



**Refractory Solutions
for
Steelmaking Industry**



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.

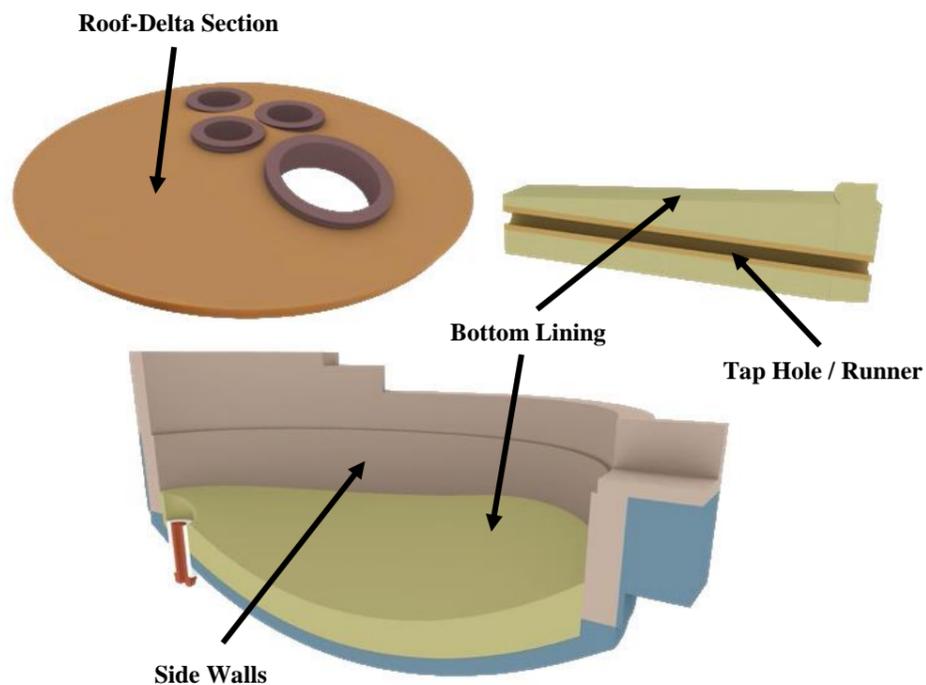
We hope to facilitate the process of activity of Iran's casting industry with efforts and perseverance like in the past decades.

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.

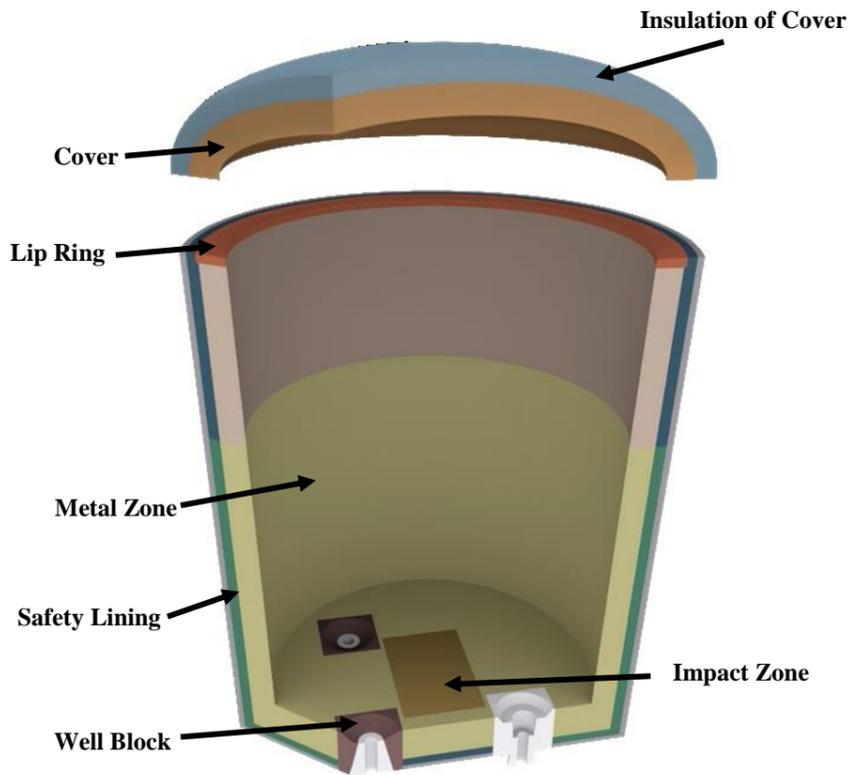
امید است که با استعانت از پروردگار متعال بتوانیم رضایت مندی مشتریان و صنایع متالورژی در این زمینه هم مانند مواد ریخته‌گری طبق سنوات گذشته کسب نمائیم.

