BITUTHENE® Deck System

Cold-applied, waterproofing system for inverted roofs, green roofs and elevated decks

Product Description

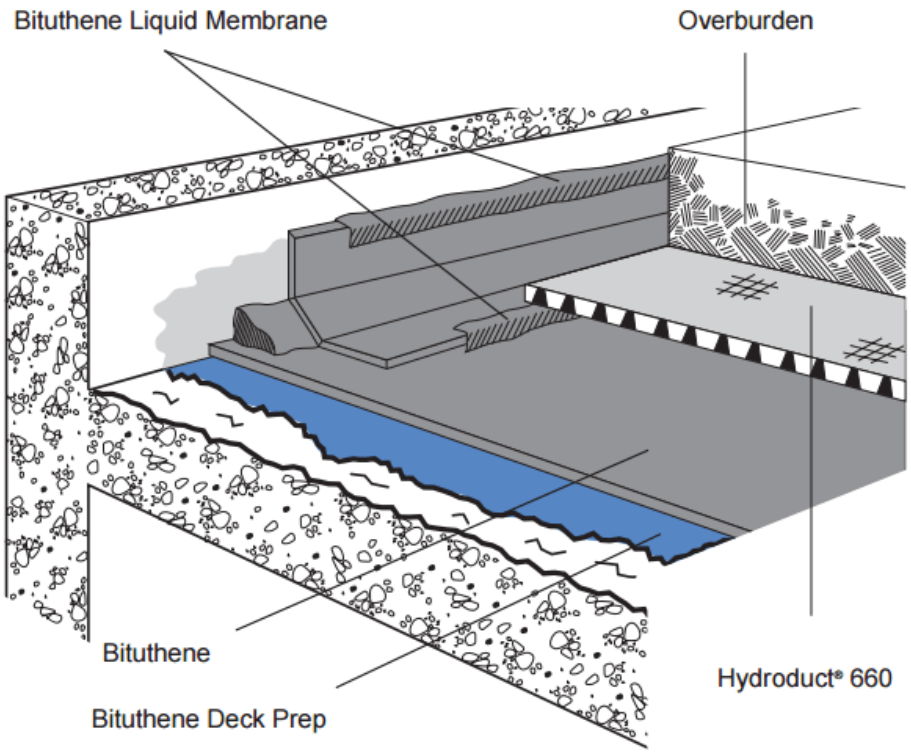
BITUTHENE® Deck System combines BITUTHENE® 4000 sheet membranes with BITUTHENE® Deck Prep to provide a durable waterproofing system capable of accepting a wide variety of wearing surfaces on above occupied space, inverted roofs, green roofs and elevated concrete decks.

Product Advantages

- Dual protection system—combines the advantages of preformed sheet with seamless liquid for maximum insurance
- Cold-applied—eliminates fire hazard during application
- Flexible—accommodates minor structural movement and will bridge shrinkage cracks
- Fully-adhered system—prevents lateral water migration and transfers braking forces to substrate
- Drainage system—high compressive strength drainage sheet available to provide efcient deck drainage
- Warranty system available—by GCP trained applicators

System Components

- BITUTHENE® System 4000, BITUTHENE® 3000 or BITUTHENE® Low Temperature membrane—self-adhesive, waterproofing membrane
- BITUTHENE® Deck Prep—low viscosity, two component surface treatment coating designed to level and prepare surface prior to installing BITUTHENE® membrane
- BITUTHENE® Liquid Membrane—accommodates minor structural movement and will bridge shrinkage cracks
- HYDRODUCT® 660 Drainwall Composite—high compressive strength, high flow geocomposite horizontal drainage board and protection layer



Application Procedures

Safety, Storage and Handling Information

BITUTHENE® products must be handled properly. Vapors from solventbased primers and mastic are harmful and flammable. For these products, the best available information on safe handling, storage, personal protection, health and environmental considerations has been gathered. SDS (Safety Data Sheet) are available and users should acquaint themselves with this information. Carefully read detailed precaution statements on product labels and the SDS before use.

BITUTHENE® Deck Prep Application

SURFACE PREPARATION

NOTE: Refer to BITUTHENE® Deck Prep Data Sheet for complete installation instructions.

All surfaces must be dry and free from dirt, grease, oil, dust or other contaminants. BITUTHENE® Deck Prep may be applied at temperatures of 25 ºF (-4 ºC) or above. Below 40 ºF (5 ºC), store in a warm place before application.

