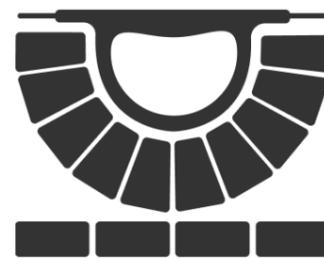




**Refractory Solutions
for**

Steel & Iron Alloys Foundry



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.

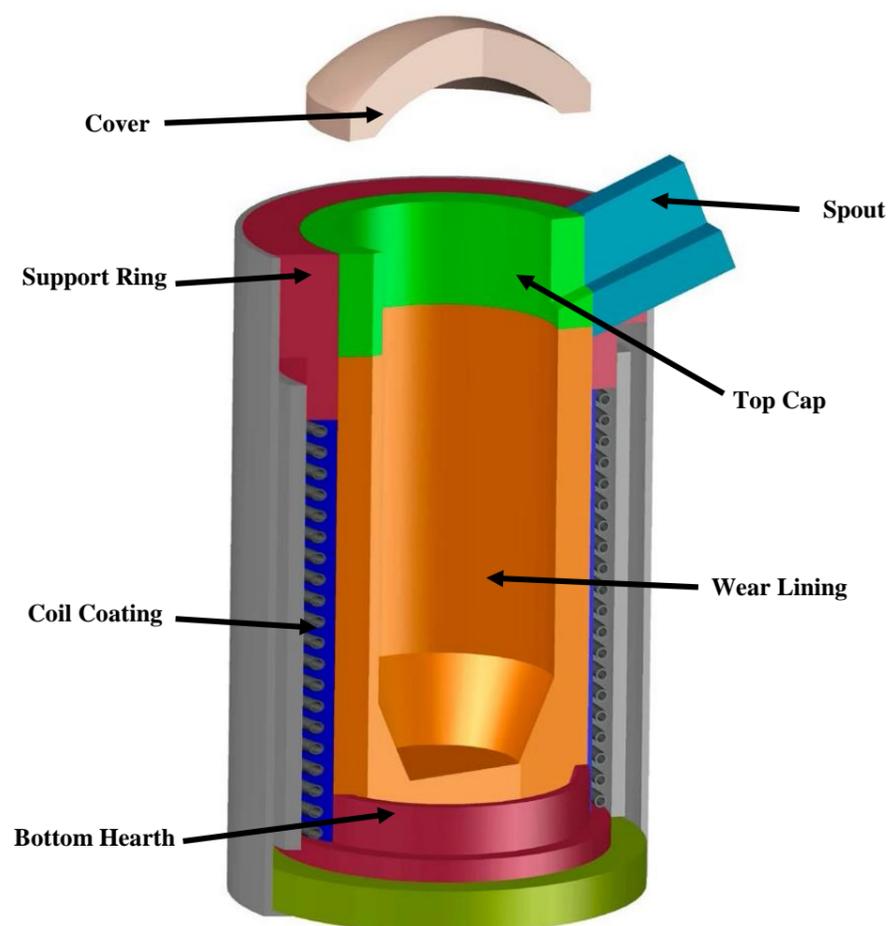
In this regard, since 2022, in cooperation with industry experts, professors and graduates of prestigious universities, ZFMCo has been working in the field of producing all kinds of refractory materials and providing expert advice with the aim of more appropriate use of refractory products.

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 بهره‌برداری) 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.

