WORKING LINING	KOMALCAR 5 GRI KOMALCAR 6 GRI KOMALCAR 7 GR KOMALCAR 8 GR KOMALCAR 9 GR	-
<b>GAZ ÜFLEME VE DÖKÜM DELİĞİ ÇANAĞI</b> GAS PURGING AND TAPPING HOLE BLOCK	KONCAST 190 ULC	ZS026 YD026 E

## TUNDISH



BÖLGE ZONE	ŞEKLİ SHAPED	ŞEKİLSİZ UNSHAPED
<b>ÇARPMA PLAKASI</b> IMPACT PAD	P 901 KONAL 85 KOMALCAR 5GRI	-
<b>ÇALIŞMA ASTARI</b> WEAR LINING	-	KON TP KON TS
<b>EMNİYET ASTARI</b> PERMANENT LINING	KONAL 80	KONLOWCAST 82

## TORPEDO LADLE



BÖLGE ZONE	ŞEKLİ SHAPED	ŞEKİLSİZ UNSHAPED
<b>ÇALIŞMA ASTARI</b> WORKING LINING	KONASC B12 KONASC B12 K	KONHASC B12M
<b>EMNİYET ASTARI</b> SAFETY LINING	KONAL 80 KONAL 45	KONHAL 80M KONHAL 45M

ÜRÜN ADI MATERIAL NAME	KİMYASAL ÖZELLİKLER / CHEMICAL ANALYSIS %					FİZİKSEL ÖZELLİKLER / PHYSICAL PROPERTIES		
	MgO	SiO <sub>2</sub>	CaO	Fe <sub>2</sub> O <sub>3</sub>	Al <sub>2</sub> O <sub>3</sub>	L.O.I	HACİM AĞIRLIĞI BULK DENSITY gr/cm <sup>3</sup>	TANE BOYUTU GRAIN SIZE (mm)
<b>KSKM SİNER MAGNEZİTLER / KSKM DEAD BURNT MAGNESITES</b>								
KSKM SS	96,5	0,8	1,7	0,5	0,2	0,2	3,45	0 - 15
KSKM S	96	1,0	1,8	0,5	0,2	0,2	3,40	0 - 15
KSKM GR	96	1,2	1,8	0,5	0,2	0,2	3,40	0 - 15
KSKM SP 1	95	1,5	2,5	0,5	0,2	0,2	3,38	0 - 15
KSKM SP 2	95	2,0	2,0	0,5	0,2	0,2	3,36	0 - 15
KSKM SD	92	1,2	2,0	4,0	0,2	0,2	3,40	0 - 15
KSKM D 1	87	1,2	6,0	5,0	0,2	0,2	3,40	0 - 15
KSKM D 2	84	3,0	6,0	5,0	0,2	0,2	3,38	0 - 15
KSKM Y	95	2,5	1,5	0,5	0,2	0,2	3,35	0 - 15
KSKM YK 1	94	3,5	1,5	0,5	0,2	0,2	3,34	0 - 15
KSKM YK 2	93	4,0	2,0	0,5	0,2	0,2	3,34	0 - 15
KSKM ST 1	92	4,5	2,0	0,5	0,2	0,2	3,33	0 - 15
KSKM ST 2	91	6,0	2,2	0,5	0,2	0,2	3,33	0 - 15
KSKM ST 3	90	6,0	2,0	0,5	0,2	0,2	3,33	0 - 15
KSKM TP	88	8,0	2,5	1,0	0,2	0,2	3,25	0 - 15
KSKM HB	88	9,0	1,5	0,5	0,2	0,2	3,25	0 - 15

