WEATHER TECH WRBS

AIR BARRIERS & WATER-RESISTIVE BARRIERS

PAREXUSA

WEATHER TECH WRBs

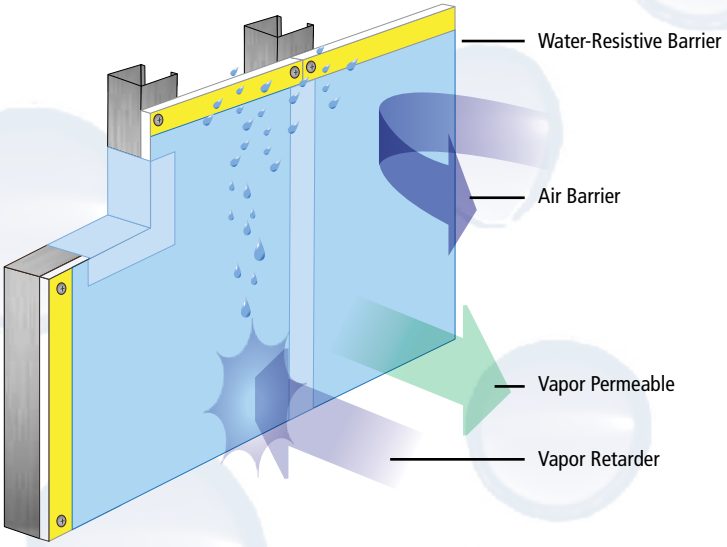
WeatherTech is a family of high performance water-resistive barriers, air barriers, vapor retarders and waterproofing products. When used in conjunction with properly installed substrates, WeatherTech products provide a superior level of moisture protection for any structure. Available with various levels of permeance and installation options.

WeatherTech offers a full line of water-resistive barriers and air barriers to seal the building envelope, protect structural components, and promote healthier indoor air quality. Water-resistive barriers have one primary function: to keep incidental moisture from penetrating into structural components and the wall assembly interior.

Preventing moisture intrusion is extremely important, as moisture-sensitive building materials often consisting of gypsum, wood or light gage metal can become severely compromised when exposed to moisture.

Durable Moisture Protection

WeatherTech products provide continuous protection from incidental moisture. They address many of the concerns associated with sheet based building papers and wraps. Concerns related to lapping errors, tears or seam gaps are eliminated.



Terminology

Water-Resistive Barrier:

- A material behind an exterior wall covering that is intended to resist liquid water that has penetrated behind the exterior covering from further intruding into the exterior wall assembly.
- Designed to provide protection of a structure's substrate from incidental liquid water infiltration.

Vapor Retarder:

- A material or system that adequately impedes the transmission of water vapor under specified conditions.
- "Vapor retarder" has replaced the term vapor barrier for all but the very lowest permeance materials.
- "Vapor retarder" acknowledges that slowing vapor flow, while not totally blocking it, can also be beneficial.
- Generally vapor retarders will not exceed 1 perm.

Air Barriers:

- Air barriers resist the flow of air.
- They prevent energy loss by controlling air infiltration and ex-filtration through the wall.
- They reduce climate control system loads, thus decreasing energy consumption and lowering utility bills
- They restrict humid air flow into wall cavities
- They reduce condensation potential, which can reduce R-value and thus contribute to decrease the risk of corrosion, rot, and mold.

Liquid applied barriers outperform sheets goods because they are:

- Seamless: which eliminates water infiltration risk from horizontal and vertical seams.
- Continuous: which eliminates the risk of water infiltration from rips and tears.
- Direct Bonded: no need for screws, nails, staples, or other forms of mechanical attachment.
- Superior Weatherability: exposure to UV light and moisture during the construction cycle will not compromise their effectiveness.
- Are not dislodged by air pressures.

Proven Air Barrier

Air barriers isolate interior and exterior environments and limit the amount of air that can infiltrate a structure or leak out of it. According to the USGBC, structures consume 70% of the worlds energy with the majority lost from infiltration and exfiltration of air. The unregulated air flow can disrupt the efficient operation of a building's HVAC system, creating strain on the equipment, thus leading to higher overall energy consumption, and an inconsistent environment for occupants. Heating and cooling costs can be impacted by 30% or more according to the Department of Energy. Because air contains water vapor, there is potential for unregulated air flow to create mold related issues within the wall components that can negatively impact air quality.