Electric Arc Furnace



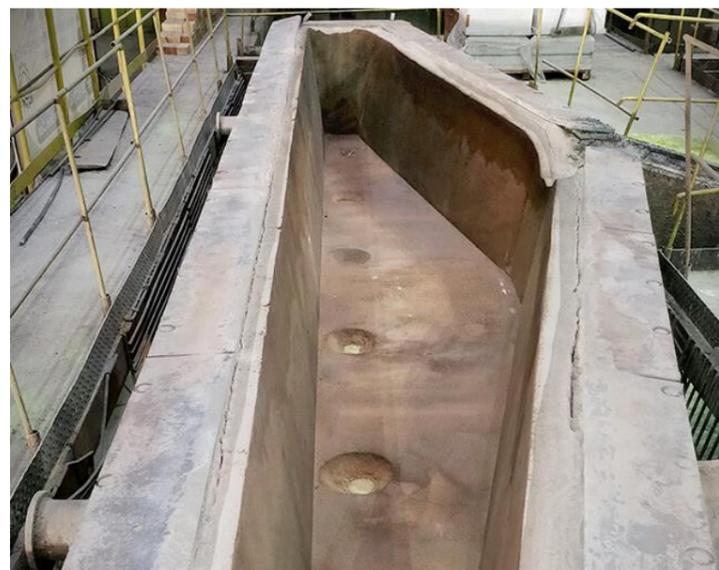
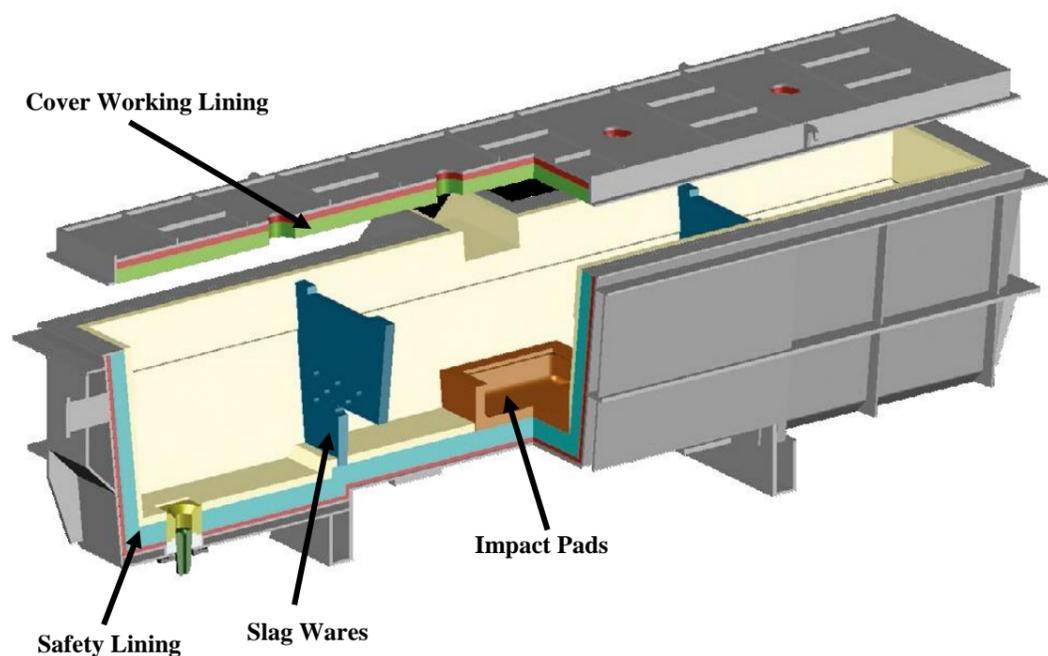
Zone	Product Name	Typical Chemical Analysis (%)				Grain Size (mm)	Type of Bonding	Required Materials (kg/m ³)	Maximum Service Temperature (°C)
		Al ₂ O ₃	SiO ₂	CaO	Other				
Roof-Delta Section	KH-REF.CAST 96L-D8	89.0	2.0	1.2	Cr ₂ O ₃ : 8.0	0-6	Hydraulic	3100	1700
	KH-REF.CAST 96L-D4	92.0	2.0	1.5	Cr ₂ O ₃ : 4.0	0-6	Hydraulic	3050	1700
	KH-REF.CAST 96L-D2	94.0	2.0	1.5	Cr ₂ O ₃ : 2.0	0-6	Hydraulic	3000	1700
	KH-REF.CAST ALPINEL/LS25	91.8	Trace	2.2	MgO: 5.2	0-6	Hydraulic	3050	1800
	KH-REF.CAST 165L-A	62.2	34.5	1.6	-	0-6	Hydraulic	2600	1650
Bottom Lining	KH-REF.RAM MAG 96-CB	0.3	2.8	0.9	MgO: 95.5 Fe ₂ O ₃ : 0.8	0-6	Chemical-Ceramic	2650	1750
	KH-REF.RAM MAG 92-CB	0.5	5.3	3.0	MgO: 91.5 Fe ₂ O ₃ : 0.6	0-6	Chemical-Ceramic	2600	1750
Side Walls	KH-REF.GUN MAG 90-CB	0.5	6.3	3.4	MgO: 86.5 Fe ₂ O ₃ : 0.7	0-4	Chemical-Ceramic	2600	1750
Tap Hole/Runner	KH-REF.CAST 96L-D8	89.0	2.0	1.2	Cr ₂ O ₃ : 8.0	0-6	Hydraulic	3100	1700
	KH-REF.CAST 96L-D4	92.0	2.0	1.5	Cr ₂ O ₃ : 4.0	0-6	Hydraulic	3050	1700