Pişmiş Magnezit, Magnezit – Krom, Krom- Magnezit Tuğlalar / Fired Magnesite, Magnesite-Chrome, Chrome magnesite bricks															
ÜRÜN ADI MATERIAL NAME	KİMYASAL ÖZELLİKLER / CHEMICAL ANALYSIS %						FİZİKSEL ÖZELLİKLER / PHYSICAL PROPERTIES								
	MgO	Cr <sub>2</sub> O <sub>3</sub>	Al <sub>2</sub> O <sub>3</sub>	Fe <sub>2</sub> O <sub>3</sub>	CaO	SiO <sub>2</sub>	HACİM AĞIRLIĞI BULK DENSITY gr/cm <sup>3</sup>	GÖRÜNÜR PORÖZİTE APPARENT POROSITY (%)	SBM COLD CRUSHING STRENGTH Kg/cm <sup>2</sup>	YÜK ALTINDA REF. REFRACTORINESS UNDER LOAD		ISIL İLETKENLİK AL CONDUCTIVITY (Kcal/mh (°C))		ISIL GENLEŞME LINEAR THERMAL EXPANSION (%)	
										Ta (°C)	Tb (°C)	500°C	1000°C	1000°C	1400°C
<b>PIŞIŞ MAGNEZİT TUĞLA / FIRED MAGNESITE BRICKS</b>															
P 002 D	90	-	0,3	5,0	2,0	2,5	2,90-3,00	14-18	>600	1600	1650	2,85	2,60	1,20	1,70
P 001 YK	92	-	0,3	1,0	2,5	4,0	2,90-3,00	15-19	>600	1600	1650	2,85	2,60	1,20	1,70
P 002	94	-	0,3	0,5	2,5	2,5	2,90-3,00	14-18	>600	1650	1700	3,50	3,00	1,20	1,70
P 002 Y	95	-	0,3	0,5	2,5	1,5	2,90-3,00	15-19	>600	1650	1750	3,50	3,00	1,20	1,70
P 002 YS	96	-	0,3	0,5	2,0	1,0	2,95-3,05	16-20	>600	1750	1750	3,50	3,00	1,20	1,70
P 002 YF	97	-	0,2	0,4	1,6	0,8	2,95-3,05	16-20	>600	1750	1750	3,50	3,00	1,20	1,70
P 002 YFS	98	-	0,2	0,4	1,2	0,6	2,95-3,05	16-20	>600	1750	1750	3,50	3,00	1,20	1,70
<b>PIŞIŞ MAGNEZİT KROM TUĞLA / FIRED MAGNESITE CHROME BRICKS</b>															
P 151 N	75-80	5 - 8	2 - 4	2 - 4	2,5	6,0	2,90-3,00	16-20	>400	1550	1600	2,00	1,85	1,20	1,70
P 151 YK	78-85	5 - 8	2 - 4	2 - 4	2,5	4,0	2,90-3,00	16-20	>400	1550	1600	2,00	1,85	1,20	1,70
P 152 Y	80-86	5 - 8	2 - 4	2 - 4	2,5	2,0	2,90-3,00	16-20	>450	1600	1750	2,50	2,40	1,10	1,60
P 201 YK	72-80	7 - 10	3 - 6	3 - 6	2,0	4,0	2,90-3,00	16-20	>350	1550	1600	1,90	1,80	1,10	1,60
P 202 Y	70-78	7 - 10	3 - 6	3 - 6	2,0	2,5	3,00-3,10	16-20	>450	1600	1700	2,10	1,90	1,10	1,60
P 351 YK	61-64	13-17	4-7	8	2,5	4,0	2,95-3,05	17-21	>350	1500	1650	1,75	1,65	1,1	1,5
P 352 Y	66-70	13-17	4-7	8	2,5	2,5	3,00-3,10	16-20	>350	1600	1700	1,75	1,35	1,1	1,6
P 451 YK	55-58	18-22	6-9	8	2,5	4,0	2,95-3,05	17-21	>350	1550	1650	1,70	1,60	1,1	1,6
P 452 Y	58-62	18-22	6-9	8	2,5	2,5	3,00-3,10	17-21	>400	1600	1700	1,80	1,70	1,1	1,6
P 452 YS	60-64	18-22	6-9	8	1,5	1,5	3,05-3,15	17-21	>400	1650	1750	1,85	1,75	1,1	1,6
P 452 YOS	64-66	16-20	6-9	8	1,0	1,0	3,15-3,25	18-21	>500	1750	1800	1,9	1,8	1,0	1,4
P 452 YOSS	66-70	15-17	6-9	8	0,8	0,8	3,20-3,30	18-20	>500	1750	1800	1,9	1,8	1,0	1,4
<b>PIŞIŞ KROM MAGNEZİT TUĞLA / FIRED CHROME MAGNESITE BRICKS</b>															
P 602 Y	47-51	24-27	9-12	10	2,0	3,0	3,10-3,15	18-22	>300	1600	1700	2,0	1,8	1,0	1,4
P 602 YOS	47-51	24-27	9-12	10	1,5	1,5	3,15-3,20	18-22	>350	1650	1750	2,0	1,8	1,0	1,4
P 752 Y	35-40	31-35	11-15	13	2,0	3,0	3,15-3,20	18-22	>300	1600	1700	2,0	1,5	0,8	1,1
P 752 YOS	37-39	30-35	11-12	14	1,5	1,5	3,25-3,35	18-22	>350	1650	1750	2,0	1,5	0,8	1,1
P 901 YK	22-25	37-42	13-17	15	2,0	4,0	3,10-3,20	20-24	>300	1550	1650	2,0	1,8	0,8	1,1

