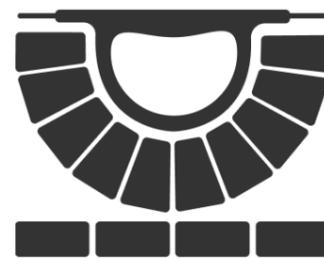




Refractory Solutions for

Preheating & Heat Treatment Furnaces



فرآورده‌های
نسوز
خاوران

ZOB FELEZAT MOHSENI Company (ZFMCo) has been operating since 1962 in the field of production and distribution of casting materials by taking advantage of the experience and expertise of distinguished and committed people.

In this regard, since 2022, in cooperation with industry experts, professors and graduates of prestigious universities, ZFMCo has been working in the field of producing all kinds of refractory materials and providing expert advice with the aim of more appropriate use of refractory products.

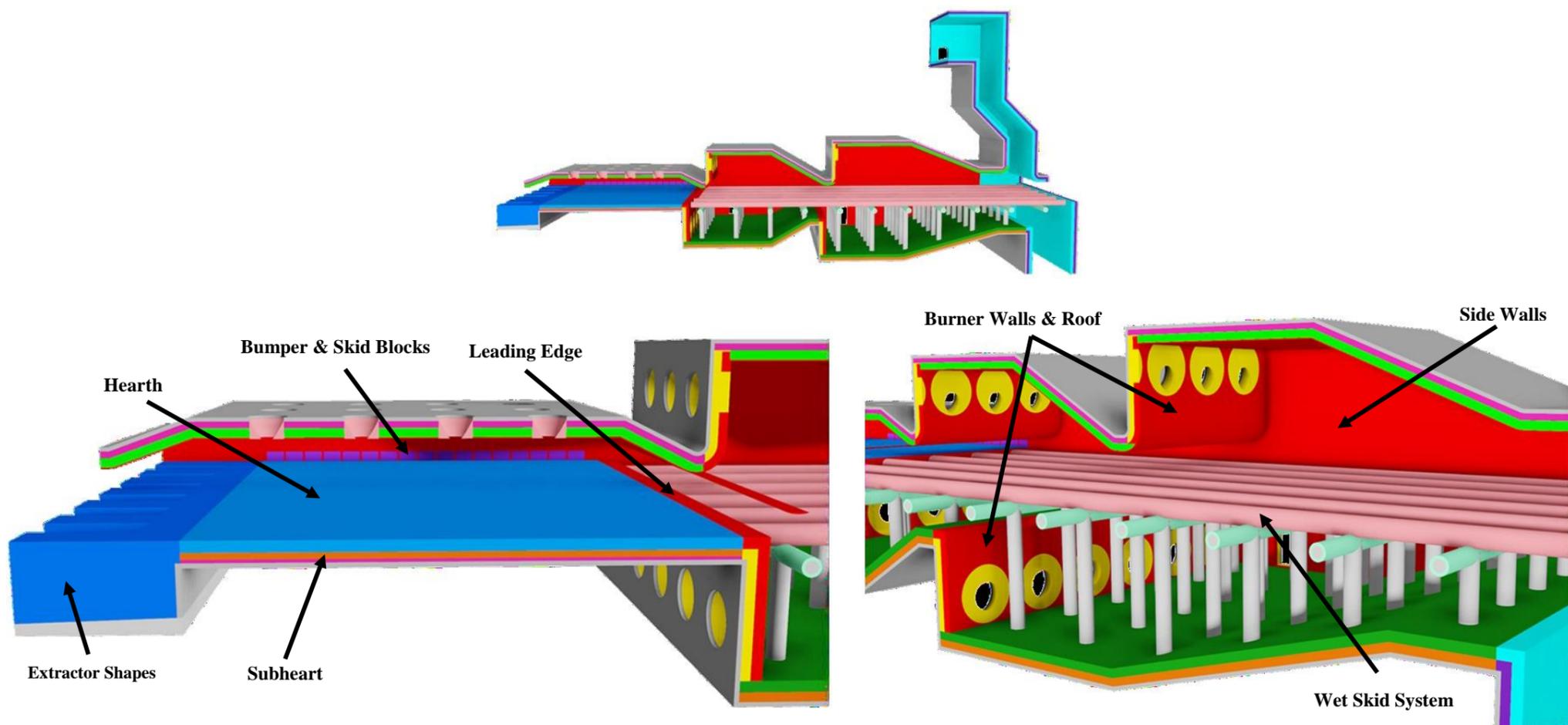
We hope to facilitate the process of activity of Iran's casting industry with efforts and perseverance like in the past decades.