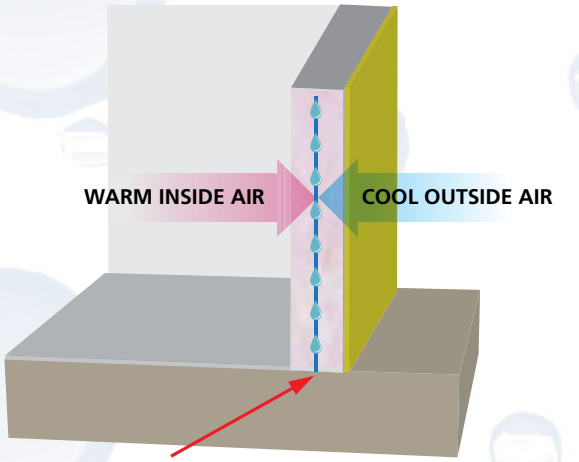
Historically, many building products such as sheet wraps and papers, wallboards, etc. were considered air barriers. Today, with increasing energy consumption and air quality concerns, their level of performance is no longer adequate. Parex USA's WeatherTech line offers products that combine the water-resistive and air barrier features into one unbeatable offering.

WeatherSeal Performance vs ASTM Required Standards

PROPERTY	TEST METHOD	ABAA CRITERIA	WEATHERSEAL
Air Infiltration	ASTM E2178	Pressure: 75 Pa (1.57 lb/ft^2; 0.3 in H2O) Flow rate: < 0.02 L/m^2*s (< 0.004 cfm/ft^2)	< .00001 L/m^2*s (<0.00001 cfm/ft^2) **400 times greater than required by ABAA**
Air Leakage of Air Barrier Assembly	ASTM E2357 After 4000 pressure cycles	< 0.04 cfm / ft^2 at 1.57 psf (< 0.2 L / s·m2 at 75 Pa)	0.0004 cfm / ft^2 at 1.57 psf (0.002 L / s·m^2 at 75 Pa) **100 times greater than required by ABAA**
Air Leakage	ASTM E283	No Criteria	< 0.004 cfm/ft^2

Vapor Permeability

A key factor in moisture management of a building is understanding the atmospheric conditions impacting it. Moisture vapor is always present, with different temperatures and concentrations of moisture (relative humidity) in the air, creating a difference in vapor pressure from interior to exterior environments. Nature always tries to equalize this imbalance, which means that the water vapor will try to migrate from a location of higher concentration to one of lower concentration. This vapor drive flows from high pressure to low pressure across the wall assembly.



DEW POINT PLANE: POTENTIAL CONDENSATION IN WALL

The amount of vapor permeance, or breathablity required for a wall assembly varies depending upon climatic conditions and internal environmental requirements . The vapor drive from higher temperatures and pressures to lower plays a key role in determining the most appropriate type of membrane, permeance requirements, and proper placement within the wall assembly.

The most significant determining factor in proper selection of membrane type and position within the wall assembly design will be the geographic location of a structure, which determines temperature and humidity exposures and seasonal conditions. For most wall constructions in most climate zones, vapor permeable products like WeatherSeal should be considered.

Low permeance barriers: for some advanced wall designs, such as those for cold climate zones with metal studs, continuous external insulation only and no batt insulation between studs, a low permeance barrier coating like Weather Block on the exterior sheathing may be appropriate as an alternative to a vapor retarder on the indoor side of the framing. That is because in such designs, materials to the interior of the continuous insulation are all "warm in winter". Some special hot-humid climate zone wall designs may also benefit from a low vapor permeance barrier. NOTE: WeatherBlock is not to be used when another vapor retarder is on the indoor side of the framing; a double vapor retarder can trap moisture in the wall.

In cold climate zones, a vapor retarder, like Parex USA's WeatherBlock, stops water vapor leakage of conditioned air to the exterior. For hot, humid climate zones, it stops infiltration of hot humid air to the interior. For mixed climate zones, vapor permeable products, like WeatherSeal, should be considered.

