

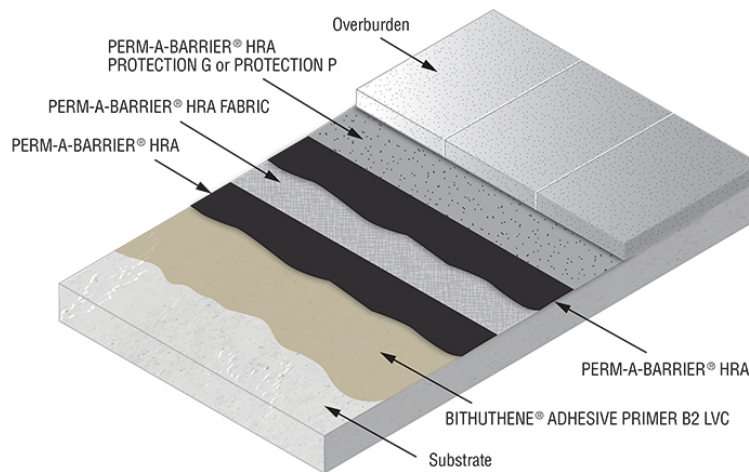
PERM-A-BARRIER® HRA Data Sheet

Hot Rubberized Asphalt Membrane for Bituminous Waterproofing Systems

Product Description

PERM-A-BARRIER® HRA is a single component, hot-applied rubberized asphalt for use on horizontal decks, planters, roofs, and other applications requiring a robust monolithic waterproofing system. It is composed of premium asphalt, synthetic rubbers, and stabilizing fillers. This blend of materials produces a compound that is very resilient, durable, and displays excellent adhesive properties.

For other HRA system products see the individual product data sheets.



Product Advantages

- Robust polyester reinforced 215 mil (5.5 mm) waterproofing system
- Meets or exceeds CAN/CGSB-37.50
- Compatible with a variety of substrates
- Fully adhered, seamless, and monolithic.
- Accommodates construction schedules - can be applied down to 40 °F
- Contains 100% solids
- Minimum 5% recycled content
- Use under pavers, concrete slabs, green and other overburden systems

System Components

PERM-A-BARRIER® HRA – Hot Rubber Membrane

PERM-A-BARRIER® HRA FABRIC– Polyester Reinforcement

PERM-A-BARRIER® HRA NEOPRENE 12" x 100' – Neoprene for Flashing

PERM-A-BARRIER® HRA NEOPRENE 6" x 100' – Neoprene for Flashing

PERM-A-BARRIER® HRA PROTECTION G – Fiberglass Protection Sheet

PERM-A-BARRIER® HRA PROTECTION P – Polyester Protection Sheet

BITUTHENE® ADHESIVE PRIMER B2 LVC – Primer

PERM-A-BARRIER® HRA CAP – Cap Sheet for Wall Flashing

Packaging

PERM-A-BARRIER® HRA is supplied in 30-pound wrapped blocks which are packaged in recyclable cardboard boxes. The product and wrapping is added directly into the melter without the cardboard

Safety & Handling

PERM-A-BARRIER® products must be handled properly. Do not handle until all safety precautions and instructions have been read and understood. Refer to product label and SDS before use. SDSs can be obtained from www.gcpat.com or by contacting your local representative.

Since these products are heated to elevated temperatures, it is essential that operations be conducted safely. All personnel need to be aware of the hazards of using hot-applied materials and safety precautions. All workers should use the required Personal Protective Equipment (PPE) when working with PERM-A-BARRIER HRA. Wear safety glasses with side shields (or goggles), wear appropriate chemical resistant gloves and clothing. When handling hot material, use heat resistant gloves. Use of an impervious apron is recommended. In case of insufficient ventilation, wear suitable respiratory equipment.

If hot product gets into eyes, flush the eye with water for 15 minutes and see a physician immediately. For burns from molten product, immediately submerge the affected area in water (the cooler the better) to cool as quickly as possible. Do not use solvents to remove the product and do not peel solidified product from skin. Remove product using mineral oil, soap, and water. For severe burns, seek immediate medical attention. If inhaled, remove person from the source and assist breathing if necessary. Seek medical attention if breathing is stopped or affected. If ingested, induce vomiting.

STORAGE

PERM-A-BARRIER HRA should be stored off the ground on a dry level surface with good drainage and completely protected with a weather-resistant covering. If this covering is damaged boxes may get wet, lose strength, and crush. If using pallets for storage, do not double stack as crushing of bottom boxes may occur. Product properties are not affected by packaging deterioration. PERM-A-BARRIER HRA has a shelf life of 1 year.

Weather:

Installation of PERM-A-BARRIER HRA waterproofing system shall be undertaken only when precipitation has not occurred during the previous 48 hours and is not imminent. Minimum ambient and substrate surface temperature required is 40°F (5°C) and rising. PERM-A-BARRIER HRA is not intended to be applied on lightweight insulating concrete. For installation on structural lightweight concrete consult GCP Technical.

Equipment:

Melter: Material is to be heated in a thermostatically controlled double jacketed melter that uses oil as a heat transfer medium and is equipped with a mechanically operated agitator. Melter must be equipped with two devices that monitor both asphalt and heating oil temperature with an accuracy of $\pm 2^{\circ}\text{C}$. Temperature of the hot rubber must be 380°F - 400°F (193°C - 204°C). Do not use direct heat to melt PERM-A-BARRIER HRA. A separate job site inferred thermometer with an accuracy of $\pm 2^{\circ}\text{C}$ must be available to verify the material temperature coming from the melter and at the point of application.