شرکت ذوب فلزات محسنی از ابتدای ۱۳۴۱ با بهره‌گیری از تجربه و تخصص افراد ماهر و متعهد در زمینه تولید و توزیع مواد ریخته‌گری شروع به فعالیت کرده است و با توجه به حسن شهرت و تجربه موفق در بیش از ۶۰ سال فعالیت، از سال ۱۴۰۱ تصمیم به تولید انواع مواد نسوز صنایع ریخته‌گری، فولاد، سیمان، نفت و گاز و... نموده است.

در این راستا با همکاری متخصصین صنعت و دانش پژوهان و فارغ التحصیلان رشته مواد، سرامیک و متالورژی دانشگاه‌های معتبر کشور و ارتباط با دانشگاه‌ها، فعالیت خود را در زمینه تولید انواع مواد نسوز، مشاوره (در طراحی برآورد، نصب و بهره برداری) آغاز کرده است. امید است که با استعانت از پروردگار متعال بتوانیم رضایت مندی مشتریان و صنایع متالورژی در این زمینه هم مانند مواد ریخته‌گری طبق سنوات گذشته کسب نمائیم.

Refractory Solutions for Preheating & Heat Treatment Furnaces

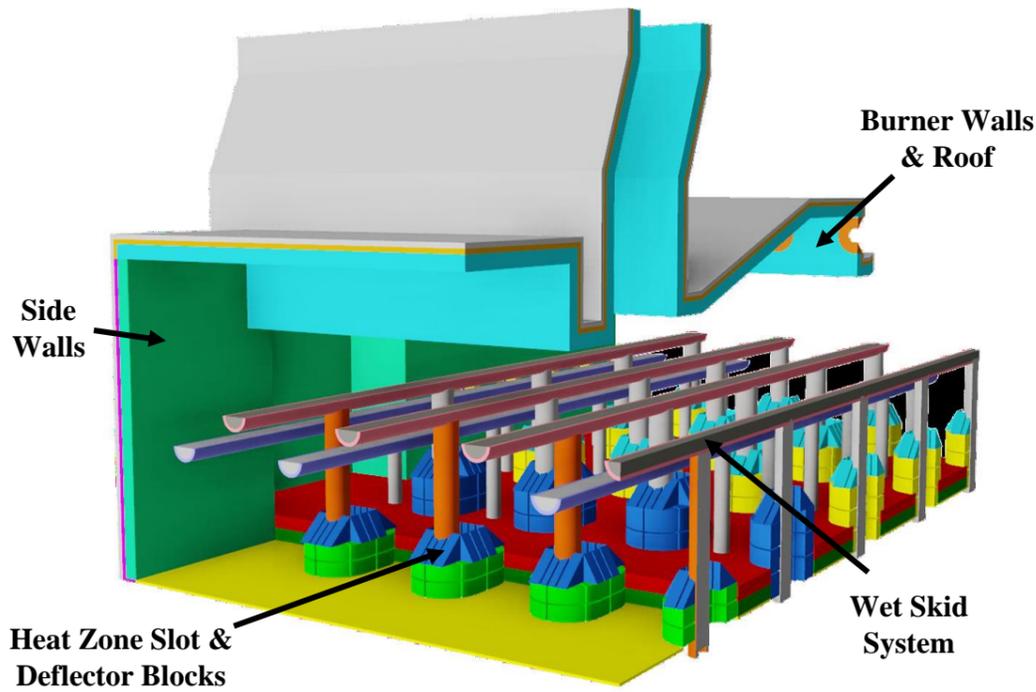
Pusher Furnace



Zone	Product Name	Typical Chemical Analysis (%)				Grain Size (mm)	Type of Bonding	Required Materials (kg/m ³)	M.S.T (°C)
		Al ₂ O ₃	SiO ₂	Fe ₂ O ₃	Other				
Extractor Shapes	KH-REF.CAST 98L	97.7	0.1	0.1	-	0-5	Hydraulic	3050	1800
