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ASSESSMENT OF THE GROUND VIBRATION GENERATED BY BLASTING IN QUARRIES

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Abstract

In order to have a proper image of the seismic effect generated by blasting works performed in quarries, the assessment methods applied before starting the blasting activity using explosives for civil use have to take into account as many information as possible with regard to blasting conditions, type of explosive, blasting technique, characteristics of the environment in which the explosive is detonated and in which the seismic waves are generated. Given the complex mode of propagation of seismic waves in the vicinity of quarries, the assessment process may show differences between anticipated values and those measured when performing blasting in quarries. The differences ascertained highlights the importance of seismic measurements in situ, the appropriate way to establish the safety level in carrying blasting in quarries with regard to the seismic effect.

This paper presents the results obtained by applying the empirical formulas for estimating the seismic effect and the evaluation of the seismic effect by applying methods and criteria based on the results recorded to the seismic measurements made in quarries. The results obtained according to the requirements of the general standards or other technical regulations, make possible to observe the level of risk regarding the seismic effect for the purpose of applying technical measures to reduce it if the situation requires.

Key words: blasting, explosives, seismic effect, quarry

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