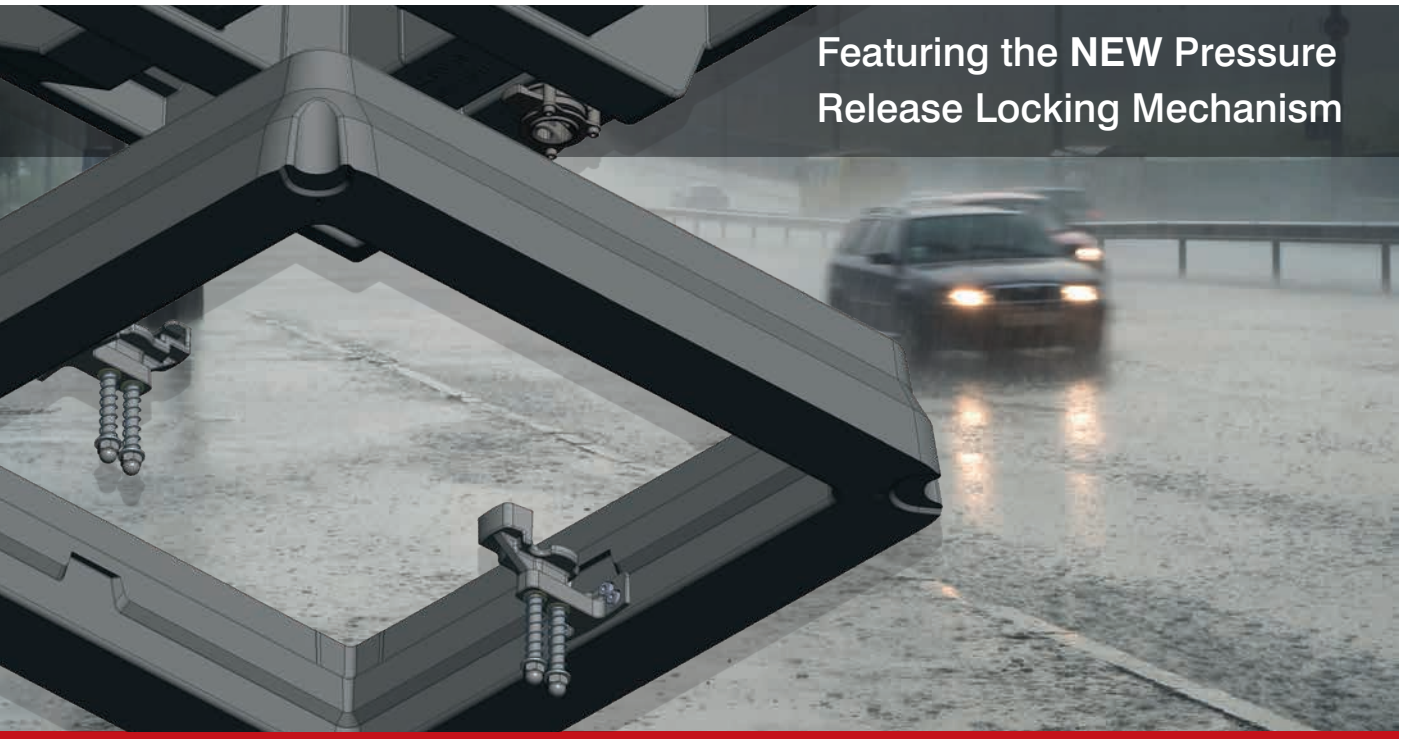
The appliance of composite science to underground access covering

ThruBeam® COVERS

D400 Range **DS6 with PRLM**

Pressure Release Locking Mechanism

600 x 600mm Solid Vehicular Composite Access Cover



Designed and engineered in the UK for the transport and utilities industry

A real game changer in cover locking technology

A composite manhole cover that allows water to escape but stays safely in position during a surge. It puts an end to the dangers caused by covers that stick up or explode out of the ground and means no holes for pedestrians or motorists to fall into during times of flood.