Coreless Induction Furnace

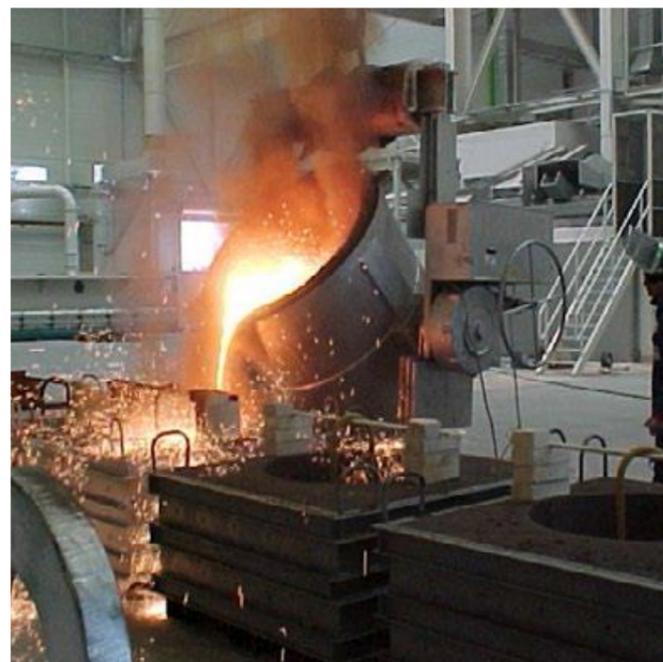
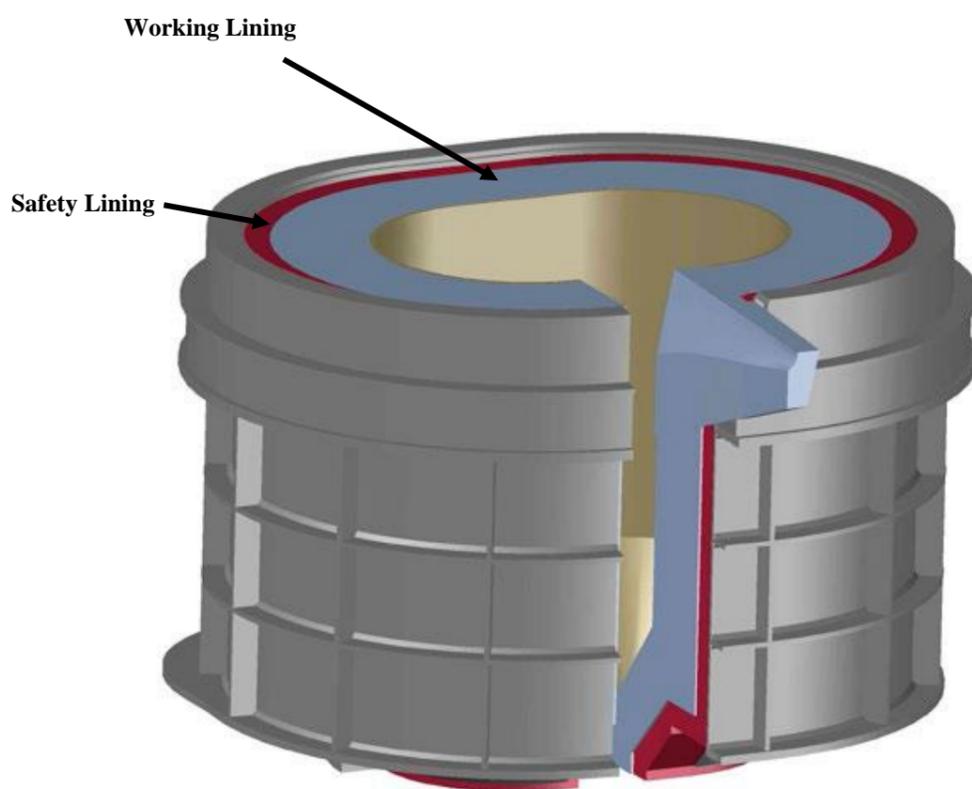


Zone	Product Name	Typical Chemical Analysis (%)				Grain Size (mm)	Type of Bonding	Required Materials (kg/m ³)	M.S.T (°C)	Suitable for:
		Al ₂ O ₃	SiO ₂	CaO	Other					
Wear Lining	KH-REF.RAM ALPINEL 18	86	0.3	0.2	MgO: 13	0-6	Ceramic	2900	1800	Steel
	KH-REF.RAM MAGPINEL 18	11	1.4	1.2	MgO: 85	0-6	Ceramic	2800	1800	Steel
Coil Coating	KH-REF.GROUT 15	46.5	39.0	8.9	-	0-1 , 0-3	Hydraulic	2000	1500	Steel & Iron
	KH-REF.GROUT 17	79.3	8.4	5.4	-	0-1 , 0-3	Hydraulic	2500	1700	Steel & Iron
	KH-REF.GROUT 18	90.8	1.8	5.3	-	0-1 , 0-3	Hydraulic	2700	1800	Steel
Bottom Hearth	KH-REF.CAST 60L	57.4	35.4	2.1	-	0-6	Hydraulic	2450	1500	Steel & Iron
Support Ring	KH-REF.CAST 60L	57.4	35.4	2.1	-	0-6	Hydraulic	2450	1500	Steel & Iron
Cover	KH-REF.CAST 70L	70	23.2	2.0	-	0-6	Hydraulic	2600	1600	Steel
	KH-REF.CAST 60L	57.4	35.4	2.1	-	0-6	Hydraulic	2450	1500	Iron
Spout	KH-REF.CAST 85L	84	8.5	1.9	-	0-6	Hydraulic	2750	1700	Steel
	KH-REF.PLAST 70-P	69	15.7	0.3	P ₂ O ₅ : 3.5	0-6	Chemical	2500	1600	Steel & Iron

