

MC-Waterstop Expand 47B

Hydrophilic Butyl seal that expands upon moisture contact to form a reliable compression seal in horizontal and vertical concrete joints.

PRODUCT DESCRIPTION: **MC-Waterstop Expand 47B** is a hydrophilic butyl-based sealing compound that expands in a controlled manner when exposed to moisture, forming a reliable compression-type water barrier in concrete joints. It is specifically engineered for use in both horizontal and vertical construction joints in cast-in-place concrete structures.

Manufactured through a specialized formulation process, **MC-Waterstop Expand 47B** integrates hydrophilic agents uniformly within a flexible butyl matrix. This advanced composition ensures a moisture-activated expansion while maintaining long-term dimensional stability and mechanical integrity, enabling it to function as a self-healing waterstop.

- PRODUCT PROPERTIES:**
- Easily conforms to both rough and smooth concrete substrates, simplifying installation.
 - Provides strong bonding to concrete when used with solvent-free adhesive.
 - Built-in expansion control system allows concrete to develop sufficient strength before the waterstop begins to swell.
 - Suitable for installation in both horizontal and vertical construction joints.
 - Offers long-lasting durability and maintains structural integrity over time.
 - Can be embedded directly into fresh concrete during the first pour.
 - No risk of compaction, displacement, or damage during concrete placement.
 - Remains stable and resilient through multiple wet-dry cycles.
 - Adheres effectively to both sides of the concrete joint, creating a secure seal.
 - No heat welding or special on-site processing is required.
 - Proven to resist hydrostatic pressures up to 60 meters (6.0 Bar).
 - Withstands extended environmental exposure before the 2nd pour without performance loss.
 - Non-toxic, safe to handle, and requires no special protective measures.
 - Certified to NSF standards for use in potable water systems.
 - Lightweight, flexible, and easy to transport and install on site.

- AREAS OF APPLICATION:**
- Features a controlled expansion system that prevents overexpansion and loss of cohesion – a common issue with traditional clay-based waterstops.
 - Particularly suitable for vertical construction joints, where concrete shrinkage or structural movement may compromise sealing performance.
 - Demonstrates excellent resistance to erosion or displacement under continuous water flow or high hydrostatic pressure.
 - Ideal for use in cast-in-place concrete structures requiring long-term watertight performance and dimensional stability.

- APPLICATION NOTES:**
- Thanks to its expansion delay mechanism, **MC-Waterstop Expand 47B** does not swell prematurely due to rain or fresh concrete moisture. It resists early expansion in the presence of ponded water and can even be placed directly into fresh concrete during the initial pour. Upon curing, the concrete forms a strong mechanical bond with the butyl profile, enhancing joint integrity.

- When used with specified adhesive, the butyl seal adheres effectively to both casting faces (first and second pour), forming a reliable gasket seal. The second-stage concrete pour adheres tenaciously to **MC-Waterstop Expand 47B**, reinforcing the water barrier at the joint.
- **MC-Waterstop Expand 47B** can withstand hydrostatic pressures up to 6.0 bar (equivalent to 60 meters of water head) in both freshwater and saltwater conditions. The product is capable of expanding up to 180% of its original volume after 30 days of full immersion in deionized water.
- Certified to NSF/ANSI Standard 61 for drinking water system components, **MC-Waterstop Expand 47B** is suitable for use in potable water structures such as water tanks, reservoirs, and swimming pools.
- Note: Final product suitability, installation method, and project-specific application must be reviewed and approved by the responsible design engineer and project manager.

TECHNICAL DATA:

| Characteristic | Unit | Value | Comment |
|---------------------------------------|-------|----------------|------------|
| Base material | | Butyl | |
| Specific gravity | | 1.40/1.45 | ASTM D-71 |
| Hydrocarbon content | % | 47 min. | ASTM D-297 |
| Penetration, cone @ 77F, 150gm, 5 sec | dmm | 43 - 46 | ASTM D-217 |
| Hydrostatic head pressure resistance | metre | 60 (= 6.0 Bar) | |
| Volume expansion in water | % | 180 | at 30 days |
| Application temperature | °C | -22 to +52 | |
| Service temperature range | °C | -34 to +82 | |

**The above Physical Property results are obtained from our internal Certificate of Analysis (COA) testing from a specific batch. Material properties can vary between batches.*

PRODUCT CHARACTERISTICS:

| | |
|-------------------|--|
| Color: | Black. |
| Packaging: | 25mm x 19mm x 5m rolls (6 rolls per carton = 30 metres per carton). 20mm x 15mm x 7.5m rolls (8 rolls per carton = 60 metres per carton). |
| Storage: | Store in cool, dry conditions. |

Note: The information provided here is based on our experience and correct to the best of our knowledge. It is, however, not binding. It will need to be adapted to the requirements of the individual building projects, to the specific application and to non-standard local conditions. Our data refers to the accepted engineering rules, which have to be observed during application. Given these preconditions we shall be liable for the accuracy of the information given as outlined in our sales and delivery terms and conditions. Recommendations by our employees that deviate from this information are only binding for us if they have been confirmed in writing. In all cases, the generally accepted rules and practices reflecting the current state of the art must be adhered.

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