REÇİNE BAĞLI MAGNEZİT KARBON TUĞLALAR / RESIN BONDED MAGNESIA CARBON BRICKS

ÜRÜN ADI MATERIAL NAME	KİMYASAL ÖZELLİKLER / CHEMICAL ANALYSIS % 1100°C DE YAKILMIŞ NUMUNEDE FIRE AT 1100°C IN REDUCING ATMOSPHERE					FİZİKSEL ÖZELLİKLER / PHYSICAL PROPERTIES SEVK EDİLDİĞİ HALDE AS DELIVERED			
	MgO	Al <sub>2</sub> O <sub>3</sub>	Fe <sub>2</sub> O <sub>3</sub>	CaO	SiO <sub>2</sub>	TOPLAM KARBON TOTAL CARBON, %	HACİM AĞIRLIĞI BULK DENSITY gr/cm <sup>3</sup>	GÖRÜNÜR PORÖZİTE APPARENT POROSITY %	SBM COLD CRUSHING STRENGTH (Kg/cm <sup>2</sup> )
	KOMACAR 5 GR2	96,0	0,5	0,5	2,0	1,2	5,0	3,00	4,5
KOMACAR 5 GRD5	97,0	0,5	0,5	1,4	0,7	5,0	3,02	4,0	450
KOMACAR 5 GRD10	98,0	0,5	0,5	1,0	0,5	5,0	3,04	3,5	450
KOMACAR 5 GRE5	97,0	0,5	0,5	1,2	0,7	5,0	3,03	4,0	450
KOMACAR 5 GRE10	97,5	0,5	0,5	1,0	0,5	5,0	3,05	3,5	450
KOMACAR 5 GRDE5	97,5	0,5	0,5	0,8	0,5	5,0	3,04	3,5	450
KOMACAR 8 GR2	96,0	0,5	0,5	2,0	1,2	8,0	3,00	4,5	400
KOMACAR 8 GRD5	97,0	0,5	0,5	1,4	0,7	8,0	3,02	4,0	400
KOMACAR 8 GRD10	98,0	0,5	0,5	1,0	0,5	8,0	3,04	3,5	500
KOMACAR 8 GRE5	97,0	0,5	0,5	1,2	1,2	8,0	3,02	4,0	400
KOMACAR 8 GRE10	97,5	0,5	0,5	1,0	0,5	8,0	3,04	3,5	400
KOMACAR 8 GRDE5	97,5	0,5	0,5	1,0	0,5	8,0	3,05	3,5	500
KOMACAR 10 GR2	96,0	0,5	0,5	2,4	1,2	10,0	3,00	4,5	400
KOMACAR 10 GRD5	97,0	0,5	0,5	1,4	0,7	10,0	3,01	4,0	400
KOMACAR 10 GRD10	98,0	0,5	0,5	1,0	0,5	10,0	3,03	3,5	500
KOMACAR 10 GRE5	97,0	0,5	0,5	1,2	1,0	10,0	3,02	4,0	400
KOMACAR 10 GRE10	97,5	0,5	0,5	1,4	0,7	10,0	3,03	3,5	400
KOMACAR 10 GRDE5	97,5	0,5	0,5	1,0	0,5	10,0	3,03	3,5	500
KOMACAR 12 GR2	96,0	0,5	0,5	2,5	1,2	12,0	2,95	4,5	400
KOMACAR 12 GRD5	97,0	0,5	0,5	1,4	0,7	12,0	2,98	4,0	400
KOMACAR 12 GRD10	98,0	0,5	0,5	1,8	0,5	12,0	3,00	3,5	450
KOMACAR 12 GRE5	97,0	0,5	0,5	1,6	0,8	12,0	2,98	4,0	400
KOMACAR 12 GRE10	97,5	0,5	0,5	1,4	0,7	12,0	3,00	3,5	400
KOMACAR 12 GRDE5	97,5	0,5	0,5	1,0	0,5	12,0	3,00	3,5	450
KOMACAR 15 GR2	96,0	0,5	0,5	2,0	1,2	15,0	2,93	4,5	350
KOMACAR 15 GRD5	97,0	0,5	0,5	1,0	0,7	15,0	2,96	4,0	350
KOMACAR 15 GRD10	98,0	0,5	0,5	1,0	0,5	15,0	2,98	3,5	450
KOMACAR 15 GRE5	97,0	0,5	0,5	1,0	0,8	15,0	2,99	4,0	450
KOMACAR 15 GRE10	97,5	0,5	0,5	1,0	0,6	15,0	3,00	3,5	450
KOMACAR 15 GRDE5	97,5	0,5	0,5	0,8	0,6	15,0	3,00	3,5	450

\* Chemical analysis in on raw material basis.

The technical test data have been determined on specimens made from machine-pressed standard bricks (230 x 114x 64 mm) in compliance with the testing standards. These are typical approximate guide values, not be considered as binding specifications . Production can also be realized according to the customer's requirement. Additional detailed information can be given in Data Sheet.

ALUMİNA MAGNEZİT KARBON TUĞLALAR / RESIN BONDED ALUMINA MAGNESIA CARBON BRICKS

ÜRÜN ADI MATERIAL NAME	KİMYASAL ÖZELLİKLER / CHEMICAL ANALYSIS %					FİZİKSEL ÖZELLİKLER / PHYSICAL PROPERTIES			
	1100°C DE YAKILMIŞ NUMUNEDE FIRED AT 1100°C IN REDUCING ATMOSPHERE					SEVK EDİLDİĞİ HALDE AS DELIVERED			
	MgO	Al <sub>2</sub> O <sub>3</sub>	Fe <sub>2</sub> O <sub>3</sub>	CaO	SiO <sub>2</sub>	TOPLAM KARBON TOTAL CARBON, %	HACİM AĞIRLIĞI BULK DENSITY gr/cm <sup>3</sup>	GÖRÜNÜR POROZİTE APPARENT POROSITY %	SBM COLD CRUSHING STRENGTH (Kg/cm <sup>2</sup> )
KOMALCAR 5 GRI	8,0	90,0	0,5	0,5	1,0	5	2,85	4,0	500
KOMALCAR 6 GRI	7,0	87,5	1,0	1,5	3,0	6	2,84	4,0	500
KOMALCAR 7 GRI	80,0	17,1	0,5	0,8	1,6	7	2,82	4,0	450
KOMALCAR 8 GRI	8,7	90,0	0,5	0,4	0,4	8	2,80	4,0	450
KOMALCAR 9 GRI	14,0	81,2	1,0	0,8	3,0	9	2,79	4,0	450

