

BETECTEMET DOUBLE LEAF BLAST DOOR SO-3

Applications

The SO-3 double leaf blast doors are designed to stop the advance of blast waves through the passage ways into the protected area of blast hardened Civil Defence and military shelters. The SO-3 blast doors are possible to open and close manually from both sides. The latching device tightens the door plate against the frame so that the maximum clearance between the load bearing surfaces of the door plate and the frame is 2.0 mm. Design of the doors enables opening by disassembly even if the door plate has undergone permanent deformations. The door plate can be dismounted from either side without any special emergency opening devices.

Specification

The SO-3 double leaf blast doors are fabricated from structural steel with a door plate of solid homogenous steel plate stiffened by a structural steel center beam. Minimum thickness of a door plate is 20mm. The door frame is designed for easy installations in the reinforced concrete wall, and the door plate / frame assembly has an optimized pattern for transfer of the blast forces into surrounding wall.

Design Criteria

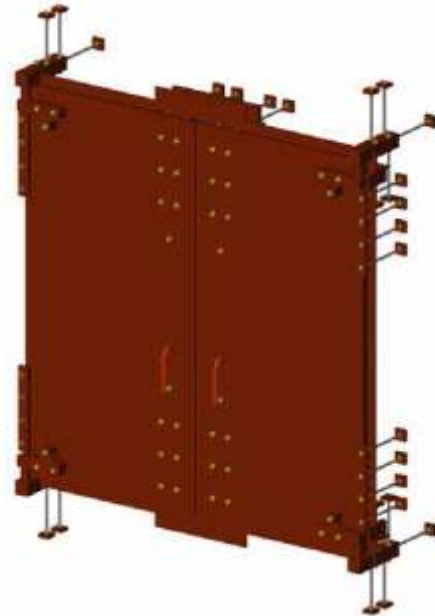
The SO-3 blast doors are made in accordance with specific provisions issued by the Finnish Ministry of Interior. The SO-3 blast doors are approved for use on the basis of structural calculations approved by the Technical Research Centre of Finland / VTT Building Technology, an Independent Testing Authority mandated to perform type inspection for shelter equipment and systems by the Finnish Ministry of Interior.

SO-3 Door Protection Capability

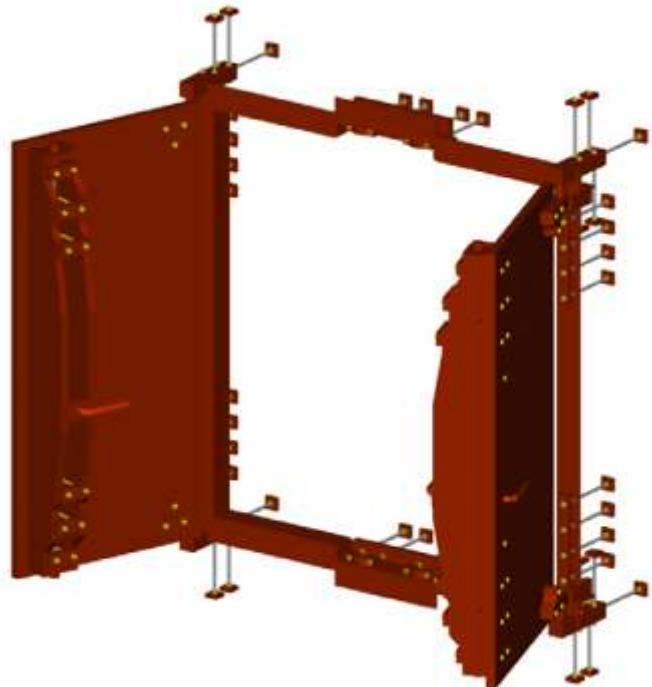
The SO-3 doors are designed to withstand multiple long duration blast loads having peak reflected overpressure of 8.0 bar within the elastic range of the materials used. The door frame design enables uniform distribution of the positive blast load into the surrounding wall. Rebound load is received by the latching system.