Joints

Properly seal all joints with waterstop, joint filler and sealant as required. BITUTHENE® membranes are not intended to function as the primary joint seal. Allow sealants to fully cure. Pre-strip all slab and wall cracks over 1⁄16 in. (1.5 mm) wide and all construction and 16 control joints with 9 in. (230 mm) wide sheet membrane strip.

Application on Horizontal Surfaces

Apply membrane from the low point to the high point so that laps shed water. Overlap all seams at least 2 in. (50 mm). Stagger all end laps. Roll the entire membrane firmly and completely as soon as possible. Use a linoleum roller or standard water-filled garden roller less than 30 in. (760 mm) wide, weighing a minimum of 75 lbs (34 kg) when filled. Cover the face of the roller with a resilient material such as a ½ in. (13 mm) plastic foam or two wraps of indoor-outdoor carpet to allow the membrane to fully contact the primed substrate. Seal all T-joints and membrane terminations with BITUTHENE® Liquid Membrane at the end of the day.

Mixing

Add the entire contents of the Part B container to Part A and mix for 3 to 5 minutes until uniform. Part A is black and Part B is clear. Take care to scrape material from the sides and bottom of the containers to assure thorough mixing. A low speed (150 rpm) mechanical mixer with flat paddle blade is required. Do not apply any material if streaks can be seen due to insufficient mixing.

Once mixed, BITUTHENE® Deck Prep should be poured directly onto the deck and spread with a squeegee over all areas that are to be waterproofed with BITUTHENE® waterproofing membranes. Apply BITUTHENE® Deck Prep within one hour afer mixing. More time may be available at lower temperatures, however, at high temperatures thickening and curing may be faster. Material that has cured should be discarded.

BITUTHENE® Deck Prep should be applied in sufficient thickness to smooth all rough areas and fill all voids. The minimum thickness is 80 mil. Apply material in thickness not to exceed ½ in. (13 mm) per coat. BITUTHENE® Deck Prep will adhere to dry, unprimed concrete.

The product will support light foot traffic after an overnight cure. For interior applications, it may remain tacky even after fully cured.

Apply BITUTHENE® waterproofing membranes directly to cured BITUTHENE® Deck Prep. No priming or conditioning is necessary.

Cleaning

Clean tools and equipment with mineral spirits before BITUTHENE® Deck Prep has cured. Mineral spirits is a combustible liquid and should be used only in accordance with the manufacturer's safety recommendations.

Protrusions and Drains

Apply membrane to within 1 in. (25 mm) of the base of the protrusion. Apply BITUTHENE® Liquid Membrane 0.1 in. (2.5 mm) thick around protrusion. BITUTHENE® Liquid Membrane should extend over the membrane a minimum of 2½ in. (65 mm) and up the penetration to just below the finished height of the wearing course.

Flood Testing

Flood test all horizontal applications with a minimum 2 in. (50 mm) head of water for 24 hours. Mark any leaks and repair when the membrane is dry. Before flood testing, be sure the structure will withstand the dead load of the water. For well-sloped decks, segment the flood test to avoid deep water near drains.

Conduct the flood test 24 hours afer completing the application of BITUTHENE® waterproofing system. Immediately after flood test is completed, and all necessary repairs made, install HYDRODUCT® 660 Drainage Composite to protect the BITUTHENE® membrane from traffic and other trades.

Membrane Repairs

Patch tears and inadequately lapped seams with membrane. Clean membrane with a damp cloth and dry. Slit fishmouths and repair with a patch extending 6 in. (150 mm) in all directions from the slit and seal edges of the patch with BITUTHENE® Liquid Membrane. Inspect the membrane thoroughly before covering and make any repairs.

Drainage

HYDRODUCT® 660 Drainage Composite is recommended for both active drainage and protection of the membrane. See HYDRODUCT® 660 product information sheets. HYDRODUCT® 500/550 RS Drainage Composites with root barrier are designed for green roof applications.

BITUTHENE® Membrane Application

NOTE: Refer to BITUTHENE® System 4000, BITUTHENE® 3000 or BITUTHENE® Low Temperature membrane data sheet for complete application procedures.

Corner Details

The treatment of corners varies depending on the location of the corner. For detailed information on BITUTHENE® Liquid Membrane, see separate product information sheet.

