

BLAST MEASUREMENTS - TRENDS & ANOMALIES

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Blast measurements from numerous trials on test targets are presented and compared with values calculated using ConWEP^[1]. The apparent variation in TNT equivalency with standoff and charge weight is demonstrated from incident blast measurements. The cleared, reflected impulse distribution is the value of most interest and most uncertainty when calculating the design blast load on the face of building targets. The values from many of the blast trials confirm ConWEP as a useful predictive design tool across a wide range of scaled stand-offs and they quantify the degree of conservancy in different cases. However the test results also indicate that a loose interpretation of ConWEP can become un-conservative by about 30% under some conditions. Such conditions occur with explosive charges at low heights of burst and scaled stand-offs of less than about $4 \text{ m/kg}^{1/3}$. This would correspond with a typical hand-carried charge placed within a few metres of a target. In such circumstances alternative blast load calculations should be undertaken to determine the cleared value of reflected impulse on the face of a target, without relying on the ConWEP 'Loads on Structures' routine for surface bursts.