SSC®

EN124:2015 Class D400 Vehicular Composite Access Covers

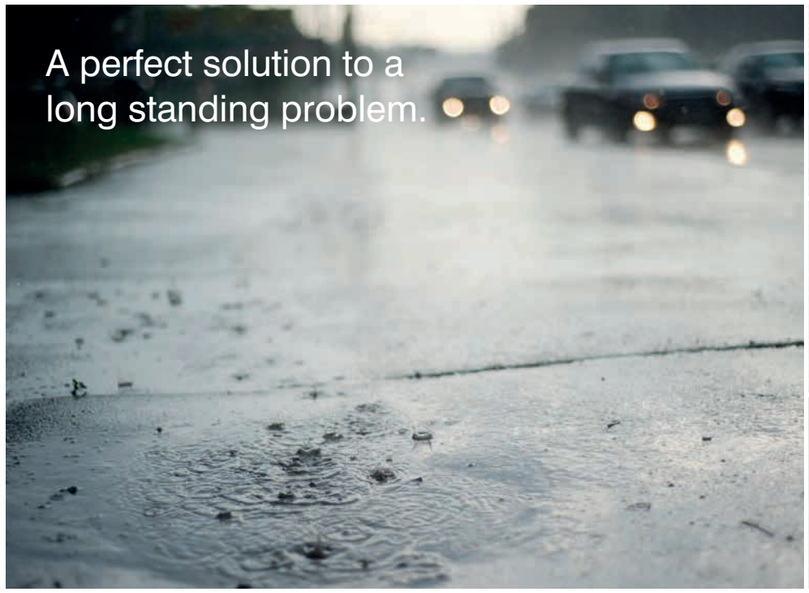
ThruBeam®
COVERS

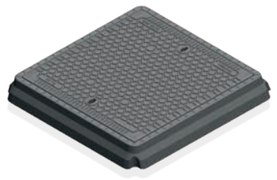
Pioneering pressure release technology for the transport and utilities industry

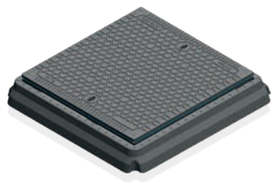
The Problem

During heavy rains and subsequent flood conditions, water surges cause traditional manhole covers to be blown out of the ground. Many simply float away with the flood waters or often become stuck in an upright position.

It's easy to see how this creates a huge risk to public safety, with covers either becoming a hazard or simply leaving a hole in the road. Both outcomes having serious consequences for pedestrian and road users.







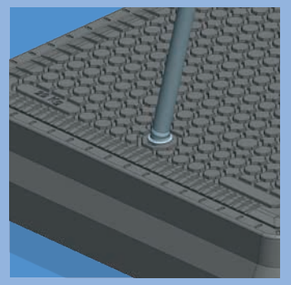
DS6 600x600mm square cover and **DS6-FR** frame featuring **PRLM** pressure release locking mechanism

The Solution

Now there is an alternative to traditional covers. The ThruBeam DS6 cover with pressure release locking mechanism allows water to dissipate safely but unlike other designs, the locked cover moves up and down freely in its frame – ensuring public safety with no holes, no hazards, and no flying covers.

The Technology

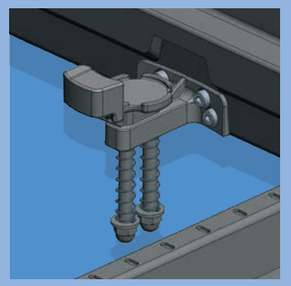
Building on the technology of the standard DS6 cover, the new DS6 cover with pressure release locking system features a twin restraining mechanism which allows the cover to move up and down in its spring-loaded frame while remaining locked at all times. When the water pressure reaches 0.5 bar, the cover rises by a maximum of 46mm dissipating the water and pressure.



Locking mechanism

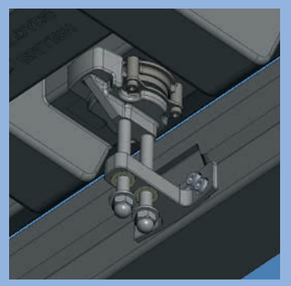
The twin locking mechanism is attached to the frame allowing the cover to move up and down freely in its spring-loaded riser.

The cover can only be removed by unlocking the two locks, maintaining its security and integrity.



A limit to the rise

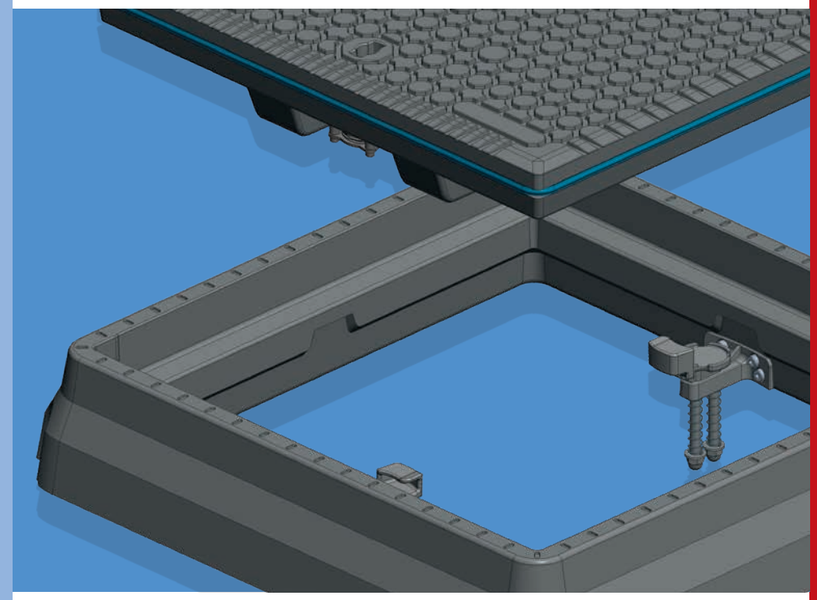
When a water surge arrives and the water pressure beneath the cover builds, the cover pops up by a maximum of 46mm.
This dissipates the water and pressure while ensuring that the cover doesn't become a hazard for pedestrians or motorists.