Ladle Furnace



Zone	Product Name	Typical Chemical Analysis (%)				Grain Size (mm)	Type of Bonding	Required Materials (kg/m ³)	Maximum Service Temperature (°C)
		Al ₂ O ₃	SiO ₂	CaO	Other				
Metal Zone	KH-REF.FLOW ALPINEL/LS20	92.7	Trace	1.9	MgO: 4.6	0-6	Hydraulic	3050	1800
Safety Lining	KH-REF.CAST 85L-A	78.3	15.8	1.7	-	0-6	Hydraulic	2750	1650
	KH-REF.CAST MAG 96	0.3	5.5	1.0	MgO: 92.6	0-6	Chemical	2700	1750
Well Block	KH-REF.CAST ALPINEL/LS20	93.0	Trace	1.6	MgO: 4.6	0-6	Hydraulic	3050	1800
Impact Zone	KH-REF.CAST ALPINEL/LS20	93.0	Trace	1.6	MgO: 4.6	0-6	Hydraulic	3050	1800
Lip Ring	KH-REF.PLAST 75	72.0	20.0	1.5	-	0-6	Chemical-Ceramic	2600	1600
	KH-REF.CAST 80R	80.6	7.2	7.2	-	0-6	Hydraulic	2600	1600
Cover	KH-REF.CAST 85L-A	78.3	15.8	1.7	-	0-6	Hydraulic	2750	1650
Insulating of Cover	KH-REF.CAST 1000 LIGHT	27.2	41.5	18.7	Fe ₂ O ₃ :5.3	0-6	Hydraulic	1000	1100
	KH-REF.GUN 1000 LIGHT	26.3	45.4	16.4	Fe ₂ O ₃ : 4.4	0-4	Hydraulic	1000	1100

Tundish



Zone	Product Name	Typical Chemical Analysis (%)				Grain Size (mm)	Type of Bonding	Required Materials (kg/m ³)	Maximum Service Temperature (°C)
		Al ₂ O ₃	SiO ₂	CaO	Other				
Safety Lining	KH-REF.CAST 85L-A	78.3	15.8	1.7	-	0-6	Hydraulic	2750	1650
	KH-REF.CAST 165L-A	62.2	34.5	1.6	-	0-6	Hydraulic	2600	1650
Cover Working Lining	KH-REF.CAST 85L-A	78.3	15.8	1.7	-	0-6	Hydraulic	2750	1650
	KH-REF.CAST 165L-A	62.2	34.5	1.6	-	0-6	Hydraulic	2600	1650
Slag Wares	KH-REF.CAST 85L-A	78.3	15.8	1.7	-	0-6	Hydraulic	2750	1650
	KH-REF.CAST ALPINEL/LS20	93.0	Trace	1.6	MgO: 4.6	0-6	Hydraulic	3050	1800
	KH-REF.CAST 95L-W	94.9	2.8	1.2	-	0-6	Hydraulic	3050	1700
Impact Pads	KH-REF.CAST 85L-A	78.3	15.8	1.7	-	0-6	Hydraulic	2750	1650
	KH-REF.CAST 95L-T	94.9	2.8	1.2	-	0-6	Hydraulic	3100	1750
	KH-REF.CAST ALPINEL/LS20	93.0	Trace	1.6	MgO: 4.6	0-6	Hydraulic	3050	1800