	KH-REF.CAST 90U/MF	88.4	9.6	0.2	-	0-5	Hydraulic	3000	1750
Subhearth	KH-REF.CAST 45M	46.0	45.5	1.9	-	0-5	Hydraulic	2200	1350
	KH-REF.CAST 55L	53.5	38.5	1.9	-	0-5	Hydraulic	2400	1450
	KH-REF.CAST 50L	50.4	41.9	1.9	-	0-5	Hydraulic	2300	1400
Hearth	KH-REF.CAST 98L	97.7	0.1	0.1	-	0-5	Hydraulic	3050	1800
	KH-REF.CAST 90U/MF	88.4	9.6	0.2	-	0-5	Hydraulic	3000	1750
Bumper & Skid Blocks	KH-REF.CAST 98L	97.7	0.1	0.1	-	0-5	Hydraulic	3050	1800
	KH-REF.CAST 90U/MF	88.4	9.6	0.2	-	0-5	Hydraulic	3000	1750
Leading Edge	KH-REF.CAST 98L	97.7	0.1	0.1	-	0-5	Hydraulic	3050	1800
	KH-REF.CAST 90U/MF	88.4	9.6	0.2	-	0-5	Hydraulic	3000	1750
Burner Walls & Roof	KH-REF.GUN 70L	67.3	24.7	1.8	-	0-3	Hydraulic	2550	1600
Side Walls	KH-REF.GUN 70L	67.3	24.7	1.8	-	0-3	Hydraulic	2550	1600
	KH-REF.CAST 50L	50.4	41.9	1.9	-	0-5	Hydraulic	2300	1400
	KH-REF.GUN 45L	45.1	46.9	1.9	-	0-3	Hydraulic	2100	1350
Wet Skid System	KH-REF.CAST 70L	68.3	24.1	1.8	-	0-5	Hydraulic	2600	1600
	KH-REF.CAST 60L	57.0	35.2	1.8	-	0.5	Hydraulic	2450	1500
	KH-REF.CAST 60L/A	62.4	34.4	0.4	-	0-5 , 0-8	Hydraulic	2500	1600

