

# LIQUID BOOT®

## SPRAY-APPLIED VAPOR BARRIER

### DESCRIPTION

LIQUID BOOT® is a seamless, spray-applied, water-based membrane containing no VOCs, which provides a barrier against vapor intrusion into structures. LIQUID BOOT® is installed under slab and on below grade vertical walls as a vapor barrier to minimize vapor and nuisance water migration into buildings. LIQUID BOOT® spray-application directly to penetrations, footings, grade beams, pile caps and other irregular surfaces, provides for a fully-adhered gas vapor barrier system.

### APPLICATIONS

LIQUID BOOT® is used as an underslab and below-grade vertical wall gas vapor barrier, used to minimize vapor and nuisance water (non-hydrostatic conditions) migration into buildings. LIQUID BOOT® is ideal for methane migration control. LIQUID BOOT® is also NSF® certified for use as a potable water liner in concrete water reservoirs and tanks greater than 300,000 gallons to protect the concrete from water seepage.

### BENEFITS

- Spray-application provides excellent sealing of penetrations, eliminating the need for mechanical fastening
- Seamless, monolithic membrane eliminates seaming-related membrane failures
- Unique formulation provides superior protection from methane gases and water vapor
- Fully adhered system reduces risk of gas migration
- Protection from methane gas, VOCs, chlorinated solvents and other contaminants

### INSTALLATION

Protect all adjacent areas not to receive gas vapor barrier. Ambient temperature shall be within manufacturer's specifications. All plumbing, electrical, mechanical and structural items to be under or passing through the gas vapor barrier shall be secured in their proper positions and appropriately protected prior to membrane application. Gas vapor barrier shall be installed before placement of reinforcing steel. Expansion joints must be filled with a conventional waterproof expansion joint material. Surface preparation shall be per manufacturer's specification. A minimum thickness of 60 dry mils, unless specified otherwise.

### LIMITED WARRANTY

CETCO warrants its products to be free of defects. This warranty only applies when the product is applied by Approved Applicators trained by CETCO. As factors which affect the result obtained from this product, including weather, equipment, construction, workmanship and other variables are all beyond CETCO's control, we warrant only that the material herein conforms to our product specifications. Under this warranty we will replace at no charge any product proved to be defective within 12 months of manufacture, provided it has been applied in accordance with our written directions for uses we recommend as suitable for this product. This warranty is in lieu of any and all other warranties expressed or implied (including any implied warranty of merchantability or fitness for a particular use), and the Manufacturer shall have no further liability of any kind including liability for consequential or incidental damages resulting from any defects or any delays caused by replacement or otherwise. This warranty shall become valid only when the product has been paid for in full.



In addition to superior chemical resistance performance, LIQUID BOOT® spray-application effectively seals penetrations, footings, grade beams and other irregular surfaces that are considered critical vapor intrusion pathways.

### EQUIPMENT

- COMPRESSOR: Minimum output of 155–185 cubic feet per minute (CFM)
- PUMPS: For “A” drum, an air-powered piston pump of 4:1 ratio (suggested model: Graco, 4:1 Bulldog). For “B” drum, an air-powered diaphragm pump (0–100 psi)
- HOSES: For “A” drum, ½” wire hose with a solvent resistant core (for diesel cleaning flush), hose rated for 500 psi minimum. For “B” drum, a 3/8” fluid hose rated at only 300 psi may be used.
- SPRAY WAND: Only the spray wand sold by CETCO is approved for the application of LIQUID BOOT®.
- SPRAY TIPS: Replacement tips can be purchased separately from CETCO.

### PACKAGING

**LIQUID BOOT® is available in the following packaging options:**

- 55 Gallon Drum
- 275 Gallon Tote

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### TESTING DATA

CHEMICAL & PHYSICAL PROPERTIES		
CHEMICAL PROPERTY	TEST METHOD	RESULT
Benzene Diffusion Test	Tested at 43,000 ppm	$2.90 \times 10^{-11}$ m <sup>2</sup> /day
Diesel (1000 mg/l), Ethylbenzene (1000 mg/l), Naphthalene (5000 mg/l) and Acetone (500 mg/l) Exposure for 7 days	ASTM D543	Less than 1% weight change; Less than 10% tensile strength change
Methane Permeability	ASTM 1434-82	Passed <sup>1</sup>
Microorganism Resistance	ASTM D4068-88	Passed <sup>1</sup>
Oil Resistance	ASTM D543-87	Passed <sup>1</sup>
PCE Diffusion Coefficient	Tested at 120 mg/L	$1.32 \times 10^{-13}$ m <sup>2</sup> /sec
Radon Permeability	Tested by US Dept. of Energy	Zero permeability to Radon (222Rn)
TCE Diffusion Coefficient	Tested at 524 mg/L	$9.07 \times 10^{-13}$ m <sup>2</sup> /sec
PHYSICAL PROPERTY	TEST METHOD	RESULT
Accelerated Weathering and Ultraviolet Exposure	ASTM D822	No adverse effect after 500 hours
Bonded Seam Strength Tests	ASTM D6392	Passed <sup>1</sup>
Dead Load Seam Strength	City of Los Angeles	Passed <sup>1</sup>
Elongation	ASTM D412	1,332% Ø reinforcement, 90% recovery
Environmental Stress-Cracking	ASTM D1693-78	Passed <sup>1</sup>
Freeze-Thaw Resistance (100 Cycles)	ASTM A742	Meets criteria. Ø spalling or disbondment
Heat Aging	ASTM D4068-88	Passed <sup>1</sup>
Hydrostatic Head Resistance	ASTM D751	Tested to 138 feet or 60 psi
Soil Burial	ASTM E154-88	Passed <sup>1</sup>
Tensile Strength	ASTM D412	58 psi without reinforcement
Water Vapor Permeance	ASTM E96	0.069 perms

Notes:

<sup>1</sup> Passes all Los Angeles City and County Methane criteria.

<sup>2</sup> Typical value based upon historical data.