Surface Preparation:

Substrates must be structurally clean, dry, sound, smooth, free of rust, paint, and laitance and meet or exceed minimum requirements of substrate manufacturer and local codes. New concrete shall be cured not less than 14 days depending on the curing rate of the concrete. The moisture condition of the concrete surface shall be 5% or less and sufficiently dry to prevent vaporization of moisture and blistering during application of the primer and membrane. The substrate surface should meet CSP 3-5 and have a light broom or wood float finish. If curing compounds are used or contaminants are in the concrete, shot blasting may be required to prepare the surface.

All defects in concrete surfaces, cracks, delamination, and spalled areas shall be repaired with a suitable patching material and cured to the patching manufacturer's specification. All protrusions, ridges, trowel marks and sharp edges shall be removed by grinding. Protrusions shall be blunt and not exceed 5 mm (200 mils) and depressions shall not exceed 10 mm (400 mils).

Priming:

Lightly spray or roll apply BITUTHENE® ADHESIVE PRIMER B2 LVC at a rate of 700-900 sft/gal. Allow primer to cure until dry. Do not use excess primer or let primer puddle. For details, please refer to BITUTHENE® ADHESIVE PRIMER B2 LVC data sheet.

Details:

Substrate detail work should be done prior to application of the waterproofing membrane per manufacturer's instruction.

Waterproofing of joints, cracks, segment joints and shear keys: Apply a coat of hot PERM-A-BARRIER HRA waterproofing membrane 118 mil (3 mm) thick and 8" (203.2 mm) wide on either side of joints, cracks, or shear keys. For all filled cracks, precast segment joints, and joints with gaps less than ¼" (6.4 mm), apply a 12" (305 mm) wide piece of PERM-A-BARRIER HRA FABRIC into the hot rubber. For cracks larger than ¼" (6.4 mm) apply a 12" (305 mm) wide piece of PERM-A-BARRIER HRA NEOPRENE into the hot rubber. Consult GCP Technical for use of expansion joints for larger cracks. Overlap ends of pieces by 4" (101.6 mm) making sure adequate hot rubber is between the laps.

Penetrations, base flashings, and other similar details can be installed per GCP's instructions before or in sequence with the primary waterproofing layer using PERM-A-BARRIER HRA FABRIC or PERM-A-BARRIER HRA NEOPRENE to reinforce the hot rubber or PERM-A-BARRIER HRA PROTECTION G as a base ply.

Application of Primary Waterproofing:

PERM-A-BARRIER HRA shall be continuously agitated until the material can be drawn free, flowing, and lump free from the melter at a temperature of 380°F-400°F (193°C-204°C). Lower temperatures may result in difficult to handle material and improper adhesion. Ensure hot rubber is fully bonded to the primed substrate.

To the primed substrate and all pre-installed detail work apply a monolithic base layer of PERM-A-BARRIER HRA at a minimum 90 mils (2.3mm) thick. Immediately embed PERM-A-BARRIER HRA FABRIC into this base layer while it is still hot, flowable, and tacky making sure to overlap the reinforcement by a minimum 2" (50.8 mm) and ensuring waterproofing is between the lap layers. Using the application squeegee or broom remove any trapped air from under the reinforcement. Apply a top layer of PERM-A-BARRIER HRA at 125 mils (3.2mm) to fully encapsulate the FABRIC within the hot rubber. While top layer is hot and tacky install a protection layer of PERM-A-BARRIER HRA PROTECTION G or PERM-A-BARRIER HRA PROTECTION P. Side laps to be 2" (50.8 mm) and end laps to be 4" (101.6 mm). Ensure sufficient waterproofing is between laps. If system is to be left indefinitely exposed install PERM-A-BARRIER HRA CAP in place of the protection sheet. The side laps of the cap sheet are to be 3" (76.2 mm) and end laps 6" (152.4 mm). Ensure sufficient PERM-A-BARRIER HRA is applied between laps.

Typical Property Data

Test Description	Test Method	Values
Application Temperature, F	CGSB 37.50-M89	380° - 400°F (193° - 204°C)
Flow, mm @ 140°F	CGSB 37.50-M89, ASTM D5329	0
Softening point °C	ASTM D36	98°C (209°F) Min
Adhesion rating	CGSB 37.50-M89	pass
Cone penetration, 77°F	CGSB 37.50-M89, ASTM D5329	81
Cone penetration, 122°F	CGSB 37.50-M89, ASTM D5329	145
Toughness, joule	CGSB 37.50-M89	19.4
Toughness ratio	CGSB 37.50-M89	.052
Adhesion rating	CGSB 37.50-M89	pass
Water vapor permeance, perms (ng/Pa.m ² .s)	CGSB 37.50-M89, ASTM E96-E	1

Water absorption, g	CGSB 37.50-M89	0.13 gain
Water resistance (pinhole, delamination, blistering, etc.)	CGSB 37.50-M89	pass
Low temperature flexibility, -25°C (-13°F)	CGSB 37.50-M89	pass
Crack bridging, -25°C (-13°F)	CGSB 37.50-M89	pass
Heat stability, 5hrs	CGSB 37.50-M89	pass
Viscosity at application temperature	CGSB 37.50-M89	4
Bond to concrete, OF	ASTM D5329	Pass
Resilience	ASTM D5329	30%
Hydrostatic pressure resistance, psi	ASTM D751-A1	119
Hydrostatic pressure resistance, 100 psi	ASTM D5385	100
Flash point, C.O.C., F	CGSB 37.50-M89, ASTM D92	>500 °F
Recycled Content		5% Minimum

*NOTE: Published results are nominal production values confirmed by independent laboratory testing.

TECHNICAL ASSISTANCE & SERVICES

GCP provides technical assistance in the product selection, specification, and application guidelines for all GCP HRA systems. Field representatives are available for consultation in each region.

For more information, contact GCP Technical Services

gcpat.com | North America Customer Service: +1 (877) 423 6491

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Last Updated: 2024-09-05

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