

# PROTECTIVE BARRIERS OF PARTICULATE AQUEOUS FOAMS

A. Britan, M. Liverts G. Ben-Dor and H. Shapiro

*Shock Tubes Laboratory, Protective Technologies R&D Center, Department of Mechanical Engineering,  
Faculty of Engineering Sciences, Ben Gurion University, Beer-Sheva 84015, Israel*

## ABSTRACT

Now it is well established that stability of particulate aqueous foam is an important factor for optimal design of foam based blast protection. The added particles being collected inside the Plateau Borders slow down the liquid drainage and enhance attenuation capacity of the foam barrier. On this basis the main objectives of the reported investigation was:

- a) to find the materials and to specify the conditions that cause stabilization effect;
- b) to investigate additional increase in attenuation capacity of the particulate foam caused by solid additives.

The results obtained in course of this study obviously demonstrate that aqueous foam barrier with added particles of coal fly ash behaves as more stabilized compared to one prepared by the same method but without any particles added. Particles also contribute to stronger attenuation of shock waves inside the barrier of particulate aqueous foam. If so investigated barrier of particulate aqueous foam manifesting themselves as a good protector against blast waves.