Refractory Solutions for Preheating & Heat Treatment Furnaces

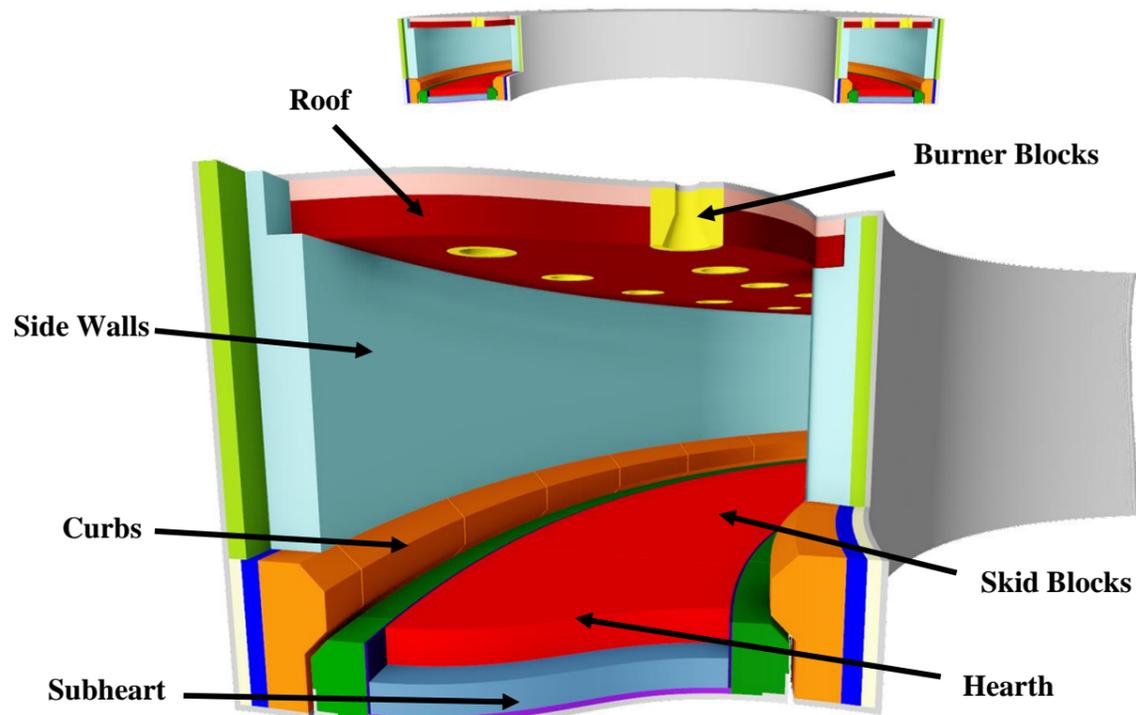
Walking Beam Furnace



Zone	Product Name	Typical Chemical Analysis (%)				Grain Size (mm)	Type of Bonding	Required Materials (kg/m ³)	M.S.T (°C)
		Al ₂ O ₃	SiO ₂	Fe ₂ O ₃	Other				
Side Walls	KH-REF.GUN 70L	67.3	24.7	1.8	-	0-3	Hydraulic	2550	1600
	KH-REF.CAST 50L	50.4	41.9	1.9	-	0-5	Hydraulic	2300	1400
	KH-REF.GUN 45L	45.1	46.9	1.9	-	0-3	Hydraulic	2100	1350
Burner Walls & Roof	KH-REF.GUN 70L	67.3	24.7	1.8	-	0-3	Hydraulic	2550	1600
Heat Zone Slot & Deflector Blocks	KH-REF.CAST 45L (Precast Shape)	46.0	46.4	1.9	-	-	Hydraulic	2250	1350
	KH-REF.CAST 50L (Precast Shape)	50.4	41.9	1.9	-	-	Hydraulic	2300	1400
	KH-REF.CAST 60L (Precast Shape)	57.0	35.2	1.8	-	-	Hydraulic	2450	1500
	KH-REF.CAST 60L/A (Precast Shape)	62.4	34.4	0.4	-	-	Hydraulic	2500	1600
Wet Skid System	KH-REF.CAST 70L	68.3	24.1	1.8	-	0-5	Hydraulic	2600	1600
	KH-REF.CAST 60L (Precast Shape)	57.0	35.2	1.8	-	-	Hydraulic	2450	1500
	KH-REF.CAST 60L/A	62.4	34.4	0.4	-	0-5 , 0-8	Hydraulic	2500	1600

