

## **Viscosity of molten Fe-Cr-Ni ternary alloy**

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As the stainless steel is very important materials, it is widely used in various area. However, the thermophysical properties in the molten state are not yet clear although it is essential in the smelting process. Therefore, authors have planned to make the viscosity behavior clear not only in the compositions of stainless steels but also in wide composition area in ternary Fe-Cr-Ni melt including the compositions of many stainless steels. Maximum contents of Cr and Ni were 75mol% and 55mol%, respectively. Highest temperature of the measurements was about 1880K. The method used was an oscillating method using cylindrical crucible made of 99.5% alumina with 16mm inner diameter. The viscosity obtained almost increased and decreased with increasing the contents of Cr and Ni, respectively although the additive rule was not exactly applied. The smooth iso-viscosity lines at constant temperatures were obtained and it became possible to predict the viscosities of the unused compositions of Fe-Cr-Ni ternary stainless steels.