ÜRÜN ADI MATERIAL NAME	KİMYASAL ÖZELLİKLER / CHEMICAL ANALYSIS %						FİZİKSEL ÖZELLİKLER / PHYSICAL PROPERTIES						
	MgO	Cr <sub>2</sub> O <sub>3</sub>	Al <sub>2</sub> O <sub>3</sub>	Fe <sub>2</sub> O <sub>3</sub>	CaO	SiO <sub>2</sub>	HACİM AĞIRLIĞI BULK DENSITY gr/cm <sup>3</sup>	GÖRÜNÜR POROZİTE APPARENT POROSITY %	SBM COLD CRUSHING STRENGTH (Kg/cm <sup>2</sup> )	Yük Altında Ref. Refractoriness Under Load		Isıl Genleşme Liner Thermal Expansion (%) (500°C)	
	Ta (°C)		Tb (°C)										
<b>KİMYASAL BAĞLI VE ÇELİK SAÇLI MAGNEZİT KROM TUĞLALAR / CHEMICALLY BONDED AND STEEL ENCASED MAGNESITE / MAGNESITE CHROME BRICKS</b>													
K/S 001 YK	92	-	0,3	1,0	2,5	4,0	2,95 - *3,00	*14-18	300 *600	*1600	*1650	1,3	*1,2
K/S 002 Y	95	-	0,3	0,5	2,5	1,5	2,95 - *3,00	*15-19	300 *600	*1700	*1750	1,25	*1,2
K/S 151YK	75-85	5-8	2-4	2-4	2,5	4,0	2,95 - *3,05	*16-20	300 *400	*1550	*1600	1,2	*1,1
K/S 152 Y	80-85	5-8	2-4	2-4	2,5	2,0	3,00 - *3,10	*14-19	300 *450	*1650	-	1,1	*1,1
K/S 201 YK	73-77	7-10	3-6	3-6	2,5	4,0	2,95 - *3,05	*16-20	300 *400	*1550	*1600	1,1	*1,1
K/S 202 Y	77-82	7-10	3-6	3-6	2,5	2,0	3,00 - *3,10	*15-19	300 *400	*1600	*1700	1,1	*1,1
K/S 351 YK	61-64	13-17	4-7	5-8	2,5	3,5	3,00 - *3,10	*16-20	300 *350	*1650	*1650	1,1	*1,1
K/S 352 Y	66-70	13-17	4-7	5-8	2,0	2,5	3,00 - *3,10	*16-20	300 *400	*1550	*1650	1,15	*1,1
K/S 451 YK	54-58	18-22	6-9	6-8	2,5	4,0	3,00 - *3,10	*17-20	300 *350	*1550	*1650	1,15	*1,1
K/S 452 Y	58-62	18-22	6-9	6-8	2,5	2,5	3,00 - *3,10	*18-21	300 *350	*1620	*1700	1,2	*1,1

\* First figures Original Condition at 105 °C, second (\* marked ) figures after firing at 1550 °C.

ÜRÜN ADI MATERIAL NAME	KİMYASAL ÖZELLİKLER / CHEMICAL ANALYSIS %						FİZİKSEL ÖZELLİKLER / PHYSICAL PROPERTIES							
	MgO	Cr <sub>2</sub> O <sub>3</sub>	Al <sub>2</sub> O <sub>3</sub>	Fe <sub>2</sub> O <sub>3</sub>	CaO	SiO <sub>2</sub>	TANE BOYUTU GRAIN SIZE (mm)	HACİM AĞIRLIĞI BULK DENSITY (105°C-gr/ cm <sup>3</sup> )	Bağ Türü Type of Binder	CCS (Kg/ cm <sup>2</sup> )				Max. Uygulama Sıcaklığı Temperature Limit of Application (°C)
	105 °C	1000 °C	1300 °C	1550 °C										
<b>BAZIK DÖVME HARÇLAR / BACK RAMMING MIXES: MAGNESITE AND MAGNESITE CHROME</b>														
NB 011	92	-	0,5	1,0	2,5	4,0	0-1	2,40	-	60	-	40	600	-
NB 012	92	-	0,5	1,0	2,0	4,0	0-1	2,50	-	60	-	40	600	-
NB 111	84	5,0	2,0	2,0	2,5	4,0	0-1	2,60	-	180	-	100	400	-
NB 112	85	5,0	2,0	2,0	2,0	4,0	0-1	2,60	-	180	-	100	400	-
<b>SICAK PÜSKÜRTME HARÇLAR / HOT REPAIRING GUNNING MIXES</b>														
ST3 PSY	95	-	0,4	0,5	2,5	1,5	0-3	2,60	Silicate	100	-	180	350	1800
ST2 PS	92	-	0,4	1,0	2,0	4,0	0-2	2,50	Silicate	100	-	150	400	1750
ST3 PS	92	-	0,4	1,0	2,0	4,0	0-3	2,60	Silicate	100	-	150	400	1750
ST3 PSC	86	4,0	2,0	2,5	2,0	3,5	0-3	2,60	Silicate	60	-	100	300	1750
ST3 SD	86	-	0,5	5,0	2,5	6,0	0-3	2,70	Silicate	60	-	120	800	1750
<b>TANDİŞ PÜSKÜRTME VE SIVA / TUNDISH COATING: GUNNING AND PATCHING MIXES</b>														
KON TP	82,0	-	2,0	2,0	4,0	9,0	0-0,5	-	-	50	100	-	-	1600
KON TS (Patching)	85,0	-	2,0	5,0	3,0	5,0	0-0,5	-	-	50	100	-	-	1600

\* Chemical analysis in on raw material basis.

The technical test data have been determined on specimens made from machine-pressed standard bricks (230 x 114x 64 mm) in compliance with the testing standards. These data are typical approximate guide values, not be considered as binding specifications . Production can also be realized according to the customer's requirement. Additional detailed information can be given in Data Sheet.