Refractory Solutions for Preheating & Heat Treatment Furnaces

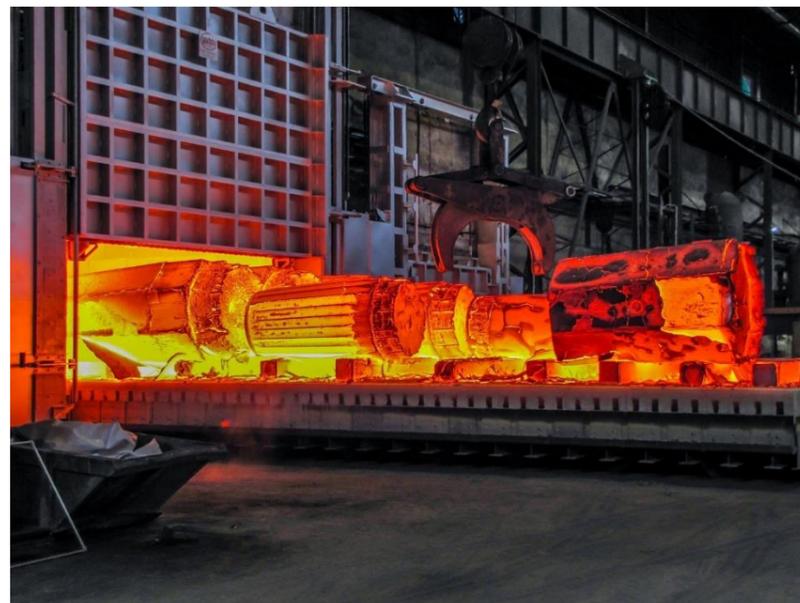
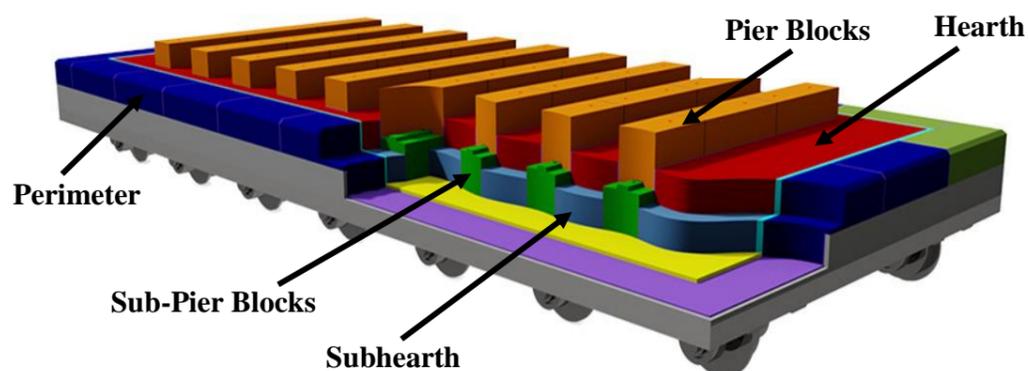
Rotary Hearth Furnace



Zone	Product Name	Typical Chemical Analysis (%)				Grain Size (mm)	Type of Bonding	Required Materials (kg/m ³)	M.S.T (°C)
		Al ₂ O ₃	SiO ₂	Fe ₂ O ₃	Other				
Roof	KH-REF.GUN 70L	67.3	24.7	1.8	-	0-3	Hydraulic	2550	1600
Burner Blocks	KH-REF.CAST 60L/A	62.4	34.4	0.4	-	0-5 , 0-8	Hydraulic	2500	1600
	KH-REF.PLAST 80/A	78.1	12.3	2.0	-	0-5	Ceramic	2500	1650
	KH-REF.CAST 60M/A	56.9	37.8	0.9	-	0-5	Hydraulic	2450	1550
	KH-REF.PLAST 80P/H	79.1	8.4	1.9	P ₂ O ₅ : 2.9	0-5	Chemical	2500	1650
	KH-REF.CAST 90/CB	89.2	2.9	0.1	P ₂ O ₅ : 4.1	0-5	Chemical	2850	1750
Side Walls	KH-REF.GUN 70L	67.3	24.7	1.8	-	0-3	Hydraulic	2550	1600
	KH-REF.CAST 50L	50.4	41.9	1.9	-	0-5	Hydraulic	2300	1400
	KH-REF.GUN 45L	45.1	46.9	1.9	-	0-3	Hydraulic	2100	1350
Curbs	KH-REF.CAST 70L	68.3	24.1	1.8	-	0-5	Hydraulic	2600	1600
	KH-REF.CAST 55L	53.5	38.5	1.9	-	0-5	Hydraulic	2400	1450
	KH-REF.CAST 60L/A	62.4	34.4	0.4	-	0-5 , 0-8	Hydraulic	2500	1600
Skid Blocks	KH-REF.CAST 98L (Precast Shape)	97.7	0.1	0.1	-	0-5	Hydraulic	3050	1800
	KH-REF.CAST 90U/MF	88.4	9.6	0.2	-	0-5	Hydraulic	3000	1750
Hearth	KH-REF.CAST 90U/MF	88.4	9.6	0.2	-	0-5	Hydraulic	3000	1750
	KH-REF.CAST 70L	68.3	24.1	1.8	-	0-5	Hydraulic	2600	1600
	KH-REF.CAST 60L/A	62.4	34.4	0.4	-	0-5 , 0-8	Hydraulic	2500	1600
	KH-REF.CAST 55L	53.5	38.5	1.9	-	0-5	Hydraulic	2400	1450
	KH-REF.CAST 45M	46.0	45.5	1.9	-	0-5	Hydraulic	2200	1350
Subhearth	KH-REF.CAST 55L	53.5	38.5	1.9	-	0-5	Hydraulic	2400	1450
	KH-REF.CAST 50L	50.4	41.9	1.9	-	0-5	Hydraulic	2300	1400

