

BLAST PROPAGATION IN A 100 M2 TUNNEL INLET TEST RESULTS

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In a test series cylindrical charges and real bombs with a HE content up to the equivalence of 250 kg TNT were detonated in- and outside the inlets of two tunnels. Both tunnels had a cross-section area of fully 200 m² and a 90 degree bend close to the muzzle, but in one case there was a blind end prolongation of the inlet section.

At each test the pressure-time histories were recorded by some the gauges most of them mounted close to the floor at he off-side of the bend.

The blast propagation is heavily disturbed in the test set-up. Before a longitudinal (one-dimensional) pattern is achieved the bend gives rise to new transverse disturbances and it is of course impossible to follow all fronts with only a few gauges located mostly on the ground level. The test results, e.g. front pressure, maximum pressure as well as pressure-time histories (of which only a fraction can be presented here) indicate:

that the maximum pressure often is associated with the interactions between transverse fronts and thus hard to locate in this set up

that those high pressure peaks have short durations

that the drag force downstream the bend has long durations.

The results are to be used to check available prediction codes.