Refractory Solutions for Steel & Iron Alloys Foundry

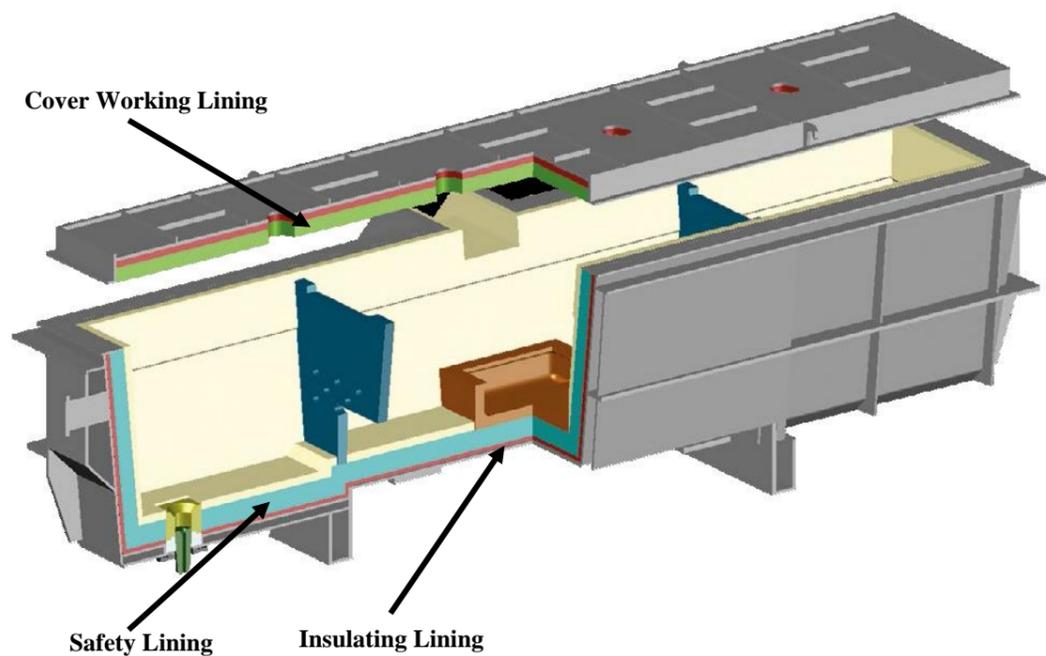
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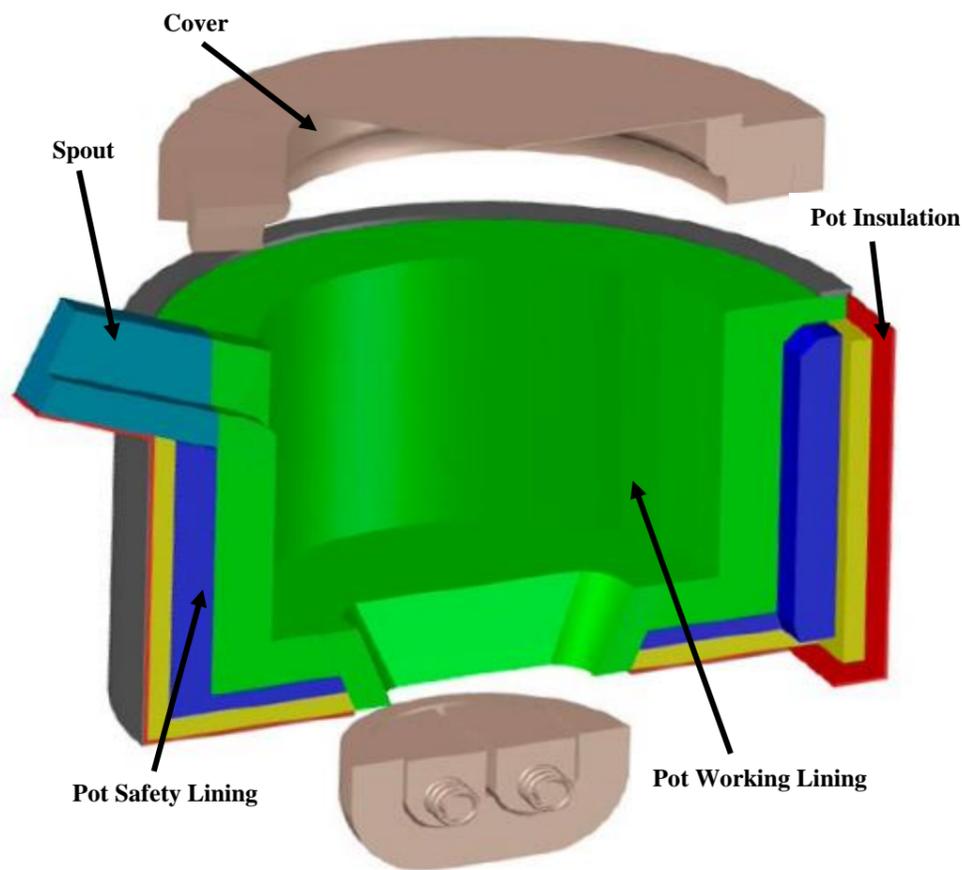
Zone	Product Name	Typical Chemical Analysis (%)				Grain Size (mm)	Type of Bonding	Required Materials (kg/m ³)	M.S.T (°C)	Suitable for:
		Al ₂ O ₃	SiO ₂	CaO	Other					
Working Lining	KH-REF.CAST ALPINEL/LS	91.6	0.2	1.8	MgO: 5.8	0-6	Hydraulic	3050	1800	Steel
	KH-REF.CAST ALPINEL/UF	92.9	0.7	0.8	MgO: 4.8	0-6	Hydraulic	3050	1800	Steel
	KH-REF.CAST 85L	84	8.5	1.9	-	0-6	Hydraulic	2750	1700	Steel
	KH-REF.CAST 80L	79.5	12.9	2.0	-	0-6	Hydraulic	2700	1650	Steel & Iron
	KH-REF.CAST 70L	70	23.2	2.0	-	0-6	Hydraulic	2600	1600	Iron
Safety Lining	KH-REF.CAST 85L	84	8.5	1.9	-	0-6	Hydraulic	2750	1700	Steel
	KH-REF.CAST 60L	57.4	35.4	2.1	-	0-6	Hydraulic	2450	1500	Iron