Refractory Solutions for Preheating & Heat Treatment Furnaces

Bogie Hearth Furnace



Zone	Product Name	Typical Chemical Analysis (%)				Grain Size (mm)	Type of Bonding	Required Materials (kg/m ³)	M.S.T (°C)
		Al ₂ O ₃	SiO ₂	Fe ₂ O ₃	Other				
Perimeter	KH-REF.CAST ESLI	45.5	34.5	2.9	-	0-5	Hydraulic	2000	1300
	KH-REF.CAST 60L/A	62.4	34.4	0.4	-	0-5 , 0-8	Hydraulic	2500	1600
	KH-REF.CAST 50L	50.4	41.9	1.9	-	0-5	Hydraulic	2300	1400
Sub-Pier Blocks	KH-REF.CAST 45L	46.0	46.4	1.9	-	0-5	Hydraulic	2250	1350
	KH-REF.CAST 50L	50.4	41.9	1.9	-	0-5	Hydraulic	2300	1400
Pier Blocks	KH-REF.CAST 98L	97.7	0.1	0.1	-	0-5	Hydraulic	3050	1800
	KH-REF.CAST 70L/F-SS	69.7	26.9	0.4	-	0-3	Hydraulic	2650	1450
Subhearth	KH-REF.CAST 1200 LIGHT	36.4	36.9	6.5	-	0-5	Hydraulic	1200	1100
	KH-REF.CAST 800 LIGHT	33.0	37.6	6.9	-	0-5	Hydraulic	800	1050
Hearth	KH-REF.CAST 70L	68.3	24.1	1.8	-	0-5	Hydraulic	2600	1600
	KH-REF.RAM 55/H	55.8	34.4	2.1	-	0-5	Chemical	2350	1450
	KH-REF.CAST 60L/A	62.4	34.4	0.4	-	0-5 , 0-8	Hydraulic	2500	1600
	KH-REF.CAST 50L	50.4	41.9	1.9	-	0-5	Hydraulic	2300	1400

Refractory Solutions for Preheating & Heat Treatment Furnaces

Inducting Heating



Product Name	Typical Chemical Analysis (%)				Grain Size (mm)	Type of Bonding	Required Materials (kg/m ³)	M.S.T (°C)
	Al ₂ O ₃	SiO ₂	Fe ₂ O ₃	Other				
KH-REF.FLOW 15	53.0	38.7	1.7	-	0-1 , 0-3	Hydraulic	2300	1500
KH-REF.FLOW 165/A	66.6	29.0	0.4	-	0-1 , 0-3	Hydraulic	2600	1650
KH-REF.FLOW 17	86.4	5.3	1.5	-	0-1 , 0-3	Hydraulic	2750	1700
KH-REF.FLOW 18	96.2	0.2	0.1	-	0-1 , 0-3	Hydraulic	3050	1800