ÜRÜN ADI MATERIAL NAME	KİMYASAL ÖZELLİKLER / CHEMICAL ANALYSIS %								FİZİKSEL ÖZELLİKLER PHYSICAL PROPERTIES		
	MgO	Cr <sub>2</sub> O <sub>3</sub>	Al <sub>2</sub> O <sub>3</sub>	Fe <sub>2</sub> O <sub>3</sub>	CaO	SiO <sub>2</sub>	TANE BOYUTU GRAIN SIZE (mm)	HACİM AĞIRLIĞI BULK DENSITY (105 °C-gr/ cm <sup>3</sup> )	CCS (Kg / cm <sup>2</sup> )		
									105 °C	1300 °C	1550 °C
<b>DÖVME HARÇLAR KROM MAGNEZİT / RAMMING MIXES: MAGNESITE / MAGNESITE CHROME</b>											
YD 026 (*)	95	-	0,3	0,5	2,5	1,2	0 - 5	2,60	-	130	300
YD 026 E (**)	95	-	0,3	0,5	2,5	1,5	0 - 5	2,60	-	150	350
YD 120 (*)	87	4,5	1,5	2,0	2,5	1,5	0 - 5	2,65	-	115	210
YD 320 (*)	70	15	5,0	5,0	2,5	2,0	0 - 5	2,75	-	100	200
ND 015 (*)	92	-	0,5	0,5	2,5	4,0	0 - 5	2,60	-	155	450
ND 016	92	-	0,5	0,5	2,5	6,0	0 - 5	2,60	-	150	600
NE 017	87	-	0,5	0,5	2,0	8,0	0 - 10	2,60	-	150	600
NC 211 (*)	78	9,0	3,5	3,5	2,0	3,5	0 - 3	2,65	-	90	350
ND 413 (*)	61	20	7,0	6,5	2,5	3,5	0 - 5	2,80	-	120	300
KONRAM 93 (x)	85	-	0,4	6,0	8,0	1,0	0 - 6	2,75	150	140	450
KONRAM 93 ST (xxx)	85	-	0,5	6,0	8,0	3,0	0 - 6	2,70	150	140	500
<b>MAGNEZİT ÖRGÜ HARÇLARI / LINING MORTARS: MAGNESITE</b>											
NA 010	92	-	0,3	0,5	2,0	4,0	0-0,063	-	-	-	-
YA 020	95	-	0,3	0,5	2,5	1,5	0-0,063	-	-	-	-
YA 020 H	95	-	0,3	0,5	2,5	1,5	0-0,063	-	-	-	-
YA 120 H	88	4,5	2,0	2,0	2,0	1,5	0-0,063	-	-	-	-
YA 020 HD	91	-	0,3	4,5	2,5	1,5	0-0,063	-	-	-	-

- (\*) Recommended for induction furnaces
- (\*\*) Ready to use converter taphole repairing mix. The stated spicification are average values obtained from laboratory test conduced in accordance with testing standards.The values are typical and can not be considered as binding specifications.Additional detailed information is given in Data Sheet.
- (x) Recommended for Converter Knuckle ramming.
- (xx)Recommended for E.A.F. Bottom ramming cold application.
- (xxx) Recommended for E.A.F.Bottom repairing hot application.

ÜRÜN ADI MATERIAL NAME	KİMYASAL ÖZELLİKLER / CHEMICAL ANALYSIS %							FİZİKSEL ÖZELLİKLER / PHYSICAL PROPERTIES		
	MgO	Al <sub>2</sub> O <sub>3</sub>	Fe <sub>2</sub> O <sub>3</sub>	CaO	SiO <sub>2</sub>	Artık Karbon Residual Carbon	(After tempering at 300 °C)			
							HACİM AĞIRLIĞI BULK DENSITY (gr/cm <sup>3</sup> )	GÖRÜNÜR PORÖZİTE APPARENT POROSITY %	Dayanıklılık Strength (Kg /cm <sup>2</sup> )	
<b>ZİFT EMDİRİLMİŞ MAGNEZİT TUĞLALAR / PITCH/ RESIN BONDED AND PITCH IMPREGNATED MAGNESIA BRICKS</b>										
Z 002 Y	95,0	0,5	0,5	2,5	1,2	2,5	3,00 - 3,10	4	400	
P 002 YI	96,0	0,5	0,5	2,4	1,2	2,5	3,05 - 3,15	3	750	
P 002 YSI	96,5	0,5	0,5	1,8	1,0	2,5	3,05 - 3,20	3	750	
3 GR DE 5 I	97,5	0,5	0,5	1,6	0,8	4,0	3,00 - 3,10	2	600	

ÜRÜN ADI MATERIAL NAME	KİMYASAL ÖZELLİKLER / CHEMICAL ANALYSIS %							FİZİKSEL ÖZELLİKLER / PHYSICAL PROPERTIES		
	MgO	Al <sub>2</sub> O <sub>3</sub>	Fe <sub>2</sub> O <sub>3</sub>	CaO	SiC	Artık Karbon Residual Carbon	(After tempering at 300 °C)			
							HACİM AĞIRLIĞI BULK DENSITY (gr/cm <sup>3</sup> )	GÖRÜNÜR PORÖZİTE APPARENT POROSITY %	SBM CCS (Kg/cm <sup>2</sup> )	
<b>ALUMİNA - SiC - C TUĞLALARI / ALUMINA - SiC CARBON BRICKS (Resin Bonded)</b>										
KONASC B12	-	76,5	1,9	0,1	8,0	11	2,75	3,5	450	
KONASC B12K	-	78,0	1,5	0,1	8,0	11	2,80	3,0	500	
KONHASC B12M (Ready to use ASC mortar)	-	75,0	2,0	0,1	8,0	11	2,65	-	-	

- \* Chemical analysis in on raw material basis.
- The technical test data have been determined on speciment made from machine - pressed standard bricks (230 x 114 x 64 mm) in compliance with the testing standards. These data are typical approximate guide values, not be considered as binding specifications. Production can also be relized according to the customer's requirement. Additional detailed information can be given in Data Sheet.