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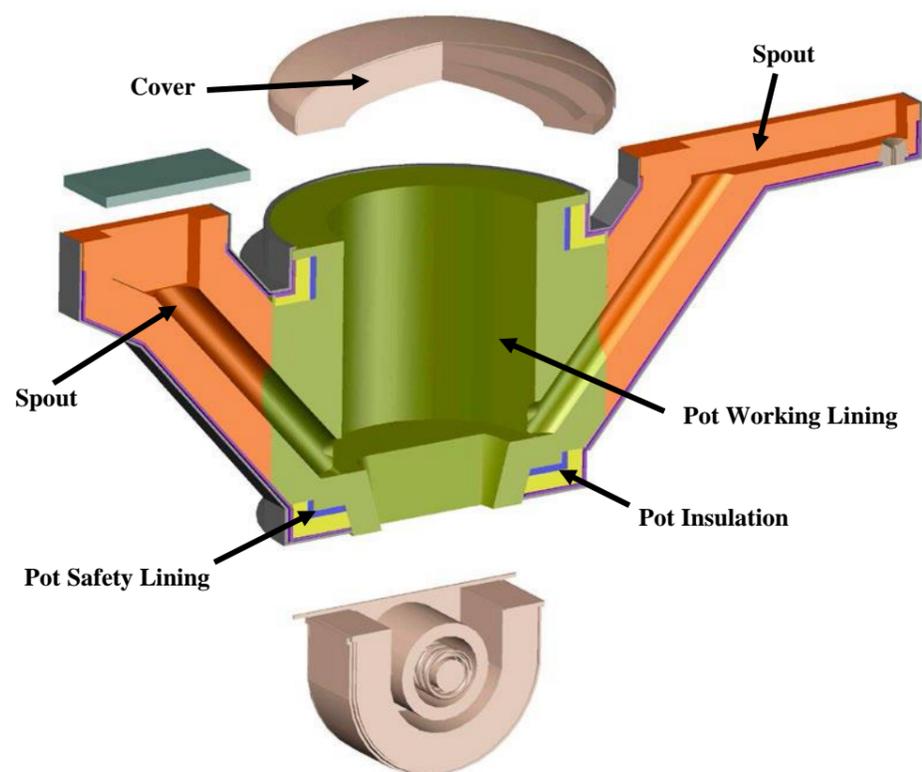
Zone	Product Name	Typical Chemical Analysis (%)				Grain Size (mm)	Type of Bonding	Required Materials (kg/m ³)	M.S.T (°C)
		Al ₂ O ₃	SiO ₂	CaO	Other				
Safety Lining	KH-REF.CAST 85L	84	8.5	1.9	-	0-6	Hydraulic	2750	1700
	KH-REF.CAST 60L-A	62.1	34.4	1.9	-	0-6	Hydraulic	2550	1650
	KH-REF.FLOW 85L	87	5.7	1.7	-	0-6	Hydraulic	2750	1700
Insulating Lining	KH-REF.CAST 1200 LIGHT	36.3	41.3	9.9	-	0-6	Hydraulic	1200	1100
	KH-REF.GUN 1200 LIGHT	34.8	40.4	11.8	-	0-3	Hydraulic	1200	1050
Cover Working Lining	KH-REF.CAST 60L	57.4	35.4	2.1	-	0-6	Hydraulic	2450	1500
	KH-REF.GUN 60	58.7	28.7	5.0	-	0-3	Hydraulic	2300	1500

