

# **BLAST WAVE MITIGATION CAPACITY OF A CAN ASSEMBLY PART I: EXPERIMENTAL RESULTS**

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## **ABSTRACT**

Blast loading on structures has become an important issue in building design in the last decades. One aspect of force protection of buildings is the mitigation of the blast load on reinforced concrete and steel structures by means of sacrificial claddings. This paper presents an analysis of the energy absorption capacity of an assembly composed of cylindrical tubes or tins, subject to a uniformly applied blast load. The study is focused on the experimental measurement campaign and evaluates the analytical model for macroscopic homogeneous and isotropic foam materials by means of experiments. The analysis shows that the analytical model is reliable in predicting the damping behavior of the tin assemblies under uniform blast loads. Additionally it is shown that when sacrificial cladding is used, the maximum dynamic force applied to the structure can be reduced by 60%.