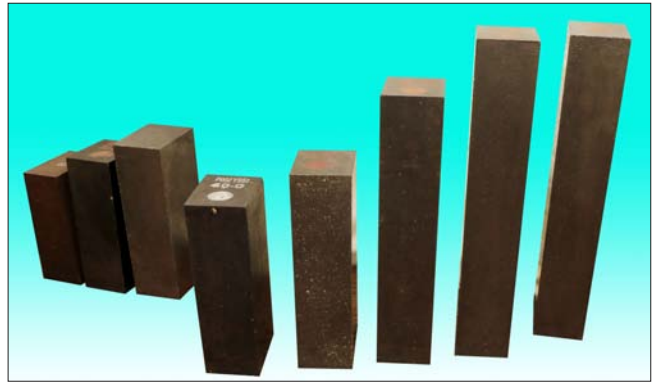


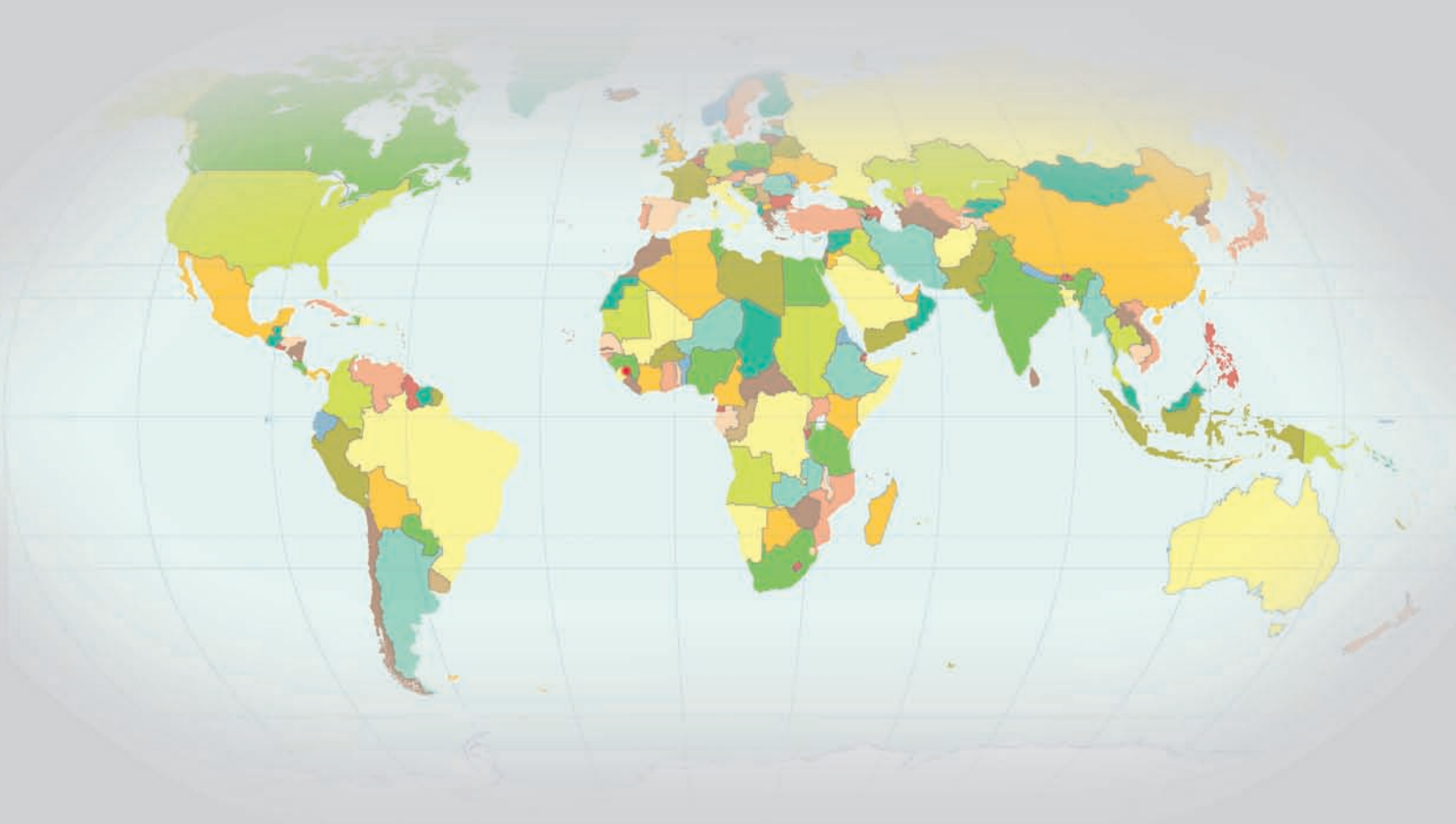
ALUMİNA TUĞLALAR / ALUMINA BRICKS										
ÜRÜN ADI MATERIAL NAME	KİMYASAL ANALİZ CHEMICAL ANALYSIS %					FİZİKSEL ÖZELLİKLER / PHYSICAL PROPERTIES				
	Al <sub>2</sub> O <sub>3</sub>	Fe <sub>2</sub> O <sub>3</sub>	TiO <sub>2</sub>	Na <sub>2</sub> O+ K <sub>2</sub> O	CaO+ MgO	HACİM AĞIRLIĞI BULK DENSITY (gr/cm <sup>3</sup> )	GÖRÜNÜR PORÖZİTE APPARENT POROSITY %	SBM CCS (Kg/cm <sup>2</sup> )	REFRAKTERLİK REFRACTORINESS (SK)	YÜK ALTINDA REFRAKTERLİK REFRACTORINESS UNDER LOAD Ta °C(min)
<b>ŞAMOT TUĞLALAR / FIRECLAY BRICKS</b>										
KON AL 30 P	28-35	1.5-2.0	1.0	2.0	2.0	2.10-2.20	11-13	600	26-28	1280
KON AL 36	35-39	1.5-2.0	1.0	1.0	1.0	2.20-2.25	20-22	300	30-31	1350
KON AL 40	39-42	1.5-2.0	1.0	1.0	1.0	2.25-2.30	18-20	400	31-32	1405
KON AL 42	42-46	1.5-2.0	1.0	1.0	1.0	2.30-2.35	17-19	400	32-33	1420
KON AL 46	46-50	1.5-2.0	1.3	1.0	1.0	2.30-2.35	17-19	400	33-34	1435
<b>YÜKSEK ALUMİNA TUĞLALAR / HIGH ALUMİNA BRICKS</b>										
KON AL 50	50-55	1.5-2.0	1.8	1.0	1.0	2.35-2.40	18-20	450	34-35	1440
KON AL 55	55-60	1.5-2.0	1.9	1.0	1.0	2.40-2.45	18-20	450	34-35	1460
KON AL 60	60-65	1.5-2.0	2.2	1.0	1.0	2.55-2.60	18-20	500	35-36	1470
KON AL 60 A	58-60	1,0-1.5	0,5	1,0	1,0	2.60-2.65	15-17	600	35-36	1500
KON AL 65	65-70	1.5-2.0	2.6	1.0	1.0	2.60-2.65	18-20	550	36-37	1480
KON AL 70	70-75	1.5-2.0	2.9	1.0	1.0	2.65-2.70	18-20	600	37-38	1500
KON AL 75	75-80	1.5-2.0	3.2	1.0	1.0	2.70-2.75	16-18	600	38-39	1530
KON AL 80	80-85	1.5-2.0	3.2	1.0	1.0	2.75-2.80	16-18	600	39-40	1550
KON AL 85	85-87	1.5-2.0	3.2	1.0	1.0	2.80-2.85	16-18	600	40	1560
KON AL 90	87-90	0,5-0,8	3,2	1,0	1,0	2.95-3,00	16-18	750	40	1625
KON AL 90 KB	87-90	0,5-0,8	3,2	1,0	1,0	2.95-3,00	16-18	750	40	1625
KON AL 95	90-95	0,4-0,6	3,4	1,0	1,0	2.95-3,00	16-18	750	40	1625
<b>İZOLE TUĞLALAR /INSULATING BRICKS</b>										
KON KIZEL A	15-20	2.0-2.5	-	1.0	1.0	0.50-0.70	65-70	10-20	15	-
KON KIZEL B	15-20	2.5-3.0	-	1.0	1.0	0.70-0.90	60-65	15-30	15-20	-
KON AL 35 İZOLE	30-40	2.5-3.0	-	1.5	1.5	1.10-1.30	50-55	25-30	25-30	-

