Segregation phenomena of cerium and selected elements at crystallization of 42CrMo4 steel

Jaromír Drápala[1], Silvie Brožová[1], Ivo Szurman[1], Kateřina Konečná[1], Gabriela Kostiuková[1], Petr Jonšta[2], and Kateřina Klosová[3]

[1]*Vysoká škola báňská - TU Ostrava, Katedra neželezných kovů, rafinace a recyklace, 606 - RMTVC, Tř. 17. listopadu 15, 708 33 Ostrava - Poruba, Czech Republic*
[2]*Vítkovice Heavy Machinery a.s., Ruská 2887/101, Vítkovice, 703 00 Ostrava, Czech Republic*
[3]*Demo Lab & Applications, TESCAN Orsay Holding, a.s., Libušina třída 21, 623 00 Brno, Czech Republic*

It is known that rare-earth metals (REM) are powerful deoxidising and desulphurising agents in steels. They are particularly attractive because they have boiling points that are high enough to allow their retention in solution in liquid steel to react with oxygen and sulphur according to thermodynamic and kinetic considerations. The influence of cerium, praseodymium and calcium addition on solidification structure of the low-carbon 42CrMo4 steel was investigated. Alloys were prepared by means of a centrifugal casting. The addition of this elements in amount about 0.1 wt.

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