



# powderView

## Problem:

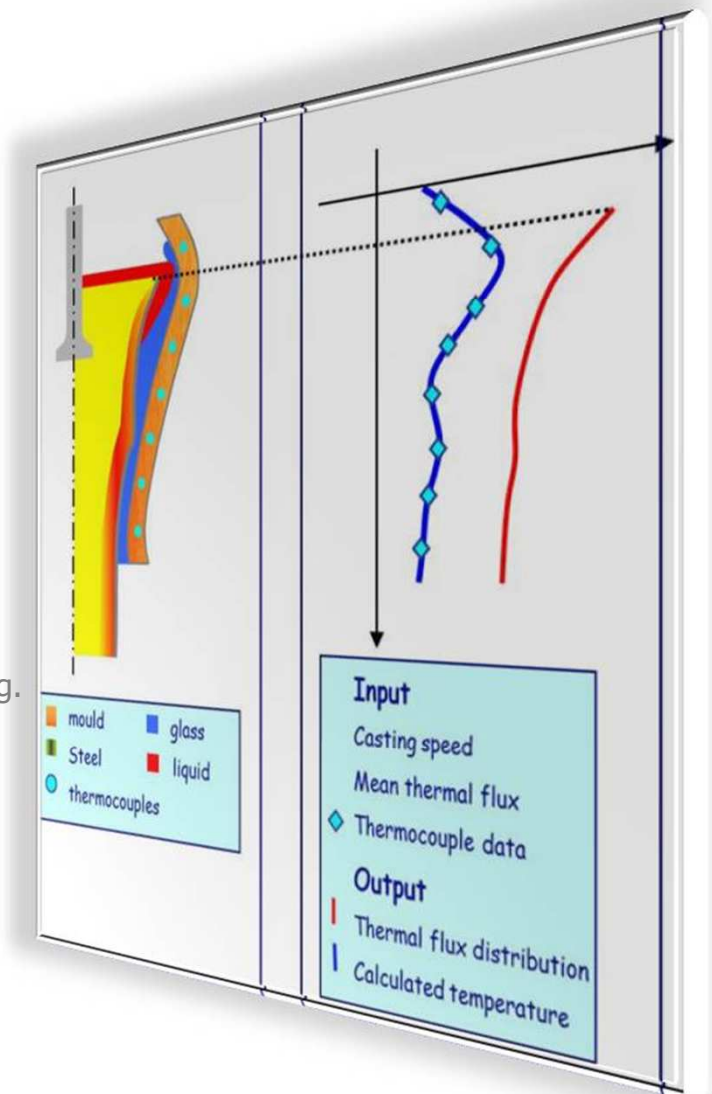
Any steel grade behaves differently during solidification depending on its chemical and physical properties.

When casting powder is not properly identified to couple with the chemical composition and the shrinkage of the grade under solidification in the mould, defects (entrapments, bleedings etc.) can appear in the cast products, but also major events (i.e. breakouts) appear.

## Solution:

powderView is a service CSM offer to its Customer in order to define the most suitable chemical and physical characteristics of casting powders, taking into account chemical composition of the steel and the mould taper geometry design.

powderView is based on a specific Finite Element model developed to take into account the different physical characteristics of the solid, glassy and liquid phases of the slag.

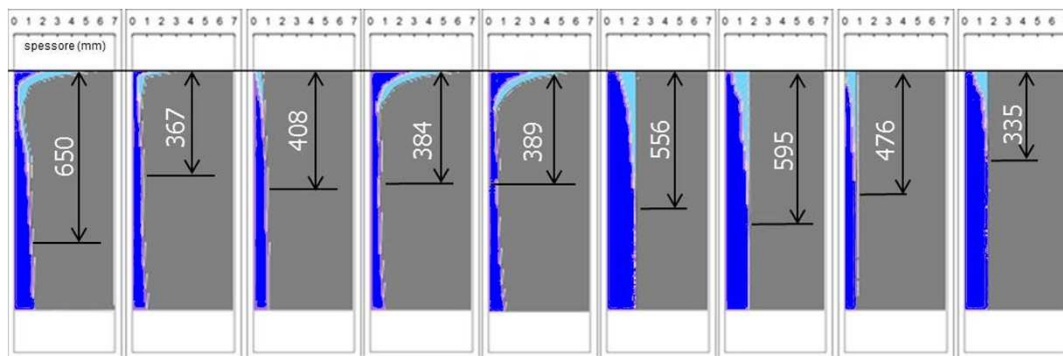
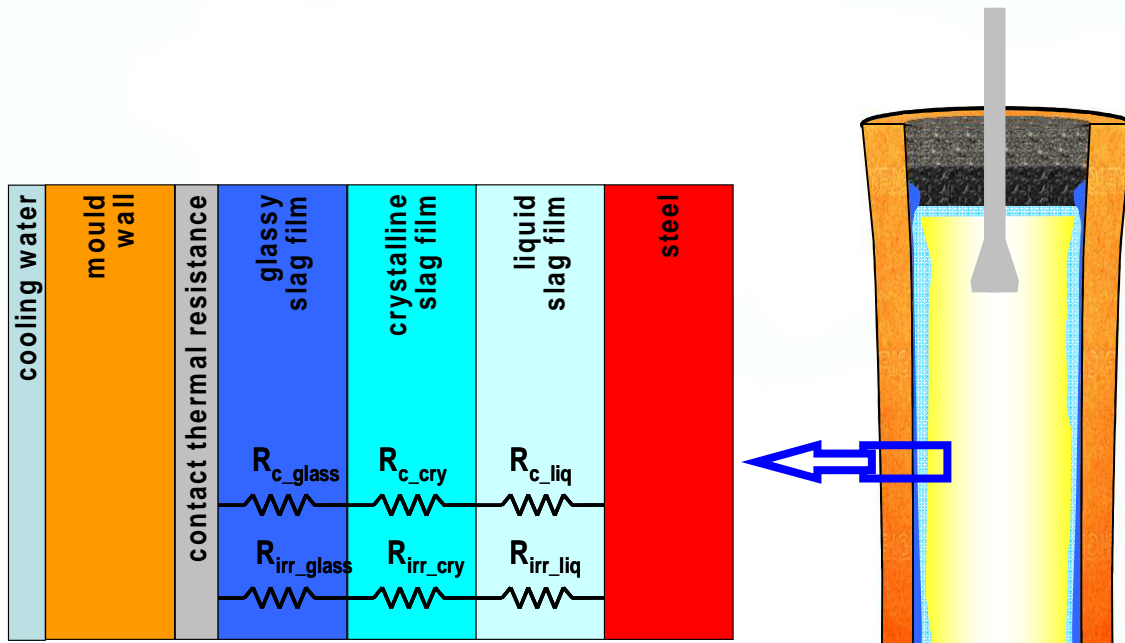


## Benefits:

- To understand the physical behaviour of different casting powders
- To minimise stress map, in order to reduce cracking occurrence due to incorrect powder choice
  - To improve cast quality, reducing entrapment defects, presence of bleedings, etc.

## Data request:

Present mould taper data, steel grade compositions to be cast, casting powder datasheets, main process parameters data.



powderView, when applied systematically, can allow to define the optimal set of casting powders to be used with different steel grades, different mould sizes, casting speed, etc..