ALUMİNA ÖRGÜ HARÇLARI / ALUMİNA MORTARS								
ÜRÜN ADI MATERIAL NAME	KİMYASAL ANALİZ CHEMICAL ANALYSIS %		FİZİKSEL ÖZELLİKLER / PHYSICAL PROPERTIES					
	Al <sub>2</sub> O <sub>3</sub>	Fe <sub>2</sub> O <sub>3</sub>	ATEŞ ZAYIATI LOI, (%)	TANE BOYUTU PARTICLE SIZE (mm)	REFRAKTERLİK REFRACTORINE SS (SK)	MAKS.UYGULAMA SICAKLIĞI MAX APPLICATION TEMPERATURE (°C)	BAĞ TİPİ TYPE OF BOND	EKLENECEK SU MİKTARI / WATER ADDITION PER 100 KG DRY MATERIAL
KON HAL 36 M	30-39	1.5-2.0	4	0-0.5	29-30	1550	CERAMIC	36
KON HAL 40 M	39-42	1.5-2.0	4	0-0.5	31-32	1600	CHEMICAL	34
KON HAL 42 M	42-46	1.5-2.0	4	0-0.5	32-33	1620	CERAMIC	32
KON HAL 46 M	46-50	1.5-2.0	4	0-0.5	33-34	1650	CERAMIC	32
KON HAL 50 M	50-55	1.5-2.0	2,9	0-0.5	34-35	1680	CERAMIC	32
KON HAL 50 M KB	50-55	1.5-2.0	2,9	0-0.5	34-35	1680	CHEMICAL	28
KON HAL 50 M WET	50-55	1.5-2.0	2,9	0-0.5	34-35	1680	CHEMICAL	WET
KON HAL 60 M	60-65	1.5-2.0	2,8	0-0.5	35-36	1700	CERAMIC	30
KON HAL 60 M KB	60-65	1.5-2.0	2,8	0-0.5	35-36	1700	CHEMICAL	26
KON HAL 70 M	70-75	1.5-2.0	2,5	0-0.5	37-38	1700	CERAMIC	28
KON HAL 70 M KB	70-75	1.5-2.0	2,5	0-0.5	37-38	1700	CHEMICAL	24
KON HAL 80 M	80-85	1.5-2.0	2,0	0-0.5	39-40	1750	CERAMIC	25
KON HAL 80 M KB	80-85	1.5-2.0	2,0	0-0.5	39-40	1750	CHEMICAL	22
KON HAL 85 M	85-87	1.5-2.0	1,8	0-0.5	40-41	1800	CERAMIC	25
KON HAL 90 M	75-80	1.5-2.0	1,8	0-0.5	38-39	1800	CERAMIC	25
KON HAL 90 M KB	75-80	1.5-2.0	1,8	0-0.5	38-39	1800	CHEMICAL	22
KON HAL 90 M WET	75-80	1.5-2.0	1,8	0-0.5	38-39	1800	CHEMICAL	WET
KON HAL M 88 CRP WET	75-80	1.5-2.0	1,8	0-0.5	38-39	1850	CHEMICAL	WET

