

THE EFFECT OF PRILL SPECIFICATIONS ON ANFO-EMULSION BLENDS

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Abstract: This paper examines the effect of prill size consistency, internal particle density, and oil absorbency on Ammonium Nitrate Fuel Oil (ANFO)-emulsion blends. By analyzing these physical properties of prill and the nature of the blending process, a mathematical model has been developed to theoretically predict blend densities. Calculated densities can now be compared to actual field densities to give an operator a basis for comparing various manufacturers' emulsions and Ammonium Nitrate (AN) during bid solicitation. The lowest priced emulsion and/or AN may not be the most economical, due to the impact of specific physical characteristics. These factors dictate the blending mechanics and resulting density yields for various mixes. The research was driven from observed 'field' mixing relationships and data. Ultimately, such a model can be an effective tool in evaluating blends from a cost and performance basis.