

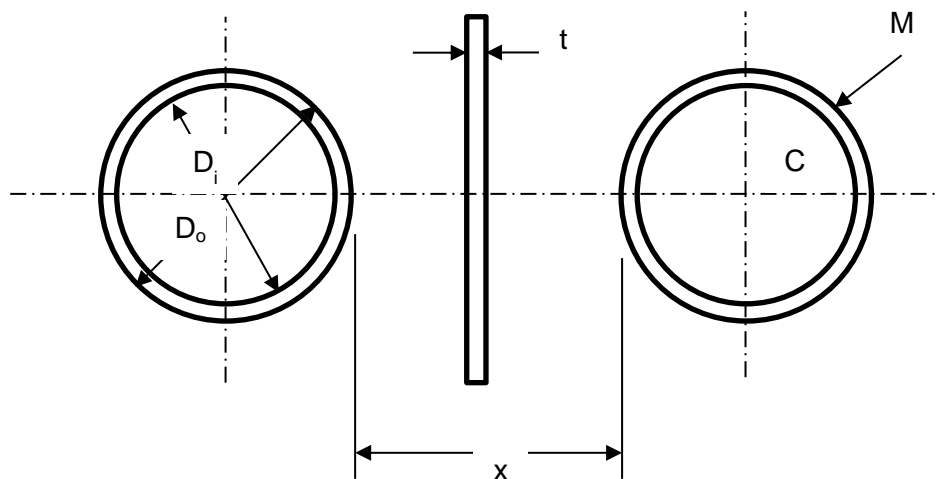
SCALING EFFECTS IN SYMPATHETIC REACTIONS OF CASED CYLINDRICAL CHARGES

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Key words : Sympathetic Reaction - Blast - Fragmentation - Mitigation - Warhead

Evaluation by trials of spacing distances and barrier options to prevent sympathetic reaction between warheads, and other weapon systems, can be expensive. Smaller scale charges could potentially be used to evaluate spacing effects and mitigation options more cost effectively. A full scale validation trial could then be conducted with more certainty in the outcome. Scaling parameters, shown below, are the internal and external diameters of the charge, the charge and casing masses, the separation distance and the thickness of any mitigation barrier used.



Using analytical and hydrocode modelling this paper examines the relationships between these parameters to assess the feasibility of using scaling in sympathetic reaction events.

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