

List of Tables

Table 1. 1 Production of some primary metals in the world and India during 2015.....	1
Table 1. 2 Generation of major industrial solid waste in India.....	2
Table 1. 3 Different routes of metal production and their quantity share.....	3
Table 1. 4 Different solid waste generation for the production of one million ton of crude steel.....	5
Table 1. 5 Typical composition of iron ore slime and bottom ash from different plants....	12
Table 1. 6 Different physicochemical properties of raw materials.....	12
Table 1. 7 Comparison of different geotechnical properties of Bottom ash and Sand.....	14
Table 1. 8 Research on utilization of iron ore slime.....	16
Table 1. 9 Research on utilization of bottom ash.....	17
Table 2. 1 Different physical and chemical properties of raw materials.....	30
Table 2. 2 Gradation of bottom ashes.....	32
Table 2. 3 Permeability of FBC and PCC bottom ash.....	37
Table 2. 4 Passing by 75 microns sieve as well as D10, D15, D85 and D90 values of Materials.....	40
Table 2. 5 Passing by 75 microns as well as D10, D15, D85 and D90 values of different pond ashes.....	41
Table 2. 6 Filter material suitability of sand as well as bottom ash with respect to coarse and fine sand.....	41
Table 3. 1 Mix proportion of raw materials used for making brick samples.....	49
Table 3. 2 Calculated optimum oxide ratio in different mix.....	49
Table 4. 1 Different mix proportion and operating parameters for making brick samples...67	67
Table 4. 2 Different mix used for making brick samples.....	83
Table 5. 1 Chemical analysis of the magnesite ramming mass and sodium silicate paste...108	108
Table 5. 2 Comparison of melting under normal and different plasma arc.....	120
Table 5. 3 Comparison of arc current, power rating and noise level in different arc exposure.....	123
Table 5. 4 Rate of lining erosion as well as the number of heat sustainability in different arc exposure.....	126
Table 6. 1 Analysis of raw materials.....	134
Table 6. 2 Mix proportion of feed materials.....	135
Table 6. 3 Charge composition used for different melting.....	138
Table 6. 4 Chemical composition of major elements present inside the ingots.....	140