Protective solutions

Applications

The SL-1 hatches are designed to stop the advance of blast waves into protected area of Civil Defence and military shelters through the emergency exit passage ways. The SL-1 hatches are possible to open and close manually from both sides. The latching device tightens the hatch plate against the frame so that the maximum clearance between the load bearing surfaces of the hatch plate and the frame is 2.0 mm. Design of the hatch enables opening by disassembly even if the hatch plate has undergone permanent deformations. The hatch plate can be dismounted from either side without any special emergency opening devices.

Specification

Manufacturer of SL-1 hatches is Temet, Helsinki Finland.

The SL-1 hatches are fabricated from structural steel with a solid homogenous door plate. The hatch frame is designed for easy installations in the reinforced concrete wall, and the hatch plate / frame assembly has an optimized pattern for transfer of the blast forces into surrounding wall.

Design Criteria

The SL-1 hatch is made in accordance with specific provisions issued by the Finnish Ministry of Interior. The SL-1 hatches 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 Ministry of Interior.

SL-1 Hatch Protection Capability

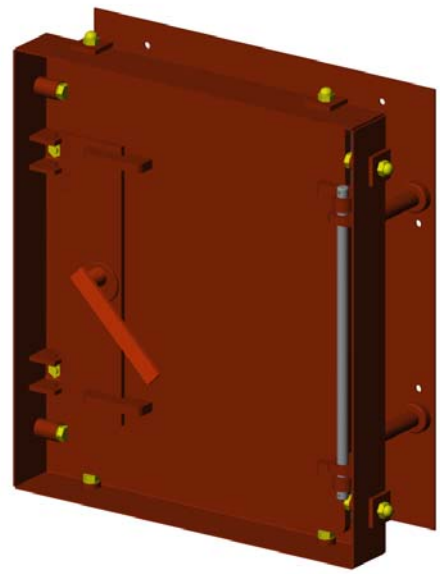
The SL-1 hatches are designed and tested to withstand multiple long duration blast loads having peak reflected overpressure of 2.0 bar in the elastic range of the materials used. In rebound direction the hatch resist negative blast forces equivalent to 0.25 bar static pressure. The door frame design enables uniform distribution of the positive blast load into the surrounding wall. Rebound load is received by latch and hinge systems.

The SL-1 hatch also resists 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.

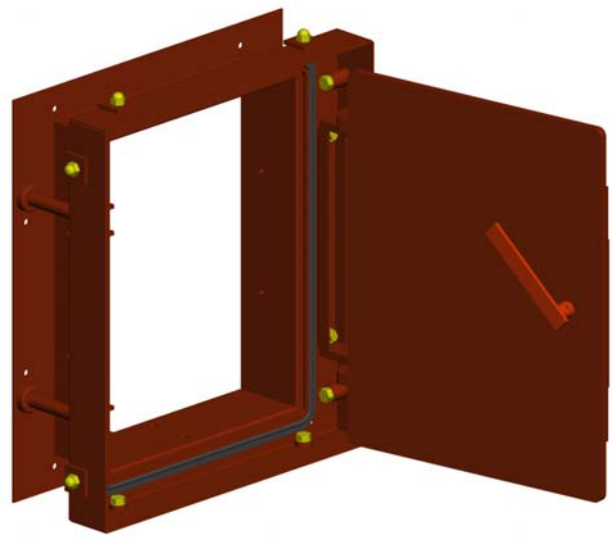
The hatches are designed to function within the operating temperature range of -20 … +80 ºC.

Other documents related to SL-1 blast hatch:

Installation Instructions
Operation & Maintenance Instructions

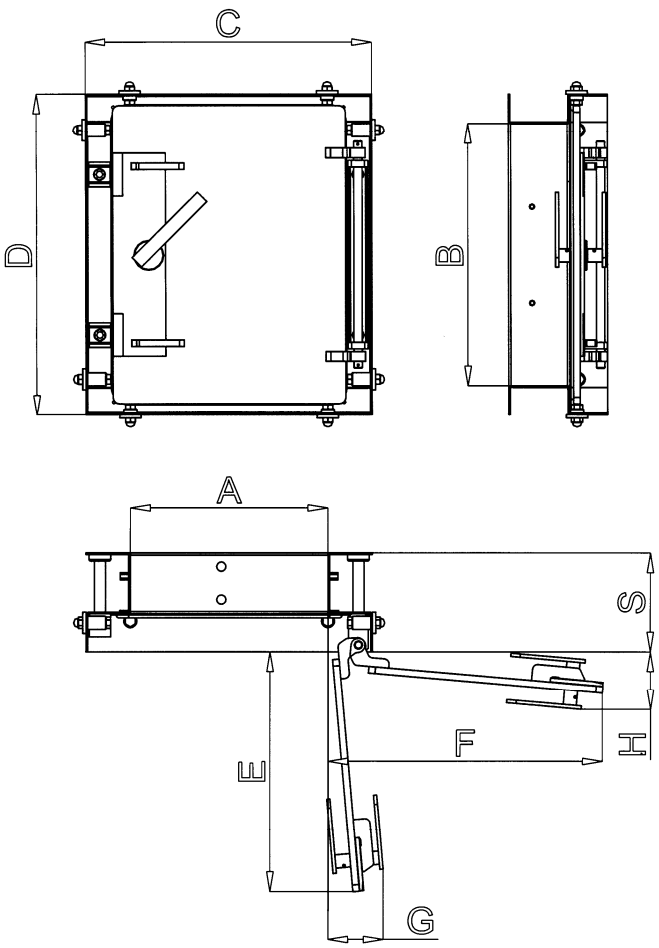


Temet SL-1 Blast Hatch



TEMET BLAST HATCH SL-1

Standard SL-1 Hatch



Hatch hinges

Hinges are provided with maintenance free slide bearings.

SL-1 Hatch gas tightness

Temet SL-1 hatches are provided with chloroprene gasket for tightness against entry of gases in such a way that the allowable leakage through the hatch does not exceed 0.3 dm^3/s (1.08 m^3/h) per 1000 mm of door free opening width at a positive pressure difference of 150 Pa acting from the outside.

Surface treatment

Temet SL-1 hatches are normally 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.

Optional accessories for SL-1 hatches

Wide range of accessories such as position indicator switches, mechanical or electrical locks and power assist device are available.

SL-1 Hatch sizes available

Hatch sizes with main dimensions in mm:

A	B	C	D	E	F	G	H	Min. S	Weight (kg)
600	**800**	900	1000	800	900	180	180	300	180
700	**800**	1000	1000	900	1000	180	180	300	210
800	**800**	1100	1000	1000	1100	180	180	300	240
600	**1000**	900	1200	800	900	180	180	300	230
700	**1000**	1000	1200	900	1000	180	180	300	260
800	**1000**	1100	1200	1000	1100	180	180	300	300
700	**1200**	1000	1400	900	1000	180	180	300	320
800	**1200**	1100	1400	1000	1100	180	180	300	360
1000	**1200**	1300	1400	1200	1300	180	180	300	450

Design - Production – Installation – Maintenance - Consultation

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