LIST OF SYMBOLS

W_c : Weight of concentrate

W_m : Weight of middling

Fe_c : Fraction of $Fe_{(T)}$ in concentrate

Fe_m : Fraction of $Fe_{(T)}$ in middling

f_{wl} : Fractional weight loss

W_i : Initial weight of the composite pellet,

W_f : Final weight of the composite pellet after reduction,

f_{coal} : Fraction of coal present in composite pellet,

f_{vm} : Fraction of volatile matters present in coal,

f_{ore} : Fraction of waste present in composite pellet,

ρ_{ore} : Purity of iron oxide (Fe_2O_3) in waste,

f_o : Fraction of oxygen present in pure Fe_2O_3.

y_i : Mean of data

r : No. of measured parameter

W_{io} : Weight of Fe_2O_3 present in waste,

W_C : Weight of carbon required for reduction of Fe_2O_3 in waste.

W_{coal} : Weight of coal required for reduction of Fe_2O_3 present in waste

Φ_{max} : Magnetic flux density,

f : Alternating current frequency,

n : Number of the inductor turns.

ρ : Resistivity of the charge, ohm.cm,

μ : Magnetic permeability,

f : Frequency, Hz.

I : Current in the inductor, ampere,

d : Mean diameter of crucible, cm,

h : Depth of metal in the crucible, cm.

W_1 : Weight of MS scrap, kg

W_2 : Weight of sample taken for chemical analysis before pellet addition

F_1 : Fraction of Fe present in initial melt

W_3 : Weight of composite pellets charged, kg

F_2 : Fraction of iron oxide present in composite pellet

F_3 : Fraction of purity of iron oxide

F_4 : Fraction of Fe present in iron oxide (i.e. 112/160 = 0.7)

W_4 : Weight of TMT rod dissolved during stirring the melt, kg

F_5 : Fraction of Fe present in TMT rod

W_5 : Weight of product, kg

F_6 : Fraction of Fe present in product