



THE QUALITY OF REFRACTORY MORTARS

Refractory mortars are used to bond the individual bricks together as an integrated refractory structure. Careful selection of mortars is one of the determining factors to the service life of firebricks. Excellent mortars usually provide the following features:

- Develop high bonding strength with bricks.
- Resist the mechanical stress and impact as an integrated structure.
- Resist corrosion of slags, fluxes and prevent gas leakage from the joints.
- Compatible with the properties of bricks laid such as thermal expansion, thermal conductivity, volume stability, chemical compositions, etc.
- Sufficient refractoriness to prevent the mortars from melting at joints.

The heat-setting mortars develop ceramic bondings with

bricks at furnace temperature. It provides flexibility in expansion and contraction as furnace temperature rises and falls. It may also be able to compensate for the high thermal expansion of bricks. Because of the recent improvement in refractory qualities make different mortars of various compositions to match the properties of bricks are available for brick laying with shrinkage negligible.

The air-setting mortars, either in dry or in wet form both set rigidly when dride.

The features are:

- To form strong joints with bricks over a wide temperature range and resulting in high resistance to abrasion and erosion.
- Good workability easy to trowel and spray.
- Hardning at room temperature.

Typical Properties

Brand		AIR-SETTING MORTARS					
		ASM-SK40	ASM-HA6	ASM-HA4	ASM-HA3	ASM-HA2	ASM-C6
Refractoriness(SK)		40	38	37	36	35	34
Water Required For Mixing (%)		23-25	30-35	30-35	30-35	30-35	30-35
Grain Size(%)	+ 0.5m/m	< 5	< 5	< 5	< 5	< 5	< 5
	- 0.074m/m	> 55	> 55	> 55	> 55	> 55	> 55
Bonding Strength	110°C -24hrs	20	20	15	15	15	10
	kg f/cm ²	1500°C	1500°C	1400°C	1400°C	1300°C	1300°C
	°C -3hrs	50	50	50	50	40	40
Chemical Composition(%)	Al ₂ O ₃	90	83.6	68.4	63.2	63.0	45.8
	SiO ₂	—	—	—	—	—	—

Brand		AIR-SETTING MORTARS					
		ASM-C5	ASM-C4	ASM-MOQ	ASM-SE1	ASM-ZM	ASM-MCR
Refractoriness(SK)		33	32	30	32	33	40
Water Required For Mixing (%)		30-35	30-35	30-35	30-35	30-35	30-35
Grain Size(%)	+ 0.5m/m	< 5	< 5	< 5	< 5	< 5	< 5
	- 0.074m/m	> 55	> 55	> 55	> 55	> 60	> 60
Bonding Strength	110°C -24hrs	10	10	10	10	30	5
	kg f/cm ²	1300°C	1300°C	1400°C	1400°C	1500°C	1400°C
	°C -3hrs	40	40	25	25	50	10
Chemical Composition(%)	Al ₂ O ₃	42.7	38.0	—	—	ZrO ₂ =63.4	MgO=56.8
	SiO ₂	—	—	72.8	76.6	—	Cr ₂ O ₃ =13.3



KUAN-HO REFRACTORIES INDUSTRY CORPORATION

HEAD OFFICE : NO.932,CHIEN FENG ROAD,TOUFEN MIAOLI TAIWAN R.O.C
 TEL : 886-37-542873-7
 E-mail : krics@kric.com.tw

FAX : 886-37-541574
 http://www.kric.com.tw



Brand		AIR-SETTING MORTARS		
		ASM-MCR	ICR-M80	HM-O
Refractoriness(SK)		40	>40	>39
Water Required for Mixing (%)		20	27	20
Grain Size(%)	+0.5m/m	0	0	0
	-0.074m/m	70	70	75
Bonding Strength (kg f/m ²)	110°C -24hrs	5	10	12
	1400°C °C -3hrs	10	25	40
Chemical Composition(%)	Al ₂ O ₃	—	—	85
	MgO	56.8	95	—
	Cr ₂ O ₃	13.3	—	—
	CaO	—	0.5	—

Brand		HEAT-SETTING MORTARS							
		HM-HA4	HM-HA3	HM-HA2	HM-C6	HM-C5	HM-C4	HM-C3	HM-C2
Refractoriness(SK)		37	36	35	34	33	32	31	30
Water Required for Mixing (%)		20-25	20-25	20-23	21-23	20-25	22-24	20-22	20-23
Grain Size(%)	+0.5m/m	<5	<5	<5	<5	<5	<5	<5	<5
	-0.074m/m	>50	>50	>50	>50	>50	>50	>50	>50
Chemical Composition(%)	Al ₂ O ₃	>60	>55	>50	>40	>35	>30	>28	>26
	SiO ₂	—	—	—	—	—	—	—	—

Brand		HEAT-SETTING MORTARS						
		HM-ALT	HM-MRT	HM-S2	HM-B10	HM-B7	HM-B3	HM-CR
Refractoriness(SK)		37	37	32	40	40	40	40
Water Required for Mixing (%)		20-25	21-23	22-24	21-23	20-24	21-24	21-23
Grain Size(%)	+0.5m/m	<5	<5	<5	<5	<5	<5	<5
	-0.074m/m	>50	>50	>50	>60	>60	>60	>50
Chemical Composition(%)	Al ₂ O ₃	>75	>65	—	MgO >90	>60	>33	—
	SiO ₂	—	—	>90	Cr ₂ O ₃	>15	>24	>30