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Physical and mathematical foundations describing crystallization process of melt cooling on a moving wall by fourier method and Duhamel Theorem

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Abstract

© 2017 Trans Tech Publications, Switzerland. The process of melt crystallization of the material in a twin-roll mold is considered. An adjoin of heat conduction through variable thickness of wall "rolls wall - hard layer" with a convective heat exchange from two sides problem important for the chemical industry is solved using Fourier method and Duhamel theorem. A theoretical dependence of the thickness of a frozen layer on the physical parameters of the melt and technological parameters of the crystallization process is obtained.

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Keywords

Crystallizer, Drum, Heat flow, Melt, Moving wall

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