Refractory Solutions for Preheating & Heat Treatment Furnaces

GENERAL PRODUCTS LIST

Product name	Classification	Typical chemical analysis (%)				Grain size (mm)	Type of bonding	Required materials (kg/m ³)	M.S.T (°C)
		Al ₂ O ₃	SiO ₂	Fe ₂ O ₃	Other				
KH-REF.CAST ESLI	RCC	45.5	34.5	2.9	-	0-5	Hydraulic	2000	1300
KH-REF.CAST 60M/A	MCC	56.9	37.8	0.9	-	0-5	Hydraulic	2450	1550
KH-REF.CAST 45M	MCC	46.0	45.5	1.9	-	0-5	Hydraulic	2200	1350
KH-REF.CAST 98L	LCC	97.7	0.1	0.1	-	0-5	Hydraulic	3050	1800
KH-REF.CAST 70L/F-SS	LCC	69.7	26.9	0.4	-	0-3	Hydraulic	2650	1450
KH-REF.CAST 70L	LCC	68.3	24.1	1.8	-	0-5	Hydraulic	2600	1600
KH-REF.CAST 60L/A	LCC	62.4	34.4	0.4	-	0-5 , 0-8	Hydraulic	2500	1600
KH-REF.CAST 60L	LCC	57.0	35.2	1.8	-	0-5	Hydraulic	2450	1500
KH-REF.CAST 55L	LCC	53.5	38.5	1.9	-	0-5	Hydraulic	2400	1450
KH-REF.CAST 50L	LCC	50.4	41.9	1.9	-	0-5	Hydraulic	2300	1400
KH-REF.CAST 45L	LCC	46.0	46.4	1.9	-	0-5	Hydraulic	2250	1350
KH-REF.CAST 90U/MF	ULCC	88.4	9.6	0.2	-	0-5	Hydraulic	3000	1750
KH-REF.FLOW 18	SFC	96.2	0.2	0.1	-	0-1 , 0-3	Hydraulic	3050	1800
KH-REF.FLOW 17	SFC	86.4	5.3	1.5	-	0-1 , 0-3	Hydraulic	2750	1700
KH-REF.FLOW 165/A	SFC	66.6	29.0	0.4	-	0-1 , 0-3	Hydraulic	2600	1650
KH-REF.FLOW 15	SFC	53.0	38.7	1.7	-	0-1 , 0-3	Hydraulic	2300	1500
KH-REF.GUN 70L	Gunning	67.3	24.7	1.8	-	0-3	Hydraulic	2550	1600
KH-REF.GUN 45L	Gunning	45.1	46.9	1.9	-	0-3	Hydraulic	2100	1350
KH-REF.CAST 1200 LIGHT	Insulating Castable	36.4	36.9	6.5	-	0-5	Hydraulic	1200	1100
KH-REF.CAST 800 LIGHT	Insulating Castable	33.0	37.6	6.9	-	0-5	Hydraulic	800	1050
KH-REF.CAST 90/CB	Castable	89.2	2.9	0.1	P ₂ O ₅ : 4.1	0-5	Chemical	2850	1750
KH-REF.RAM 55/H	Ramming	55.8	34.4	2.1	-	0-5	Chemical	2350	1450
KH-REF.PLAST 80P/H	Plastic	79.1	8.4	1.9	P ₂ O ₅ : 2.9	0-5	Chemical	2500	1650
KH-REF.PLAST 80/A	Plastic	78.1	12.3	2.0	-	0-5	Ceramic	2500	1650
KH-REF.MOR 40	Mortar	40.7	42.7	2.6	-	0-0.2	Chemical/Ceramic	1800	1300
KH-REF.MOR 50	Mortar	48.4	36.1	2.4	-	0-0.2	Chemical/Ceramic	1900	1400
KH-REF.MOR 60	Mortar	59.3	26.8	2.2	-	0-0.2	Chemical/Ceramic	2100	1500
KH-REF.MOR 70	Mortar	70.1	17.5	2.0	-	0-0.2	Chemical/Ceramic	2300	1600
KH-REF.MOR 80	Mortar	79.2	12.7	0.6	-	0-0.2	Chemical/Ceramic	2500	1700

Refractory Solutions for Preheating & Heat Treatment Furnaces