

BLAST WAVE PROPAGATION IN CROSS BRANCHED TUNNELS

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Falling within the scope of a series of tests with small scale models - results of certain arrangements of which were already presented at MABS 6 and 7 - blast wave propagation through branched tunnels will be treated in this paper.

Symmetric and asymmetric cross branchings were investigated. Although some general information on the symmetric case phenomena is available, data involving changes of the parameters L/D (length to diameter) and α (cross branching angle) are lacking. No data are available for the asymmetric case.

The main purpose of this test series was to get more data concerning peak pressure ratios (decay factors) and impulse (quantitative considerations only) with cross branching angles other than 90° .

This group of tests will be the last one in this series and the data complement those presented at MABS 6 and 7.

The cross branching angles tested were 30° , 60° , 90° , 120° and 150° respectively with the same cross section before and after branching. The shock strength varied from 2 - 10.

The side-on Pressures were measured along the tunnel axis up to $L/D = 10$ after cross branching.

In Addition, a short summary and comparison of the results of all arrangements investigated so far (bent and branched configurations), including the cases described in this paper, will be given.

All results will be incorporated in a new edition of the Swiss Handbook for the Design of Protective Structures.