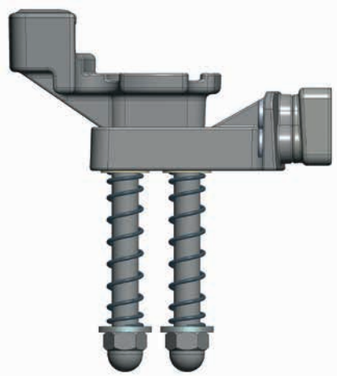
How it works

When a water surge occurs, the cover lifts just enough to let the water escape and then floats back down into position when the water starts to recede.

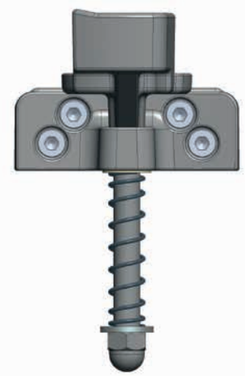
If someone then walks or drives over the cover, it simply drops back into its frame. Most importantly, a vehicle can safely drive over a raised cover without damage to either the cover or the tyre.



Side Profile



Front Profile



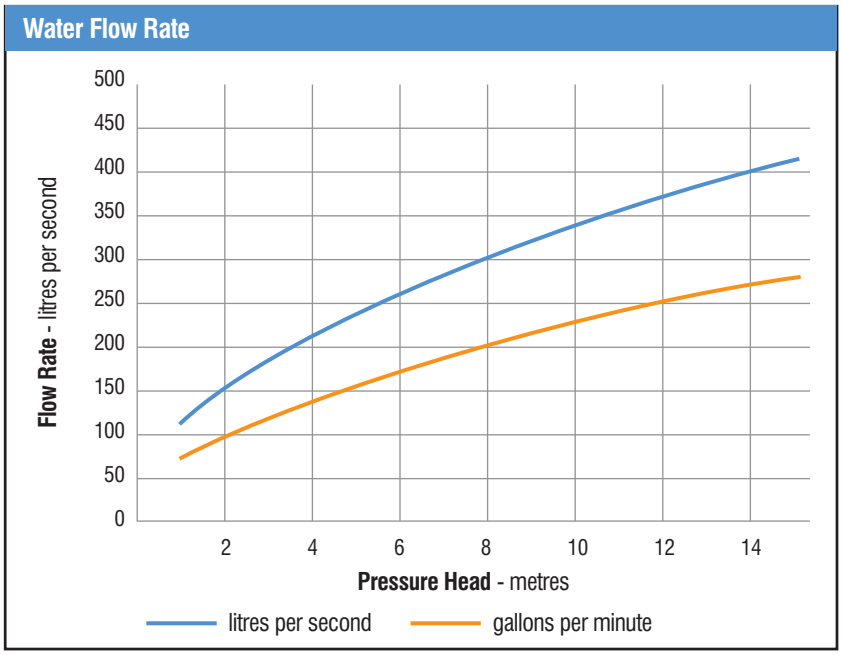
For further information relating to our full product range please go to **www.thrubeam.co.uk** and download the appropriate pdf file.

ThruBeam®
COVERS

Product Testing

The DS6 cover with pressure relief and locking mechanism is a composite cover which features all the benefits of the standard DS6 cover. It has been rigorously tested to ensure its effectiveness and safety.

SSC has conducted a number of tests at Hull-based Point Engineering – the renowned industrial engineers responsible for designing bulk head doors for submarines and yachts. They have designed a test to show how the cover would perform under flood conditions. These tests have indicated that the cover will release at 0.5 bar. Once the pressure is released it has been shown that the flow rate is as indicated on the charts below.



Major water companies in the UK are currently trialling the new DS6 cover with the pressure relief locking mechanism. Videos of the system under trial conditions can be seen at: **www.thrubeam.co.uk**

The standard DS6 cover and frame conforms to the EN124:2015 standard and the pending new standard.

Designs and specifications are subject to alteration, so that continuous improvement can be undertaken.

Structural Science Composites Ltd

8 James Freel Court, James Freel Close, Barrow In Furness, UK, LA14 2NG
T: +44 (0)1229 814340 E: covers@structuralscience.net W: www.thrubeam.co.uk