INTERNAL PRESSURE MEASUREMENTS FOLLOWING BREACHING OF REINFORCED CONCRETE WALLS FROM NEAR-CONTACT DETONATIONS

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A series of experiments was conducted to evaluate vulnerability of reinforced concrete (RC) walls subjected to near-contact detonations. During the experiments, internal pressures were measured in a closed chamber that served as a reaction structure behind the RC wall specimens. To the author's knowledge, no previous data has been published or reported on such internal pressures resulting from a breach of a RC wall with an explosive device. The experiments show that the actual internal pressure peaks are low values and the risk of ignoring the effects of the internal pressure is also low. These experiments serve as controlled test cases for the evaluation and validation of numerical models (e.g., chamber pressure and impulse comparisons between the experimental and the numerical data). Permission to publish was granted by Director, Geotechnical & Structures Laboratory.