Channel Induction Furnace



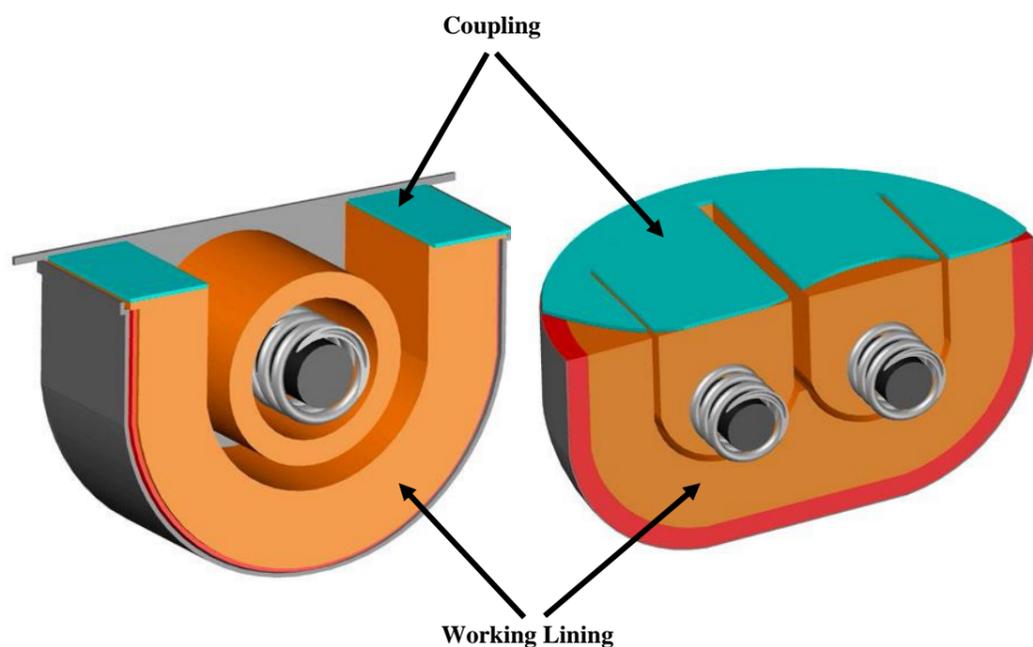
Zone	Product Name	Typical Chemical Analysis (%)				Grain Size (mm)	Type of Bonding	Required Materials (kg/m ³)	M.S.T (°C)	Suitable for:
		Al ₂ O ₃	SiO ₂	CaO	Other					
Pot Working Lining	KH-REF.RAM AL 96	97.2	-	-	-	0-6	Chemical-Ceramic	2900	1800	Iron
	KH-REF.RAM AL 92-CR	91.4	1.2	-	Cr ₂ O ₃ :1.0	0-6	Chemical-Ceramic	3000	1800	Iron
	KH-REF.CAST 95L-CR	92.6	2.0	1.5	Cr ₂ O ₃ :3.0	0-6	Hydraulic	3100	1800	Iron
	KH-REF.CAST 98L	97.3	0.2	1.8	-	0-6	Hydraulic	3100	1800	Iron
Pot Safety Lining	KH-REF.GUN 80	81	8.5	4.7	-	0-3	Hydraulic	2600	1650	Iron
Pot Insulation	KH-REF.GUN 1000 LIGHT	33.4	41.6	11.9	-	0-3	Hydraulic	1000	1050	Iron
Spout	KH-REF.CAST 90U-CR	90.4	0.2	0.7	Cr ₂ O ₃ :7.9	0-6	Hydraulic	3150	1800	Iron
	KH-REF.CAST 98L	97.3	0.2	1.8	-	0-6	Hydraulic	3100	1800	Iron
Cover	KH-REF.CAST 70L	70	23.2	2.0	-	0-6	Hydraulic	2600	1600	Iron