GENERAL PRODUCTS LIST

Product Name	Classification	Main Raw Materials	Typical Chemical Analysis (%)				Grain Size (mm)	Type of Bonding	Required Materials (kg/m ³)	Maximum Service Temperature (°C)
			Al ₂ O ₃	SiO ₂	CaO	Other				
KH-REF.FLOW ALPINEL/LS20	Self-Leveling Castable	Tabular Alumina & Spinel	92.7	Trace	1.9	MgO: 4.6	0-6	Hydraulic	3050	1800
KH-REF.CAST ALPINEL/LS25	LCC	Tabular Alumina & Spinel	91.8	Trace	2.2	MgO: 5.2	0-6	Hydraulic	3050	1800
KH-REF.CAST ALPINEL/LS20	LCC	Tabular Alumina & Spinel	93.0	Trace	1.6	MgO: 4.6	0-6	Hydraulic	3050	1800
KH-REF.CAST 95L-T	LCC	Tabular Alumina	94.9	2.8	1.2	-	0-6	Hydraulic	3100	1750
KH-REF.CAST 95L-W	LCC	White Fused Alumina	94.9	2.8	1.2	-	0-6	Hydraulic	3050	1700
KH-REF.CAST 96L-D8	LCC	Tabular Alumina & Chromia	89.0	2.0	1.2	Cr ₂ O ₃ : 8.0	0-6	Hydraulic	3100	1700
KH-REF.CAST 96L-D4	LCC	Tabular Alumina & Chromia	92.0	2.0	1.5	Cr ₂ O ₃ : 4.0	0-6	Hydraulic	3050	1700
KH-REF.CAST 96L-D2	LCC	Tabular Alumina & Chromia	94.0	2.0	1.5	Cr ₂ O ₃ : 2.0	0-6	Hydraulic	3000	1700
KH-REF.CAST 165L-A	LCC	Andalusite	62.2	34.5	1.6	-	0-6	Hydraulic	2600	1650
KH-REF.CAST 85L-A	LCC	Bauxite & Andalusite	78.3	15.8	1.7	-	0-6	Hydraulic	2750	1650
KH-REF.CAST 80R	CC	Bauxite	80.6	7.2	7.2	-	0-6	Hydraulic	2600	1600
KH-REF.CAST MAG 96	Basic Castable	Dead Burned Magnesia	0.3	5.5	1.0	MgO: 92.6	0-6	Chemical	2700	1750
KH-REF.GUN MAG 90-CB	Basic Gunning	Dead Burned Magnesia	0.5	6.3	3.4	MgO: 86.5 Fe ₂ O ₃ : 0.7	0-4	Chemical-Ceramic	2600	1750
KH-REF.RAM MAG 96-CB	Basic Ramming	Dead Burned Magnesia	0.3	2.8	0.9	MgO: 95.5 Fe ₂ O ₃ : 0.8	0-6	Chemical-Ceramic	2650	1750
KH-REF.RAM MAG 92-CB	Basic Ramming	Dead Burned Magnesia	0.5	5.3	3.0	MgO: 91.5 Fe ₂ O ₃ : 0.6	0-6	Chemical-Ceramic	2600	1750
KH-REF.PLAST 75	Plastic Mass	Bauxite	72.0	20.0	1.5	-	0-6	Chemical-Ceramic	2600	1600
KH-REF.CAST 1000 LIGHT	Insulating Castable	Perlite & Crushed Firebrick	27.2	41.5	18.7	Fe ₂ O ₃ : 5.3	0-6	Hydraulic	1000	1100
KH-REF.GUN 1000 LIGHT	Insulating Gunning	Perlite & Crushed Firebrick	26.3	45.4	16.4	Fe ₂ O ₃ : 4.4	0-4	Hydraulic	1000	1100
KH-REF.CAST 98L	LCC	Tabular Alumina	97.4	Trace	1.8	-	0-6	Hydraulic	3050	1800
KH-REF.CAST 85L	LCC	Bauxite	83.5	9.8	1.4	-	0-6	Hydraulic	2750	1700
KH-REF.CAST 70L	LCC	Bauxite	69.7	23.7	1.5	-	0-6	Hydraulic	2600	1600
KH-REF.CAST 60L	LCC	Chamotte & Bauxite	57.6	35.9	1.8	-	0-6	Hydraulic	2450	1500
KH-REF.CAST 96M	MCC	Tabular Alumina	95.8	Trace	3.0	-	0-6	Hydraulic	2950	1800
KH-REF.CAST 85M	MCC	Bauxite	83.3	9.0	2.6	-	0-6	Hydraulic	2700	1700
KH-REF.CAST 145H	MCC	Chamotte	52.3	40.5	2.7	-	0-6	Hydraulic	2350	1450
KH-REF.CAST 45R	CC	Fireclay	42.6	33.4	10.1	Fe ₂ O ₃ : 6.2	0-6	Hydraulic	1950	1200
KH-REF.CAST 45R/LI	CC	Fireclay	44.4	38.5	7.6	Fe ₂ O ₃ : 2.4	0-6	Hydraulic	1950	1300
KH-REF.MOR 175/DGM	Mortar (Green)	Tabular Alumina & Chromia	90.0	2.9	Trace	Cr ₂ O ₃ : 6.0	0-0.1	Ceramic	2800	1750