

**Name of the organization**

Health and Safety Executive

Name of the infrastructure / laboratory

TunEn - Blast tunnel

Address and country of the infrastructure / laboratory

Health and Safety Laboratory, Harpur Hill, Buxton, Derbyshire, SK17 9JN, United Kingdom

Person responsible of the access / Contact person

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Main field of activity of the infrastructure / laboratory

► Transportation and Refueling Infrastructure

Short description of the infrastructure / laboratory

The blast tunnel is a 70 m long tunnel made of steel with a diameter of 3.7 m. The grade of steel used throughout is to BS EN 10025-2 grade S275J2. The tunnel is open at both ends and is supported on concrete plinths. The tunnel consists of an 8 m long central section with a wall thickness of 55 mm. The remaining four sections are 15.5 m long and have a wall thickness of 25 mm. There is a 25 mm gap between each section. The tunnel is designed to withstand a blast equivalent to 15 kg of TNT. Mounds of earth on three sides protect the surroundings. A standard gauge railway track runs through the tunnel from a siding, such that test items can be easily prepared and shunted into the tunnel for testing.

Main research area(s) of the infrastructure / laboratory

Investigation of the effect of deflagration/detonation waves on structures in cylindrical enclosures

Instruments and tools available for the above mentioned research

The facility can accommodate a wide range of devices to record e.g. pressure, temperature, stress/strain and physical movement.