- At plaza deck to wall inside corners—
  - Option 1: Apply membrane on wall and deck to within 1 in. (25 mm) of corner. Treat the inside corner by installing a ¾ in. (20 mm) fillet of BITUTHENE® Liquid Membrane. Extend BITUTHENE® Liquid Membrane at least 2 ½ in. (65 mm) onto deck membrane, and 2 ½ in. (65 mm) onto wall membrane. Terminate top of wall flashing with BITUTHENE® Mastic, BITUTHENE® Liquid Membrane or termination bar.
  - Option 2: Apply membrane on deck to within 1 in. (25 mm) of corner. Treat the inside corner by installing a ¾ in. (20 mm) fillet of BITUTHENE® Liquid Membrane. Extend BITUTHENE® Liquid Membrane at least 2½ in. (65 mm) onto wall.
  - Option 3: Apply membrane on deck to within 1 in. (25 mm) of corner. Treat the inside corner by installing a ¾ in. (20 mm) fillet of BITUTHENE® Liquid Membrane. Apply membrane flashing sheet on wall, over fillet and 6 in. (150 mm) onto deck membrane. Apply 1 in. (25 mm) wide troweling of BITUTHENE® Mastic or BITUTHENE® Liquid Membrane over all terminations and seams within 12 in. (300 mm) of corner. Terminate top of wall flashing with mastic, BITUTHENE® Liquid Membrane or termination bar.
- In planters, reflecting pools and fountains, apply membrane on wall and deck to within 1 in. (25 mm) of corner. Treat the inside corner by installing a ¾ in. (20 mm) fillet of BITUTHENE® Liquid Membrane. Extend BITUTHENE® Liquid Membrane at least 2 ½ in. (65 mm) onto deck membrane, and 2½ in. (65 mm) onto wall membrane. Terminate top of wall membrane with BITUTHENE® Liquid Membrane or termination bar.
- Wall to wall inside corner, apply 12 in. (300 mm) sheet membrane strip centered on corner. Press membrane tightly into corner to assure full contact. Cover the treated corner with a full sheet of membrane to ensure 2-ply coverage.
- Outside corners, apply 12 in. (300 mm) sheet membrane strip centered on corner. Cover the treated corner with a full sheet of membrane to ensure 2-ply coverage.

Protection of Membrane

Protect BITUTHENE® membranes to avoid damage from other trades, construction materials or finishes. Place protection immediately in temperatures above 77 °F (25 °C) to avoid potential for blisters.

- On horizontal applications, exposed to construction traffic, use HYDRODUCT® 660 Drainage Composite. Adhere as necessary to membrane with Preprufe® Detail Tape. Alternate methods of protection are to use ⅛ in. (3 mm) or ¼ in. (6 mm) asphalt hardboard.
- For green roof applications, apply an approved protection course over the BITUTHENE® membrane prior to HYDRODUCT® 500/550 RS application.
- Cover any exposed BITUTHENE® membranes with weather resistant flashing such as copper, aluminum or neoprene. Install protection the same day the membrane is applied or immediately after 24 hour flood testing.

No waiting before backfill or application of wearing course is necessary.

Insulation

Insulation, if used, should be applied over the HYDRODUCT® 660. Do not apply BITUTHENE® membranes over lightweight insulating concrete.

Warranty

Warranties are available for the BITUTHENE® Deck System upon request. Contact your GCP sales representative for details.

Technical Services

Support is provided by full time, technically trained GCP representatives and technical service personnel, backed by a central research and development staff.

We hope the information here will be helpful. It is based on data and knowledge considered to be true and accurate, and is offered for consideration, investigation and verification by the user, but we do not warrant the results to be obtained. Please read all statements, recommendations, and suggestions in conjunction with our conditions of sale, which apply to all goods supplied by us. No statement, recommendation, or suggestion is intended for any use that would infringe any patent, copyright, or other third party right.

BITUTHENE is trademark which may be registered in the United States and/or other countries, of GCP Applied Technologies Inc. This trademark list has been compiled using available published information as of the publication date and may not accurately reflect current trademark ownership or status.

© Copyright 2017 GCP Applied Technologies Inc. All rights reserved.

GCP0083 BIT-450-1216

GCP Applied Technologies, 20 Moores Road, Malvern, PA 19355, USA.
GCP Canada, Inc., 294 Clements Road, West, Ajax, Ontario, Canada L1S 3C6.
This document is only current as of the last updated date stated below and is valid only for use in the Canada. It is important that you always refer to the currently available information at the URL below to provide the most current product information at the time of use. Additional literature such as Contractor Manuals, Technical Bulletins, Detail Drawings and detailing recommendations and other relevant documents are also available on www.gcpat.com. Information found on other websites must not be relied upon, as they may not be up-to-date or applicable to the conditions in your location and we do not accept any responsibility for their content. If there are any conflicts or if you need more information, please contact GCP Customer Service.

Last Updated: 2026-11-18

ca.gcpat.com/solutions/products/bituthene-post-applied-waterproofing-deck-system