Casting powder used directly, impact of quality of the ingot surface, the time needed to clean the ingot surface and possibilities of direct hot invest. However, frequently during the casting powder usage at surface of ingot and head the following appearance were noted cracks, sludge, tear and uneven formation on the head of ingot, macro and micro inclusion under surface of the continuous casted semi – finished product.

For determination the cause of casting powder deactivation the phase composition of the casting powder FT$_2$ before and its successive heating up 1040°C were observed. Also, the samples of the refractory, sludges, macro and micro inclusion produced during the casting were observed. For investigation samples were taken directly in powder form or mechanically in the place of over flow of ingot, tubes or immersed tundish. Powdered samples were ground and homogenized in a Spex – type Mixer Mill and manually an agate mortar. The X – ray diffraction patterns were recorded at room temperature using photographic technique and measured with Philips diffractometer with monochomatized CoK$_{a}$ radiation. The secondary electron micrographs and images of emitted characteristic x – ray were taken by means of Joel scanning electron microscope. For x – ray emission spectrometry samples were formed into briquettes (with Li$_2$CO$_3$ as a binder) under pressure of 195.05 MPa for 1 minute, Spex type holder was used.

On the basic of the investigated samples the occurrence of macro inclusion in the continuous casting blooms and sludges in the immersed tundish were the result of usage of the casting powder and refractory materials. The erosion chamotte in channels and immersed tundish the number of particles chamotte in the incurred slag of casting powder significantly changed, it increased. At the same time the viscosity of the slag and properties of its lubrication as well as heat transmission on the mould wall decrease. The casted powder used and only partial coverage of the surface of the melt.