Press Pouring Furnace



Zone	Product Name	Typical Chemical Analysis (%)				Grain Size (mm)	Type of Bonding	Required Materials (kg/m ³)	M.S.T (°C)	Suitable for:
		Al ₂ O ₃	SiO ₂	CaO	Other					
Pot Working Lining	KH-REF.RAM AL 96	97.2	-	-	-	0-6	Chemical-Ceramic	2900	1800	Iron
	KH-REF.RAM AL 92-CR	91.4	1.2	-	Cr ₂ O ₃ :1.0	0-6	Chemical-Ceramic	3000	1800	Iron
	KH-REF.CAST 95L-CR	92.6	2.0	1.5	Cr ₂ O ₃ :3.0	0-6	Hydraulic	3100	1800	Iron
	KH-REF.CAST 98L	97.3	0.2	1.8	-	0-6	Hydraulic	3100	1800	Iron
Pot Safety Lining	KH-REF.GUN 80	81	8.5	4.7	-	0-3	Hydraulic	2600	1650	Iron
Pot Insulation	KH-REF.GUN 1000 LIGHT	33.4	41.6	11.9	-	0-3	Hydraulic	1000	1050	Iron
Spout	KH-REF.CAST 90U-CR	90.4	0.2	0.7	Cr ₂ O ₃ :7.9	0-6	Hydraulic	3150	1800	Iron
	KH-REF.CAST 98L	97.3	0.2	1.8	-	0-6	Hydraulic	3100	1800	Iron
Cover	KH-REF.CAST 70L	70	23.2	2.0	-	0-6	Hydraulic	2600	1600	Iron

Channel Inductors



Zone	Product Name	Typical Chemical Analysis (%)				Grain Size (mm)	Type of Bonding	Required Materials (kg/m ³)	M.S.T (°C)	Suitable for:
		Al ₂ O ₃	SiO ₂	CaO	Others					
Working Lining	KH-REF.RAM MAGPINEL/B	12	1.7	0.8	MgO:84.5	0-6	Ceramic	2800	1800	Iron
	KH-REF.RAM MAGPINEL/S	11	1.2	1.0	MgO:83.5	0-3	Chemical-Ceramic	2800	1700	Iron
Coupling	KH-REF.MOR 40-A	38.2	44.5	-	-	0-0.2	Chemical	1800	1300	Iron
	KH-REF.MOR 90-C	85.2	8.5	-	-	0-0.5	Ceramic	2700	1700	Iron
	KH-REF.BRUSH 99	-	-	-	Cr ₂ O ₃ : 97	0-0.1	Chemical	2700	1800	Iron

