



“Gheorghe Asachi” Technical University of Iasi, Romania



NEW OPPORTUNITIES FOR ASSESSING THE IGNITION PROBABILITY OF LOW CURRENT CIRCUITS DESIGNED FOR USE IN EXPLOSIVE ATMOSPHERES

Marius Darie*, Jeana Ionescu, Sorin Burian, Tiberiu Csaszar, Lucian Moldovan

*National Institute for Research and Development in Mine Safety and Protection to Explosion – INSEMEX Petroșani,
32-34 G-ral Vasile Milea Street, Petroșani 332047, Romania*

Abstract

In the field of industrial activities the actual trends shows a growing need for risk assessment. Regarding the risk of explosion assessment a rough but important qualitative step was made by defining categories and levels of protection for equipments and installations together with the zone classification of areas where combustible substances can be released and accumulated. By presented methodology, in this paper are presented theoretical models for calculation of explosive atmospheres ignition probability, starting from the parameters of the low currents electrical circuit. Are also presented some future research directions and the importance / need for a finesse quantitative assessment of explosion risk by evaluation of contribution to ignition probability of explosive atmospheres, from low currents electrical installations protected by the intrinsic safety type of protection.

Key words: explosion risk, intrinsic safety, low currents, probability

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* Author to whom all correspondence should be addressed: e-mail: marius.darie@insemex.ro; Phone: +40 254541621; Fax: +40 254546277