

Cemseal HBR Waterstop

Hydrophilic Butyl Rubber Waterstop System

cemseal[®]
Your Construction Chemical Partner

The Product

Cemseal HBR Waterstop is a high expansion butyl bentonite based hydrophilic waterstop for cast-in-situ concrete joints. Cemseal HBR is manufactured utilising a specialised mixing process which encapsulates hydrophilic materials into a rubber base creating a controlled, moisture-activated waterstop. This waterstop has the structural integrity of a rubber-based sealant, the features of a butyl sealant, as well as the ability to expand to create a Self-Healing Joint Material.

Cemseal HBR is a unique sealing waterstop that expands in controlled fashion when exposed to moisture, forming a compression seal in concrete joints. Its volumetric expansion (170%) occurs in all directions and therefore containment is critical. The material does not expand prematurely / absorb water from the fresh concrete poured against it, and helps minimize any pre-expansion if the joint become ponded with water. (Note: 100% indicates original size)

Uses

Cemseal HBR is recommended for use in non-movement joints in horizontal and vertical for cast in-situ concrete structures. Cemseal HBR is an economical product for sealing less critical in-situ joints that must be water-tight.

- ◆ Retaining walls / Basements / Pits / Manholes
- ◆ Tunnels / Underground structure
- ◆ Above & below grade precast panels
- ◆ Poured in-situ construction joints
- ◆ New to old concrete
- ◆ Box culverts

Advantages

- ◆ No site welding required - just butt and mould together
- ◆ No split forming or splicing is required
- ◆ Easy application
- ◆ Conforms easily to irregular surfaces
- ◆ No compaction or displacement problems
- ◆ Limited loss of integrity of waterstop
- ◆ For use in horizontal and vertical joints
- ◆ Has the ability to bond to both concrete surfaces
- ◆ Allows concrete to gain strength before expansion
- ◆ Non toxic and requires no special handling instructions

Technical & Physical Data

Colour	Black
Form	Pliable mastic strip
Size / Packaging	25mm X 19mm X 5m per roll (6 rolls/carton)
Specific gravity	1.40 ±5%
Volatile content	1% Max.
Hydrocarbon content	47% Min.
Penetration Cone	40 ±5 (@250C, 150gm, 5 sec)
Application temperature	-22 ⁰ C to 50 ⁰ C
Service temperature	-34 ⁰ C to 82 ⁰ C

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Method of Statement

Design Criteria

For the best results it is recommended that a relatively smooth surface be provided along the line of Cemseal HBR strip however a moderate amount of irregularity can be accommodated.

Always ensure that there is a minimum of 50mm cover from the edge of the concrete to the face of Cemseal HBR.

Expansion rate can vary in salt and contaminated water. Increase cover when using light weight, low strength concrete.

Application

Cemseal HBR waterstop is to be adhered to the 1st pour of concrete with primer / adhesive. A clean, dry surface, free from dust, debris etc is required. Use neat firm butt joints to join Cemseal HBR together and then knead the ends together to form a continuous uninterrupted waterstop. This type of join is used for continuous placement of Cemseal HBR waterstop and for any intersection joins.

Step 1 - Brush off any dust or debris from the surface where Cemseal HBR is to be applied. Brush a coat of Adhesive 30mm wide onto the concrete surface and one coat to the surface of Cemseal HBR. Wait for both surfaces to be touch dry before applying Cemseal HBR into position.

Step 2 - With the use of your thumb / fingers or the heel of your hand, firmly press a continuous bead of Cemseal HBR into position, making sure you get full contact with the adhesive on the concrete surface. Do not stretch Cemseal HBR when applying it into position.

Step 3 - Check to see that Cemseal HBR has totally adhered to the concrete surface. If the surface is rough or irregular, you may need to use a firmer thumb/finger pressure to make sure that Cemseal HBR has full contact with the surface. There must be no visible gaps under Cemseal HBR.

Step 4 - The protective paper layer cover on Cemseal HBR can be removed anytime prior to the second pour of concrete taking place.

Step 5 - Placement of the second pour of concrete can be applied once the Adhesive has dried. Upon pouring, make sure that the concrete is purely compacted and vibrated around Cemseal HBR.

Step 6 - If Cemseal HBR has been exposed to water / moisture prior to the second pour taking place, check for pre-expansion. If the product has pre-expanded then remove that section and replace with a new length of Cemseal HBR.

Take Noted - For vertical joins and overhead applications, it may be necessary to also secure Cemseal HBR with concrete nails prior to the Adhesive drying completely.

Limitation and Others Application

To consult the local Cemseal's representative.

For Further Information	Cemseal Industries Sdn Bhd (Company No. 884153-T) No. 9 & 11, Jalan Besi, Taman Sri Putri, 81300 Skudai, Johor, West Malaysia. Tel : 607-558 3320, Fax : 607-556 9127, E-mail : info@cemseal.com.my
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