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Directional Solidification of Pure Succinonitrile and Succinonitrile- Salol Alloys

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Abstract: Pure succinonitrile (SCN) and succinonitrile-salol alloys with four different concentrations of salol were unidirectionally solidified at five different growth rates in a temperature gradient. The microstructure parameters, viz., the primary dendrite arm spacing λ_1 , dendrite tip radius R and mushy zone depth d, were measured. The dependence of the microstructure parameters on the solidification parameters for pure SCN and SCN-Salol alloys were determined via linear regression analysis. The results are compared with published data.

Key Words: Organic alloys, directional solidification, microstructure and dendritic growth

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