

## Hard-faced thermowell for erosive environment

Endress+Hauser found innovative solutions for harsh and erosive environments in the Metal Industry

**When working in the Metal Industry, we constantly deal with extremely harsh and erosive environments. This causes damage to instruments more often temperature probes. Endress+Hauser South Africa decided to take this challenge and develop a solution to improve the thermowell, which ensures that the instruments lasts up to 10 times longer than usual.**

Temperature measurement proves to be a challenge in the steel making process, not only due to high temperatures of between 400 - 450°C, but also harsh and very abrasive applications involved in the process of making good quality steel. During the process of producing the steel, it's of extreme importance that the Molten Metal is at the correct temperature before pouring it into the mould, if not, the final product might have a defect and it also compromises the strength. Temperature measurement can be used in an application where Arc Furnaces is used to channel information to the Power Input Controller via the temperature of metal which can help considerably in saving energy consumption and time.

If you are using or need temperature measurement in applications like Roof-Top furnaces and Rotary Kilns etc. where abrasion is a challenge due to high-velocity thermal wind, Endress+Hauser offers a thermowell that can withstand such applications. This solution was offered to one of our key customers where the application was to measure Molten Ferrous Metal where the thermowell had to be exchanged every two weeks due to damage. Once the innovative solution was installed, the lifespan for the thermowell was immediately increased to last over 2 months.

Application : Temperature measurement – Roof-top Furnace  
Medium : Molten Ferrous Metal  
Temp range : 400 – 450°C  
Solution : Endress+Hauser - Type “K” Thermocouple c/w Hard-faced thermowell

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