

Article

Solidification/Stabilization of MSWI Fly Ash Using a Novel Metallurgical Slag-Based Cementitious Material

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Table S1. The comprehensive strength of pure MSCM pastes with different proportions of raw materials.

MSCM Pastes	Proportion of Raw Materials (wt.%)				Comprehensive Strength (MPa)		
	SS	DA	PAS	BFS	3d	7d	28d
paste 1	28	8	20	44	14.6	24.5	32.5
paste 2	28	10	26	36	13.39	24.4	33.7
paste 3	28	12	32	28	12.46	20	28.4
paste 4	28	14	38	20	11.23	15.8	24.0
paste 5	32	8	26	34	14.45	25.8	30.4
paste 6	32	12	20	36	13.46	24.9	35.2
paste 7	32	14	36	18	11.46	18.7	26.5
paste 8	32	16	30	22	11.9	20.6	28.4
paste 9	36	8	32	24	12.48	21.2	25.8
paste 10	36	10	38	16	11.0	17.6	22.7
paste 11	36	12	20	32	11.33	26.1	31.8
paste 12	36	14	26	24	10.16	21.2	29.6
paste 13	40	8	38	14	10.51	16.1	23.0
paste 14	40	10	32	18	10.8	18.1	25.9
paste 15	40	12	26	22	10.31	20.8	31.4
paste 16	40	14	20	26	10.05	22.9	32.3

Table S2. Main chemical compositions of four kinds of MSWI fly ashes.

Components (%)	Fe ₂ O ₃	Al ₂ O ₃	SiO ₂	CaO	MgO	K ₂ O	Na ₂ O	Cl	SO ₃
FA1	1.09	0.30	1.97	39.26	0.53	10.93	8.02	28.53	7.51
FA2	0.62	0.66	2.21	49.13	1.57	6.41	9.27	21.95	6.82
FA3	2.82	0.92	2.69	41.33	2.03	5.74	2.69	24.92	13.13
FA4	5.79	12.46	24.86	26.99	4.04	3.38	5.01	6.43	6.05

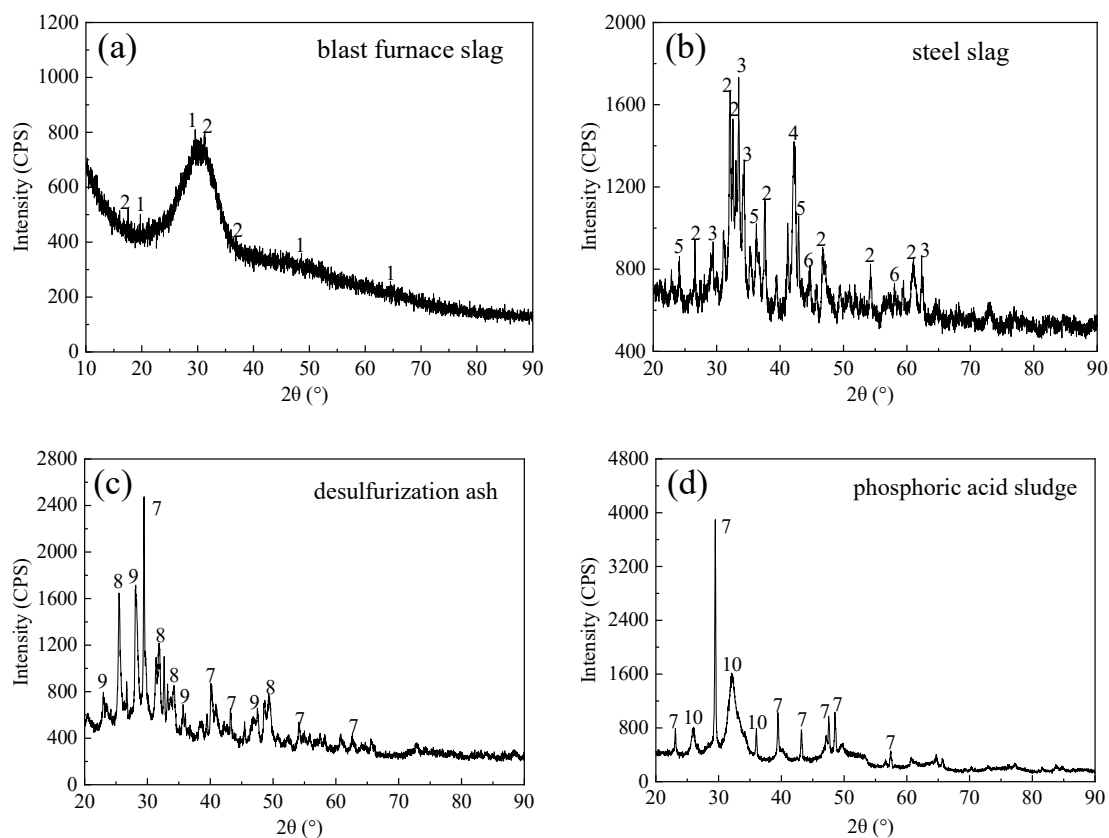


Figure S1. XRD patterns of blast furnace slag (a), steel slag (b), desulfurization ash (c) and phosphoric acid sludge (d). (1-Akermanite ($\text{Ca}_2\text{MgSi}_2\text{O}_7$); 2-Dicalcium silicate ($2\text{CaO}\cdot\text{SiO}_2$); 3-Tricalcium silicate ($3\text{CaO}\cdot\text{SiO}_2$); 4-RO phases; 5-Iron oxide (Fe_2O_3); 6-Tetra calcium aluminoferrite ($4\text{CaO}\cdot\text{Al}_2\text{O}_3\cdot\text{Fe}_2\text{O}_3$); 7- Calcite (CaCO_3); 8-Anhydrite (CaSO_4); 9- Calcium sulfite (CaSO_3); 10- Calcium sodium phosphate (CaNaPO_4)).