

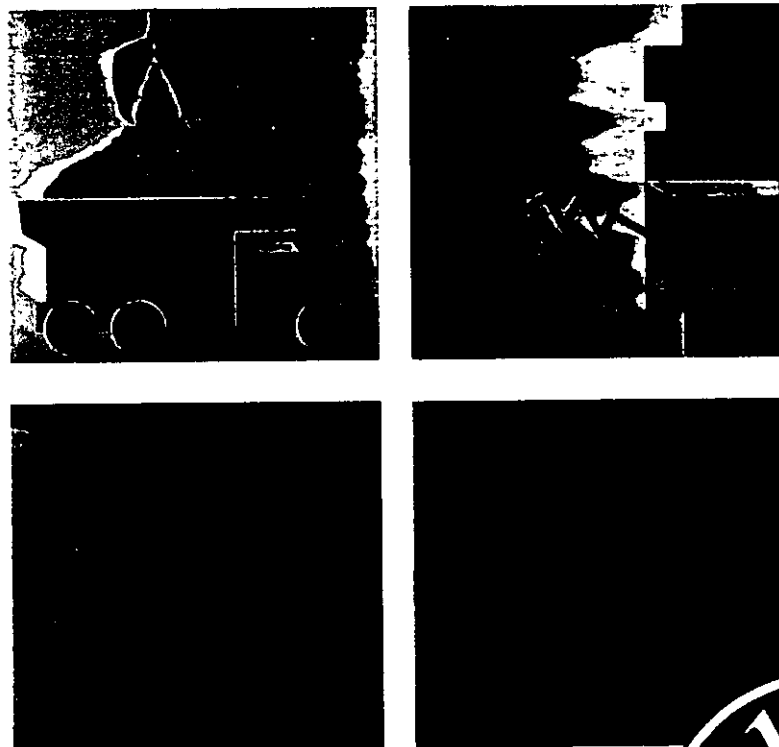
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Compositions of Commercial Glazes Selected Commercial Glazes (mol ratio)

Table 36

Oxide	Glaze for Hard Paste Porcelain	Glaze for Soft Paste Porcelain	Sanitary Ware Glaze	Bristol Glaze	Wall Tile Glaze	Semivitreous Dinnerware Glaze	Vitreous Dinnerware Glaze	Low Expansion Semicrystalline Glaze	Dinnerware Glaze	Cone 06 Dinnerware Glaze	Opacified Glaze	Zinc Mat Glaze	Lime Mat	Ground Coat Enamel	Home Laundry Enamel	Hot Water Tank Enamel	Continuous Clean Coating	Opaque Cover Coat Enamel	Semiopaque Cover Coat Enamel	Clear Cover Coat Enamel	Architectural Cover Coat
Li ₂ O						0.047		0.85						0.065	0.085	0.135	0.051	0.127	0.129	0.198	
Na ₂ O			0.10	0.1	0.27	0.081			0.179	0.157	0.111	0.087	0.040	0.470	0.838	0.679	0.347	0.646	0.486	0.665	0.220
K ₂ O	0.3	0.3	0.10	0.1	0.04	0.115	0.070	0.15	0.066		0.083	0.052	0.059	0.054	0.052		0.046	0.277	0.341	0.137	0.680
MgO				0.2	0.01	0.066	0.069					0.097			0.014						
CaO	0.7	0.7	0.60	0.4	0.35	0.580	0.037		0.494	0.218	0.407	0.152	0.524	0.244	0.157	0.110	0.034				0.007
ZnO			0.20	0.2	0.32		0.391				0.371	0.364			0.010	0.047			0.045		0.165
SrO						0.110	0.322														
BaO							0.071				0.028			0.105	0.015	0.011					
PbO							0.039		0.261	0.625		0.247	0.377								
CoO														0.014	0.015	0.019	0.001				
NiO														0.038	0.013		0.001				
CuO														0.008			0.518				
SiO ₂	10.0	7.0	3.00	3.5	2.65	2.721	2.224	2.51	3.369	2.792	2.019	1.566	1.746	1.623	2.171	2.820	1.186	2.902	2.730	3.313	2.026
Al ₂ O ₃	1.0	0.8	0.55	0.4	0.26	0.367	0.173	0.74	0.340	0.273	0.406	0.443	0.262	0.136	0.354	0.060	1.195	0.094	0.046	0.090	0.044
B ₂ O ₃					0.05	0.171	0.188	0.20	0.314	0.507	0.143	0.142	0.176	0.489	0.721	0.330	0.050	0.986	0.833	0.344	0.402
ZrO ₂							0.011			0.023	0.248	0.210	0.211		0.162	0.286	0.173			0.215	0.070
P ₂ O ₅														0.011	0.010			0.039		0.011	
TiO ₂															0.100		0.001	1.117	0.582	0.151	0.807
MnO ₂														0.005	0.024	0.063	0.001				
Cr ₂ O ₃																	0.024				0.008
Sb ₂ O ₃																	0.003				
Nb ₂ O ₅																		0.001			
WO ₃																		0.001			
MoO ₃																				0.011	
F														0.316	0.381	0.349	0.112	0.710	0.724	0.417	0.082

