

Blast Resistant Doors



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Unlike most other doors, a Blast Resistant Door is supplied as a complete assembly by EEP. Parts include the door, frame, anchors, hardware, and accessories. This must be done because items such as the door, frame, latches, and hinges are of bespoke manufacture and are independent parts of Blast Resistance. To facilitate the specification of individual door assemblies, the door type, blast effects, rebound, deformation limits, operating forces, hardware, and accessories for each door are brought together under a Blast Door assembly specification.

Structural steel doors shall be flush mounted into frames, or surface mounted. Reinforced concrete doors shall be surface mounted. Doors can be manually operated, side hinged, swinging type.

Frames and anchors shall be capable of transferring blast and rebound reactions to the adjacent supporting structure. Resistance to blast shall be demonstrated either by design calculations or tests on prototype design assemblies.



Design Requirements

EEP design Blast Resistant Doors for a wide range of applications, particularly for EMPP (Electro-Magnetic Pulse Protection).

Careful design is required to take into consideration the following:

- Static Material Strength
- Dynamic Material Strength
- Structural Member Design
- Blast Effects
- Dynamic Analysis and Deformation
- Rebound Resistance
- Overpressure
- Overpressure Direction
- Fragment Resistance

Surface Treatment

The frames are primed for a high level of corrosion protection.



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Construction

Blast Doors are constructed using steel box section and steel sheet which is fully welded as per the design specification. The frame is designed for casting into the door opening.

It is recommended that blast door frames are cast into the building fabric. This provides a stronger mounting and means no drilling, or unnecessary penetrations through the host building wall around the opening.

Installation

European EMC Products offer a complete or supervised installation service for all of our doors.

Standard Specification

Blast Resistant Doors are to be designed to resist the effects of a cased 500lb charge, standard US MK117 Bomb at 100ft standoff. 25psi. In the absence of further detailed information, this has been interpreted as a standard general-purpose bomb. Class A fragment penetration.

Total charge weight (H-6/Tritonal) = 734lb (334kgs)

Equivalent TNT = 488lb (222kgs)

Peak Reflected Pressure, P_r = 99.1kPa

Reflected Impulse, I_r = 752.9kPa-ms

Idealised Triangular-decay duration, t = 15.2ms

LPG weapon direct hit



About Us

Established in 1996, European EMC Products (EEP) are an established British company whose experience and understanding of the science of shielding makes it an ideal partner in whom you can place your trust with confidence.

The purpose of installing EEP shielding systems is to protect people and equipment against the threats posed by electromagnetic and radio frequency (RF) interference, radiation, magnetic fields and electromagnetic pulses.

Our diverse range of turnkey products and services, including design, project management, testing and consultancy are delivered across multiple sectors to an international client base.

Quality

European EMC Products Limited are registered to BS EN ISO 9001:2015, Certificate Number FS38901.

Registered Scope: The design, assembly, installation, servicing and testing of RF Shielded Structures and equipment including EMI Shielding, Blast Doors, Gas Tight Doors and specialised mobile Electromagnetic Pulse Protection (EMPP) containers.

Radio Frequency, Magnetic Shielding and Quench systems for MRI (Magnetic Resonance Imaging) scanners.

The design, assembly and installation of Ionising Radiation Protection facilities.

The design, manufacture and installation of LED lighting systems for medical applications.

EEP Filters Limited are registered to BS EN ISO 9001:2015, Certificate Number FS38901.

Registered Scope: The design, manufacture, management of installation and testing of high performance EMC and EMP Power and Data Line Filters.

Disclaimer

NB: All the information provided within this datasheet is for reference only. Product specifications are subject to change without notice.