

liquid is formed. When sufficient liquid is formed to bond the unfused grains without appreciable increase in volume or porosity, what is called the vitrification range is obtained. When sufficient liquid gas has been formed to fill all pores and forms as vitrification proceeds, it is so fluid that they will form a dense mass. The temperature range between the temperature of incipient vitrification and the temperature of over firing is called the vitrification range. The length of the vitrification range of a clay has direct effect on its usefulness.

As the clay is vitrified, the glassy bond increases and hence its strength increases. The porosity decreases and the shrinkage increases as the glass formed flows into pores and penetrates small cracks.

China clays of India and Japan and their composition

Loss on SO_2 , Fe_2O_3 , Al_2O_3 , CaO , MgO , K_2O , Na_2O

1- Bhandak	China clay	12.97	43.67	0.95	40.54	0.77	0.23
2- Ahmedabad	China clay	11.50	42.50	1.27	41.20		
3- Kunder	China clay						
4- Rajmahal	China clay						
5- Japanese	Kaolin						



Ball clays are sedimentary basic refractory clay. They have a high plasticity and a high firing temperature.