Selected Commercial Glazes (wt%)

Oxide	Glaze for Hard Paste Porcelain	Glaze for Soft Paste Porcelain	Sanitary Ware Glaze	Bristol Glaze	Wall Tile Glaze	Semivitreous Dinnerware Glaze	Vitreous Dinnerware Glaze	Low Expansion Semicrystalline Glaze	Dinnerware Glaze	Cone 06 Dinnerware Glaze	Opacified Glaze	Zinc Mat Glaze	Lime Mat	Ground Coat Enamel	Home Laundry Enamel	Hot Water Tank Enamel	Continuous Clean Coating	Opaque Cover Coat Enamel	Semiopaque Cover Coat Enamel	Clear Cover Coat Enamel	Architectural Cover Coat
SiO ₂	78.00	73.83	59.71	67.09	62.25	59.09	55.79	53.91	55.88	42.45	44.07	33.31	35.99	44.01	41.55	56.05	24.02	40.97	46.74	59.07	37.61
Al ₂ O ₃	13.24	14.32	18.58	13.01	10.36	13.53	7.37	26.98	9.57	7.04	15.04	15.99	9.17	6.35	11.50	2.02	41.38	2.25	1.34	2.72	1.39
B ₂ O ₃					1.36	4.30	5.47	4.98	6.04	8.93	3.62	3.50	4.20	15.37	15.99	7.60	1.18	16.13	16.53	7.11	8.65
ZrO ₂							0.57			0.72	11.10	9.16	8.92		6.36	11.66	7.24			7.86	2.67
P ₂ O ₅														0.70	0.45			1.30		0.48	
TiO ₂															2.55		0.03	20.97	13.25	3.58	19.93
Li ₂ O						0.51		9.08						0.88	0.81	1.33	0.52	0.89	1.10	1.76	
Na ₂ O			2.05	1.98	6.54	1.81	1.81		3.06	2.46	2.50	1.91	0.85	13.15	12.60	13.92	7.30	9.41	8.58	12.23	4.21
K ₂ O	3.67	4.96	3.12	3.01	1.47	3.92	2.71	5.05	1.72		2.84	1.73	1.91	2.30	1.56		1.47	6.13	9.15	3.83	19.79
MgO				2.57	0.16	0.96	0.62					1.38			0.18						
CaO	5.10	6.89	11.15	7.16	7.67	11.76	9.16		7.65	3.09	8.29	3.02	10.08	6.18	2.80	2.04	0.65				0.12
ZnO			5.39	5.19	10.18		10.94				10.97	10.48			0.26	1.27			1.04		4.15
SrO						4.12	3.07														
BaO							2.50							7.27	0.73	0.56					
PbO									16.08	35.30		1.56	19.52	28.87							
CoO														0.47	0.36	0.47	0.03				
NiO														1.28	0.31		0.03				
CuO														0.29			13.99				
MnO ₂														0.20	0.66	1.81	0.03				
Cr ₂ O ₃																	1.24				
Sb ₂ O ₃																	0.30				0.72
Nb ₂ O ₅																		0.06			
WO ₃																		0.05			
MoO ₃																				0.47	
F														2.71	2.31	2.19	0.72	3.17	3.92	2.35	0.48

Source: Commercial Glasses, Advanced in Ceramics, Vol. 18. Edited by D. C. Boyd and J. F. MacDowell. The American Ceramic Society, Inc., Columbus, OH, 1986; pp. 67-72.