GENERAL PRODUCTS LIST

Page:1

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	CaO	Other				
KH-REF.RAM ALPINEL 18	Ramming	86	0.3	0.2	MgO: 13	0-6	Ceramic	2900	1800
KH-REF.RAM AL 96	Ramming	97.2	-	-	-	0-6	Chemical-Ceramic	2900	1800
KH-REF.RAM AL 92-CR	Ramming	91.4	1.2	-	Cr ₂ O ₃ :1.0	0-6	Chemical-Ceramic	3000	1800
KH-REF.RAM MAGPINEL 18	Ramming	11	1.4	1.2	MgO: 85	0-6	Ceramic	2800	1800
KH-REF.RAM MAGPINEL/B	Ramming	12	1.7	0.8	MgO:84.5	0-6	Ceramic	2800	1800
KH-REF.RAM MAGPINEL/S	Ramming	11	1.2	1.0	MgO:83.5	0-3	Chemical-Ceramic	2800	1700
KH- REF.CAST 40R	RCC	42.2	36.8	9.7	Fe ₂ O ₃ : 6.7	0-6	Hydraulic	2050	1200
KH- REF.CAST 45R/LI	RCC	45.1	38.0	9.3	-	0-6	Hydraulic	2050	1300
KH- REF.CHROMECAST	RCC	28.6	6.5	8.8	Cr ₂ O ₃ : 31.2	0-6	Hydraulic	2850	1450
KH- REF.CAST 50M	MCC	48.1	44.5	3.0	-	0-6	Hydraulic	2300	1400
KH REF.CAST 145H	MCC	52.3	40.1	3.0	-	0-6	Hydraulic	2350	1450
KH- REF.CAST 60M	MCC	58.2	34.0	3.1	-	0-6	Hydraulic	2450	1500
KH-REF.CAST 70M	MCC	70.4	19.7	3.2	-	0-6	Hydraulic	2550	1600
KH-REF.CAST 80M	MCC	78.2	12.7	3.2	-	0-6	Hydraulic	2650	1650
KH-REF.CAST 85M	MCC	86.3	6.4	2.6	-	0-6	Hydraulic	2700	1700
KH-REF.CAST 90M	MCC	91.0	3.7	2.8	-	0-6	Hydraulic	2800	1750
KH-REF.CAST 97M	MCC	96.3	0.2	2.6	-	0-6	Hydraulic	3000	1800
KH-REF.CAST 60L	LCC	57.4	35.4	2.1	-	0-6	Hydraulic	2450	1500
KH-REF.CAST 70L	LCC	70	23.2	2.0	-	0-6	Hydraulic	2600	1600
KH-REF.CAST 80L	LCC	79.5	12.9	2.0	-	0-6	Hydraulic	2700	1650
KH-REF.CAST 85L	LCC	84	8.5	1.9	-	0-6	Hydraulic	2750	1700
KH-REF.CAST 90L	LCC	90.6	4.3	1.9	-	0-6	Hydraulic	2850	1750
KH-REF.CAST 98L	LCC	97.3	0.2	1.8	-	0-6	Hydraulic	3100	1800
KH-REF.CAST ALPINEL/LS	LCC	91.6	0.2	1.8	MgO: 5.8	0-6	Hydraulic	3050	1800
KH-REF.CAST 95L-CR	LCC	92.6	2.0	1.5	Cr ₂ O ₃ :3.0	0-6	Hydraulic	3100	1800
KH-REF.CAST 80L-SC	LCC	79.5	9.8	1.4	SiC: 7.5	0-6	Hydraulic	2700	1600
KH-REF.CAST 90U-CR	ULCC	90.4	0.2	0.7	Cr ₂ O ₃ :7.9	0-6	Hydraulic	3150	1800
KH-REF.CAST ALPINEL/UF	ULCC	92.9	0.7	0.8	MgO: 4.8	0-6	Hydraulic	3050	1800
KH-REF.FLOW 85L	Self-leveling Castable	87	5.7	1.7	-	0-6	Hydraulic	2750	1700
KH-REF.FLOW 90L	Self-leveling Castable	90.5	3.9	1.6	-	0-6	Hydraulic	2850	1750
KH-REF.FLOW 98L	Self-leveling Castable	97.6	Trace	1.5	-	0-6	Hydraulic	3100	1800