ALUMİNA ESASLI HARÇLAR / ALUMINA BASED MIXES									
ÜRÜN ADI MATERIAL NAME	KİMYASAL ÖZELLİKLER / CHEMICAL ANALYSIS %				FİZİKSEL ÖZELLİKLER / PHYSICAL PROPERTIES				
	Al <sub>2</sub> O <sub>3</sub>	Fe <sub>2</sub> O <sub>3</sub>	CaO	Na <sub>2</sub> O + K <sub>2</sub> O	Hacim Ağırlığı Bulk Density (gr/cm <sup>3</sup> )	Tane İriliği Grain Size (mm)	SBM CCS (Kg/cm <sup>2</sup> ) 110°C	Refrakterlik Refractoriness (SK)	Maks. Uygulama Sıcaklığı Max Application Temperature, °C
<b>ATEŞ BETONU / REFRACTORY CASTABLE</b>									
KONHAL 40 C	40	4,5	9	1	2.00	0-6	300	15	1300
KONHAL 45 C	45	4,5	9	1	2.10	0-6	300	20	1350
KONHAL 50 C	50	2.0	7,5	1	2.20	0-6	400	25	1450
KON HAL 50 CS	50	2.5	8,0	1	2.10	0-6	300	25	1450
KONHAL 60 C	60	1.8	5,0	0,8	2.30	0-6	400	33	1550
KONHAL 60 CA	60	1.0	5,0	0,8	2.60	0-6	400	35	1600
KONHAL 65 C	65	1.8	5,0	0,8	2.35	0-6	400	34	1600
KONHAL 70 C	70	1.8	4,5	0,8	2.40	0-6	400	34	1600
KONHAL 75 C	75	1.7	4,5	0,8	2.55	0-6	450	35	1650
KONHAL 80 C	82	1.5	4,5	0,7	2.70	0-6	450	37	1700
KONHAL 80 CS	80	1.6	4,5	0,7	2.65	0-6	300	37	1700
KONHAL 80 C BS	77	1.5	4,5	0,7	2.70	0-6	450	37	1700
KONHAL 85 C	85	1.4	4,5	0,7	2.80	0-6	450	38	1750
KONHAL 90 C	94	0,2	4	0,4	2.82	0-6	450	39	1850
KONHAL 93 C	95	0,3	4	0,2	2.85	0-6	450	40	1875
KONHAL 95 ST 06	93	0,3	4	0,2	2.82	0-6	300	40	1875
KONHAL 95 ST 03	93	0,3	4	0,2	2.82	0-3	300	40	1875
<b>VİBRASYONLU BETONLAR / VIBRATING CASTABLES</b>									
KONHAL 45 LCC	45	2,0	2,0	1,0	2.30	0-6	500	33	1450
KONHAL 50 LCC	50	1.8	2,0	0,8	2.40	0-6	600	33	1500
KONHAL 60 LCC	60	1.8	2,0	0,8	2.50	0-6	600	35	1600
KONHAL 60 LCC A	60	1,0	2,0	0,8	2.65	0-6	600	35	1600
KONHAL 70 LCC	70	1,7	2,0	0,8	2.75	0-6	600	36	1650
KONHAL 70 LCC SF	70	1,7	2,0	0,8	2.90	0-6	800	36	1650
KONHAL 82 LCC	82	1.5	2,0	0,7	2.80	0-6	600	37	1700
KONHAL 5 SIC LCC	80	1.2	1.7	5.0*	2,96	0-6	800	35	1650
KONHAL 10 SIC LCC	70	1.0	1.7	10.0*	2,95	0-6	800	35	1650
KONHAL 30 SIC LCC	40	0,8	1.5	30.0*	2,55	0-6	900	35	1600
KONHAL 70 SIC LCC	13	0,5	1.5	70.0*	2,40	0-6	900	35	1600
KONHAL 90 LCC	90	0,3	1.5	0,2	2.90	0-6	600	37	1700
KONHAL 95 LCC	95	0,2	1.5	0,2	3,00	0-6	600	39	1850
KONHAL 95 LCC Cr	94	0,2	1.5	1,5**	2,95	0-6	600	40	1875
KONHAL 90 U LCC	90	0,6	1,0	0,2	2.90	0-6	600	40	1750
KONHAL 95 U LCC	95	0,3	1,0	0,2	2.96	0-6	600	40	1850

- SF: Çelik Fiber (Steel Fiber)
- \*: SiC
- \*\*: Cr2O3





**KONYA SELÇUKLU KROM MAGNEZİT TUĞLA SANAYİİ A.Ş.**

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