



Continuous Casting Temperature Measurement

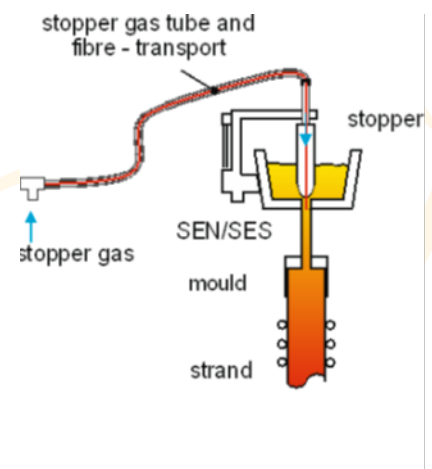
The MINKON DynTemp® technology was developed jointly with our innovations partner BFI. It is a revolutionary method for providing continuous temperature measurement and is suitable for many molten metal applications. MINKON DynTemp® is based on feeding an optical fibre continuously into the molten metal. Thermal radiation is simultaneously transmitted to the remote measuring device and allows for exact 'real time' temperature control throughout the process.

In casting of high quality steel the reliable knowledge of the steel melt temperature entering the mould is essential for adjusting the initial solidification with a minimum of segregation and surface defects. During continuous casting the MINKON DynTemp® system feeds the optical fibre through the gas purged stopper rod, thus offering a fast and continuous temperature measurement directly at the point the casted steel is entering the submerged entry nozzle.

It is known that the precipitation of non-metallic particles is dependent on temperature. The knowledge of the melt temperature directly in the area of clogging promotes the development of appropriate countermeasures.

The MINKON DynTemp® system showed a measurement accuracy of 2 K and a response time of less than 100 ms. Temperature values at the stopper tip continuously measured by the new system will verify the temperature loss in the tundish as calculated by numerical modelling. The difference between calculated steel melt temperature and measured one will give unique information on the thermal behaviour of the tundish and the stability of the flow.

MINKON DynTemp will directly measure the mixing time during ladle change and product loss will be minimised.



Main benefits are:

- Short response time (< 0,1 s)
- Continuous online monitoring
- Easy application
- Improved process control
- Raising output
- Enhanced knowledge for clogging control