

论文

铁液在自焙炭块中的渗透过程

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摘要: 本文在1450和1500℃下,对铁液在自焙炭块中的渗透过程进行了实验研究利用EPM观察并确定了各种条件下铁液在自焙炭块中的渗透程度,得到渗透深度与时间的定量关系 $h_2=11773t$ (1450℃);结合渗透及流体流动理论,提出了一个渗透模型及与渗透性相关的材料孔隙结构参数,文中还讨论了温度及石墨化度对渗透的影响.

关键词: 铁液 渗透 自焙炭块 石墨化度

PERMEATION PROCESS OF MOLTEN IRON IN A SELF-BAKING CARBON BLOCK

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Abstract: Permeation process of the molten iron in a self-baking carbon block (SBCB)was studied at both 1450 and 1500℃. The permeation degree of the samples was observed and confirmed by EPM. A dependence of permeation depth on time, $h_2=11773t$ (1450℃), was obtained and a permeation model, was established by utilizing the theory of permeationand fluid dynamics, and a porous structure parameter relevant to the permeation was defined.Also, the influnces of temperature and graphitizing degree on the permeation were discussed.

Keywords: molten iron permeation self-baking carbon block graphitizing degree

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