Evaluating the Attenuation in Ultrasonic Testing for AlSi Alloys Castings

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This paper considers the assessment of attenuation in aluminium alloys castings prepared by gravity casting method and under pressure. The issue of ultrasound attenuation is important in setting the conditions of non-destructive testing, especially in casted materials. The characteristics of the ultrasonic technique, the calculation of the attenuation and the velocity of ultrasound are presented in the theoretical part of this paper. For experimental measurements, cylindrical castings from AlSi alloy were made. The ultrasonic records of the casting control, the calculation of ultrasound attenuation for individual samples as well as the microstructures are listed and described in the experimental part. The evaluation of measurements and comparison of calculated ultrasound attenuation is at the end of this article.

Keywords: AlSi alloy, technological casting parameters, ultrasound attenuation.

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