

REPUMPABLE EMULSION/ANFO BLENDS: THE BEST OF BOTH WORLDS

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Abstract

Heavy ANFO products made by mixing ANFO (or AN prills) with a relatively small amount of emulsion (typically 15-30 percent) have become very popular in recent years. They are less expensive than straight, sensitized emulsion and maintain the good shooting characteristics of ANFO but have higher bulk strengths. Their use, however, is generally limited to larger diameter, dry boreholes. Smaller diameter, wet-hole quarries have not been able to widely utilize this low cost bulk product.

Recently a number of quarry companies have assisted in the development of unique repumpable blends of emulsion and ANFO useable in wet holes and in diameters as small as three inches. These products consist of sensitized repumpable emulsions (with or without aluminum) with up to 30 percent prills or ANFO added. The presence of the solid AN has reduced the explosive cost to the point where the economics are favorable for even small volume users while the energy and gas volume of the pumpable products are improved.

With this concept repumpable emulsion can be stored on site or delivered upon demand, mixed with the desired amount of prills and pumped to the bottom of the boreholes through small diameter hoses. Custom designed delivery trucks for mixing and pumping these blends are being manufactured commercially. This development now provides the quarry industry access to modern, less expensive, bulk blasting agents.