Characteristics of silicates of non-metallic part of concentrates

Name of silicate	Chemical composition, %												Temperature of destruction of crystal lattice, °C	Melting point, °C	Metallurgical properties (non-fluxed pellet)			Company							
	Fe	FeO	Fe_2O_3	CaO	MgO	SiO_2	AL_2O_3	MnO	Na_2O	K_20	TiO_2	H_2O			$LTD_{+6.3}$, %	CCS, kg/pellet	$TI_{+6.3}$, %	A	B	C	D	E	F	G	H
Low-melting compounds																									
Stilpnomelane	$(K,Ca,Na)(Fe,Mg,Al)_8(Si,Al)_{12}(O,OH)_{36}\cdot nH_2O$												no data						2						
Aegirine	24.90		34.42			52.27			13.3				980	980	92.0	480	98.5	3				1	4		
Rhodusite	17.70	5.91	18.78		11.74	56.00			6.52			1.05	985	1000	89.0	510	97.6	2	1		4		3		
Green mica	19.14	4.90	21.9		5.24	52.50	0.70		0.26	10.2	0.04	4.30	930	1030	91.2	576	97.4					4	1		
Transitional connections																									
Biotite	15.30	18.05	1.75		9.35	36.10	18.84	0.18		0.91	0.88	4.03	1100-1180	1250	37.6	441	96.5	4	3	4	2	3		2	2
Refractory compounds																									
Actinolite	$Ca_2(Mg,Fe)_5[Si_8O_{22}](OH)_2$												no data							1					
Cummingtonite	30.19	38.80		0.25	6.87	51.56		0.07				2.45	900-1000	1350	33.4	362	91.3	1	4	2	1	2	2		1
Chlorite	22.51	24.44	5.0		5.35	43.77	12.25					8.94	750-850	1350	38.0	219	91.2			5	3				3
Diopside	$CaMg[Si_20_6]$													1390						3					
Grunerite	$2[(Fe^{2+})_7Si_8O_{22}(OH)]$												no data											1	
Quartz			0.36	0.15	0.21	97.8	0.81	0.003	0.07	0.22	0.02			1728	22.5	401	93.3								

Note *: the numbers indicate the presence of minerals in the non-metallic part of the concentrate in descending order (1 - the largest amount, 5 - the smallest amount). The color indicates the degree of influence on the quality characteristics of non-fluxed pellets (green - the presence of these minerals has a positive effect, yellow - basic effect, red - negative effect).*