Refractory Solutions for Steel & Iron Alloys Foundry

Rev2.08/22/2023

GENERAL PRODUCTS LIST

Page:2

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	CaO	Other				
KH-REF.CAST 800 LIGHT	Insulating Castable	32.9	39.2	13.8	-	0-3	Hydraulic	800	1000
KH-REF.CAST 1000 LIGHT	Insulating Castable	34.6	40.3	11.9	-	0-3	Hydraulic	1000	1050
KH-REF.CAST 1200 LIGHT	Insulating Castable	36.3	41.3	9.9	-	0-6	Hydraulic	1200	1100
KH-REF.CAST 1400 LIGHT	Insulating Castable	37.6	38.0	11.8	-	0-3	Hydraulic	1400	1100
KH-REF.GUN 40	Dense Gunning	41.0	38.1	9.7	Fe ₂ O ₃ : 6.2	0-3	Hydraulic	2000	1200
KH-REF.GUN 45	Dense Gunning	43.9	39.2	9.4	-	0-3	Hydraulic	2000	1300
KH-REF.GUN 50	Dense Gunning	50.3	34.5	9.1	-	0-3	Hydraulic	2000	1400
KH-REF.GUN 60	Dense Gunning	58.7	28.7	5.0	-	0-3	Hydraulic	2300	1500
KH-REF.GUN 70	Dense Gunning	69.5	18.9	4.8	-	0-3	Hydraulic	2400	1600
KH-REF.GUN 80	Dense Gunning	81	8.5	4.7	-	0-3	Hydraulic	2600	1650
KH-REF.GUN 1000 LIGHT	Insulating Gunning	33.4	41.6	11.9	-	0-3	Hydraulic	1000	1050
KH-REF.GUN 1200 LIGHT	Insulating Gunning	34.8	40.4	11.8	-	0-3	Hydraulic	1200	1050
KH-REF.GUN 1400 LIGHT	Insulating Gunning	36.3	39.3	11.8	-	0-3	Hydraulic	1400	1100
KH-REF.GROUT 15	Coating material	46.5	39.0	8.9	-	0-1 , 0-3	Hydraulic	2000	1500
KH-REF.GROUT 17	Coating material	79.3	8.4	5.4	-	0-1 , 0-3	Hydraulic	2500	1700
KH-REF.GROUT 18	Coating material	90.8	1.8	5.3	-	0-1 , 0-3	Hydraulic	2700	1800
KH-REF.PLAST 50-P	Refractory plastic mix	49.5	33.6	0.5	P ₂ O ₅ : 3.7	0-6	Chemical	2300	1400
KH-REF.PLAST 60-P	Refractory plastic mix	60.4	23.8	0.4	P ₂ O ₅ : 3.3	0-6	Chemical	2400	1500
KH-REF.PLAST 70-P	Refractory plastic mix	69	15.7	0.3	P ₂ O ₅ : 3.5	0-6	Chemical	2500	1600
KH-REF.PLAST 80-P	Refractory plastic mix	79.4	8.0	0.2	P ₂ O ₅ : 3.2	0-6	Chemical	2600	1650
KH-REF.MOR 40	Mortar	38.8	46.9	0.5	-	0-0.2	Ceramic	1800	1300
KH-REF.MOR 50	Mortar	47.4	38.4	0.8	-	0-0.2	Ceramic	1900	1400
KH-REF.MOR 60	Mortar	58.2	28.6	0.7	-	0-0.2	Ceramic	2100	1500
KH-REF.MOR 70	Mortar	69.1	18.8	0.6	-	0-0.2	Ceramic	2300	1600
KH-REF.MOR 80	Mortar	81.5	11.9	0.4	-	0-0.15	Ceramic	2500	1700
KH-REF.MOR 175-DG	Dry green mortar	86.5	4.5	Cr ₂ O ₃ : 4.0-7.0	-	0-0.2	Chemical	2550	1750
KH-REF.MOR 175-WG	Wet green mortar	84.3	5.2	Cr ₂ O ₃ : 4.0-7.0	-	0-0.2	Chemical	2550	1750

Refractory Solutions for Steel & Iron Alloys Foundry

Rev2.08/22/2023