EXPERIMENTAL INVESTIGATION OF A HEAT TRANSFER COEFFICIENT FOR ALUMINUM ALLOYS

Erik Bartuli, Michal Guzej, Jan Kominek, Jaroslav Horsky
Heat Transfer and Fluid Flow Laboratory, Faculty of Mechanical Engineering,
Brno University of Technology
61669 Czech Republic, Brno, Technicka 2896/2
Tel. +420 541 144 907, Fax. +420 541 142 224, E-mail: ebartuli@lptap.vutbr.cz

Abstract
Methods to optimize ingot jet cooling during continuous aluminum casting have been experimentally investigated. An aluminum sample with a height of 200 mm and thickness of 20 mm have been heated to 475°C and been cooled using two methods – continuous and pulse regimes. The cooling water flow rate and the duration of the pulsation phases have been changed in the tests. The temperature field along the sample length has been measured, and the heat-transfer coefficients on the aluminum surface have been determined.