

## **TEMPERATURES REACHED IN ASBESTOS-CONTAINING REFRACTORY MATERIALS DURING INGOT CASTING OF STEEL**

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### **Abstract**

This paper addresses the determination of time-temperature profiles at chosen locations in the hot-top region of a steel ingot mould, or within the mould itself where refractory insulation materials were used. These temperature profiles were computed from a heat transfer numerical model based upon the finite element method. The locations to monitor the time-temperature profiles during steel-making process have been determined by extensive analysis of the entire hot-top system and represent all areas of the refractory materials including the areas heated the least. The temperatures at all other locations in these hot tops exceed those locations where the computed values of temperature were reported at any given time. The analysis has been done to determine the temperatures reached at locations where insulating materials containing asbestos were used. The model is based on a minimum steel pouring temperature of 1593<sup>0</sup>C and uses material property data that have been obtained applying scientific principles, calculated, experimentally measured or imported from literature.