

## **BLAST CHARACTERIZATION OF DET-CORD**

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Det-cord, short for detonating cord, is thin flexible plastic tube with a core of PETN, with a diameter of 5 mm and lengths of 30m per spool. It is commonly used to connect multiple charges, either in military or in civil (mining) operations, but this use has been extended to cutting trees, breaching operations and shock wave generation. Since the det-cord blast expands cylindrically, the commonly used blast parameter models based on spherical expansion do not apply, nevertheless these are used to get a rough estimate, due to a lack of better models.

This paper will describe a 2D blast parameter model for det-cord, based on numerical simulations with AUTODYN and on a series of experimental measurements using pressure sensors. This model will work in a similar fashion as the Kingery-Bulmash model applied in CONWEP for spherically expanding blast waves.

Furthermore several typical aspects will be discussed, including investigations examining the point of initiation, the effect of single or multiple strings and the accuracy of numerical simulations.

Finally, the application of this model will be shown in two different cases.