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**Abstract**

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الملخص

يجب علي الباحث اضافة ملخص باللغة العربية لا يتجاوز 250 كلمة

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**1. Introduction**

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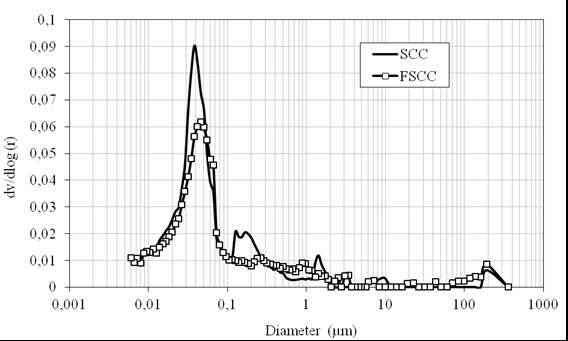
A cooling curve is a plot of temperature as a function of time for a sample of an alloy poured into a standardized mould with a thermocouple usually positioned in the center (Dhonde, 2007). Depending on the sampling rate of the data, the cooling curve can be represented and the first derivative can be accurately calculated (Baalbaki, *et al*, 1991). Invention and introduction of thermal analysis in casting production has brought a comprehensive evaluation of melt iron quality. Research has shown that the shape of the cooling curve measured by thermal couple mounted in the thermal analysis sample cup reflects the solidification process of iron melt in the cup (Zhu and Smith, 1995) .Measuring the shape of the cooling curve will give comprehensive information about the melting and treatments quality thereby the properties and microstructure could be predicted (Labrecque and Gagne, 1998), (Chisamera, *et al*, 2009) , (Mariposa, *et al* 2003).

Thermal analysis can be used to determine inoculants performance, apart from the traditional usage of thermal analysis to determine the percentage of carbon equivalent liquidus, carbon and silicon levels, it can also be used to monitor metallurgical processes and identify potential problems areas such as low nodule count, under-cooled graphite and carbide/chill propensity (Udroiu, 2002), (J. corneli, *et al*, 2004), (Seidu, 2008). It can be used to predict iron shrinkage tendency and help the foundry to control scrap.

**2. Placing the figures**

All the figures must be placed in the column wise, however the authors can use single column to place big figures provided that the template formatting must not change. The title of the figure is to be placed below the figures as shown.

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**Fig.1** Pore size distribution of SCC and FSCC.

*2.1 Placing the graphs*

The graphs must be properly drawn in MS excel. Please note that all the legends should be drawn in the MS excel single file. They are not to be inserted in MS Word which will affect the formatting of the template. Care should also be taken to keep the font as Cambria. As the default font in Excel is Calibri. So the graphs by default take it. The authors are required to keep the font as Cambria. The graphs must be in line with text and are not be placed in any other wrap mode

*2.2 Using and placing the equations*

Please not that all the equations must be written in in Microsoft equation 3.0 or above versions. Click Insert and under Object you will find the Microsoft equation 3.0. Type all your equations here. Do not paste equations from any other file. Equations appearing as images will not be considered .Such equations are not clear when the paper is converted in pdf. An example of Microsoft equation 3.0 is given as under.

**** (1)

Please note that the properties of the equations must not be locked

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**Table 1** Experimental procedure parameters

|  |  |  |
| --- | --- | --- |
| S. No | Parameters | Values |
| 1 | Melting Changes | Acid lining coreless induction furnace,100kg, 2400Hz |
| 2 | Charges | 3.6%C, 1.22%Si, 0.02%P, 0.016%S, 0.04%Cr, 0.47%Mn, 0.005%As, 0.001%V, 0.001%Pb, 0.002%Ti. |
| 3 | Base Metal | 3.56%C, 2.78%Si, 0.47%Mn, 0.020%P, 0.008%S, 0.0384%Cr, 0.0384%Cr, 0.042%Mo, 0.023%Ni, |

**Conclusions**

The authors can write the conclusion as a whole in a paragraph or by making points. An example is given as under.

1. Derivatives of the cooling curve can be used to understand the small changes in the undercooling of the liquidus and solidus temperature.
2. Thermal analysis is a good technique to control carbides, shrinkage and micro-shrinkage formation.
3. It is visibly shown that there is significant reduction in undercooling degree on the alloys and the value of inoculation index was increased. Although the addition of Al,Ca,Zr-FeSi pre-conditioners gives no significant influence .
4. The use of relative performance makes a clear distinction of the alloys efficiency and could be concluded that Ca,RE,S,O-FeSi inoculated iron gave the most influence.
5. From the result obtained, it could be deduced comparatively that Ca,RE,S,O-FeSi inoculant give the best efficiency followed by Ca,Zr-FeSi and Ca,Ba-FeSi inoculants respectively.

**References**

The authors are required to follow the following reference style i.e. Authors names (Year of publication), Title of the Article, *Name of the journal in Italics,* Vol. No. Page No. The examples is given as under

Ali, A. M., Farid, B., & Al-Janabi, A. I. M. (1990). Stress–strain

relationship for concrete in compression model of local

materials. Journal of King Abdulaziz University: Engineering

Sciences, 2, 183–194.

Baalbaki,W., Benmokrane, B., Chaallal,O.,&Aitcin, P.-C. (1991).

Influence of coarse aggregate on elastic properties of highperformance concrete.ACIMaterials Journal, 88(5), 499–503.

Casuccio, M., Torrijos, M.-C., Giaccio, G., & Zerbino, R.

(2008). Failure mechanism of recycled aggregate concrete.

Construction and Building Materials, 22(7), 1500–1506.

Dhonde, H.-B., Mo, Y.-L., Hsu, T. T.-C., & Vogel, J. (2007).

Fresh and hardened properties of self-consolidating fiberreinforced concrete. ACI Journal, 104(5), 491–500.

I. Chisamera, I.Riposan, S. Stan, D. White, (2009), Influence of Residual Aluminum on Solidification Pattern of Ductile iron, *International Journal of Cast metals research,* vol.22,no.6, pp. 401-410.

J. corneli, V.Ettinger, W. Baumgart, (2004), Thermal analysis ,an Unique Fingerprint of a melt *,66th World Foundry Congress* 6-9 , pp. 743-756.

Mariposa, M.Chisamera, S. Stan, C. Gadarautanu, T. Skaland, (2003), Analysis of Cooling and Contraction Curves to Identify the Influence of Inoculants on Shrinkage behavior of Ductile Irons, *Keith Millis Symposium on Ductile Cast Iron*, pp.125-135.

Udroiu, (2002). estimation of type on thermal analysis parameters of ductile irons*, 6thinternaltion conference, Galati, Romania*, pp. 237-241.

Seidu, S.O (2008). Influence of Inoculant’s type on thermal analysis parameters of ductile irons*, 4thinternaltion conference, Galati, Romania*, pp. 237-241.

Wardeh, G., Ghorbel, E., & Mignot, V. (2010). Fracture properties of hybrid fibre self compacting concrete (pp. 219–224). Marianske Lazne: Concrete structures for challenging

times.