The SO-3 doors also resist a mechanical shock transmitting through the installation wall with a rapid change in velocity of 1.5 m/s corresponding to acceleration force of 30 g.

The SO-3 doors are designed to function within the operating temperature range of -30 ... +80 °C.

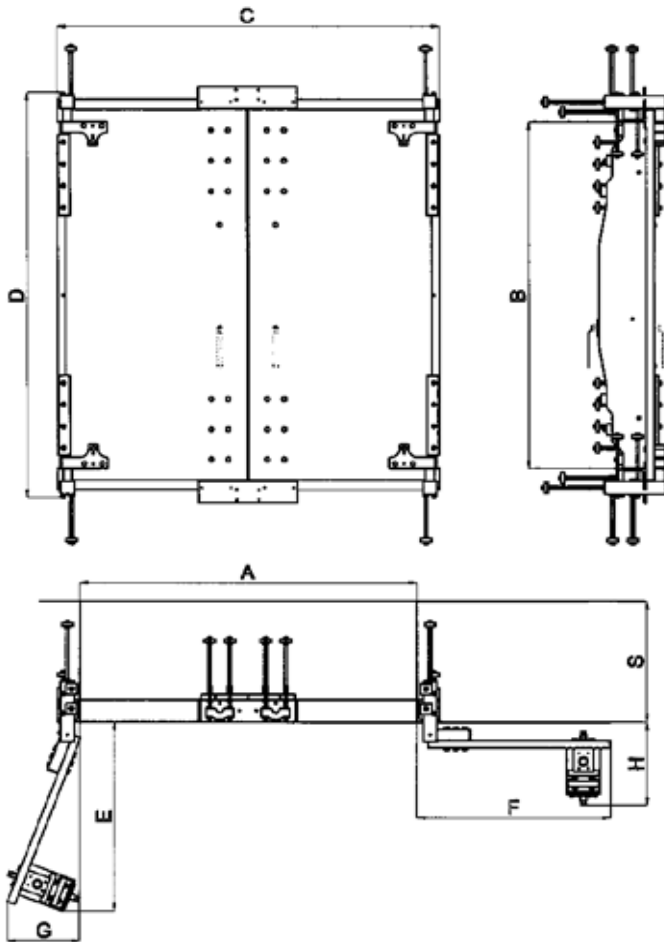


Example of a BetecTemet SO-3
Double Leaf Blast Door



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Standard SO-3 Double Leaf Blast Resistant Door



Door hinges

Hinges are provided with maintenance free slide bearings or optionally with roller bearings.

SO-3 Blast Door gas tightness

BetecTemet SO-3 blast doors are provided with a gasket for tightness against entry of gases in such a way that the allowable leakage through the door is not more than 0.2 dm³/s (0,72 m³/h) for each square metre of the opening when the external overpressure is 150Pa.

Surface treatment

BetecTemet SO-3 doors are surface treated with durable shop primer resisting corrosion during transportation and storage. The door can be also surface treated according to the customer's specification.

Other documents related to SO-3 double leaf blast door:

Installation Instructions
Operation & Maintenance Instructions

Examples of SO-3 Door sizes available

Double leaf door sizes with main dimensions in mm:

A	B	C	D	E	F	G	H	Min. S	Weight (kg)
2400	3000	2900	3500	1500	1600	750	750	500	8 800
2600	3000	3100	3500	1600	1700	750	750	500	9 600
2800	3000	3300	3500	1700	1800	750	750	500	10 300
3000	3000	3500	3500	1800	1900	750	750	500	11 000
3200	3000	3700	3500	1900	2000	850	850	500	12 000

Contact the manufacturer for the availability of different door sizes. Sizes shown in a table are just examples of our wide selection. All the information contained in this brochure agrees with the information available at the time of its printing and only serves as advance information. Final dimensions can differ from the table above.