

Preparation and Performance of Low Detonation Velocity Emulsion Explosives Used in Explosive Welding

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Abstract: In order to make the properties of emulsion explosive satisfy the requirements of explosive welding, emulsion matrix, foam and carbonate mineral powder were mixed to prepare a kind of emulsion explosive with low detonation velocity. The micro-structure, fluxion property and mechanical sensitivity were tested, the effect of charge diameter on detonation velocity was studied, and the explosive welding test on stainless steel-steel plate was tested. Results show that the internal of explosive have interspaces, shapes of particle are irregular, and have a good fluxion property, and the sensitivities of impact and friction are both zero. When the loading density of explosive is $0.81 \text{ g} \cdot \text{cm}^{-3}$, the actual measured brisance is 9.71 mm, and when the charge diameter is 16 – 50 mm, the detonation velocity is $1754 - 2439 \text{ m} \cdot \text{s}^{-1}$. The explosive can satisfy the requirements of explosive welding of metal plate.

Key words: applied chemistry; emulsion explosives with low detonation velocity; granular; organic bubble carriers; mineral powder; explosive welding

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更 正

本刊 2012 年第 6 期 812 页图 1 中的 C(1) 应为 N(11), C(2) 应为 N(21); 相应地, 文中的 C(1) 和 C(2) 分别改为 N(11) 和 N(21); 813 页左栏第 6 行的 C(3)—C(12)—C(18) 应为 N(3)—C(17)—N(4)。特此更正。

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