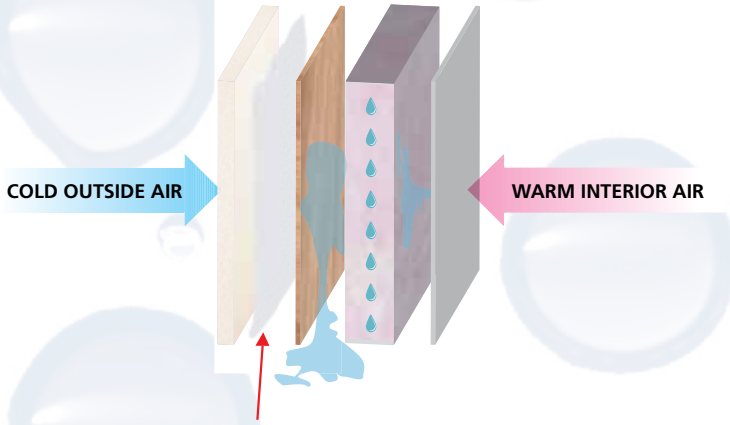
The Weather Tech line offers products that accommodate the need for water-resistive barriers and air barriers with a variety of permeance ranges.

CLASS	PERMS	WEATHERTECH PRODUCTS
I - Vapor Barrier	0.1 perm or less	WeatherSeal BG
II - Vapor Retarder	1.0 perm or less and greater than 0.1 perm	WeatherBlock
III - Semi Permeable	10 perm or less and greater than 1.0 perm	WeatherSeal Trowel-On
	greater than 10 perm	WeatherSeal Spray & Roll-On

Vapor Retarder Location

The vapor retarder membrane - when desired - will be placed on the warm in winter side of the assembly (see illustration below).

A misplaced vapor retarder promotes condensation. If a vapor retarder is placed in the wall in a cold-in-winter location, vapor will flow toward it from the interior, be prevented from continuing out of the wall, and condense in the wall. WeatherSeal Spray and Roll-On and WeatherSeal Trowel-On are made to be vapor permeable for this reason.



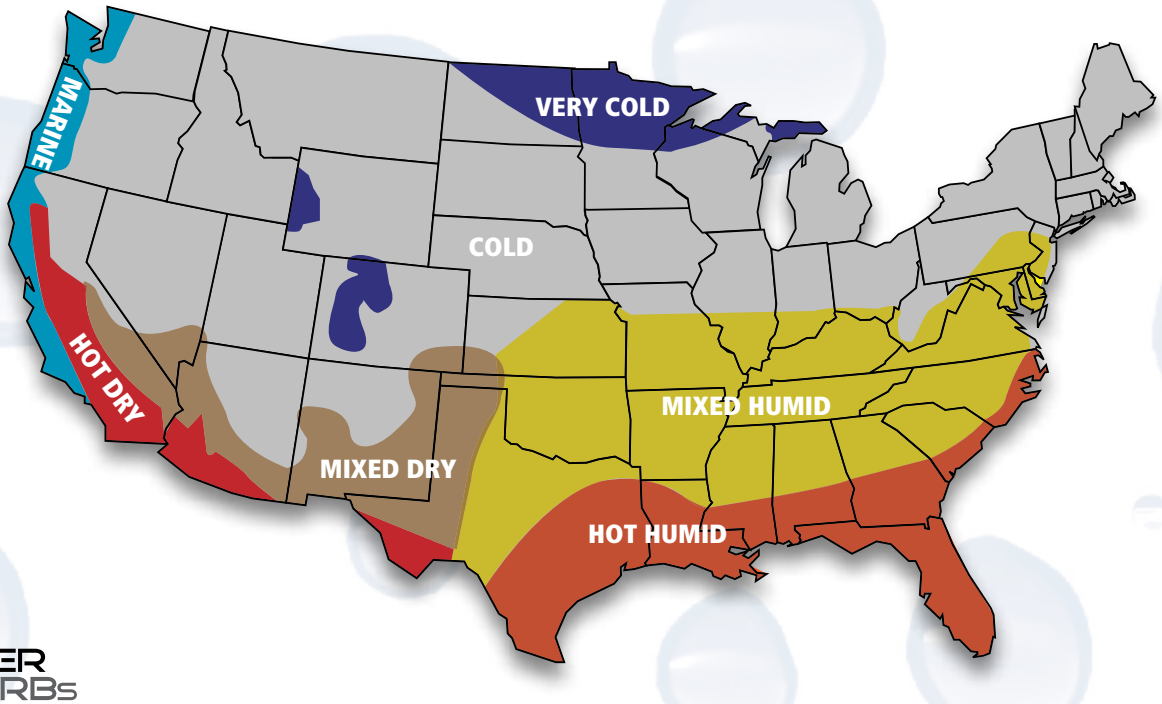
Mixed Climates:
Walls in mixed climates are exposed to vapor drives from the inside in winter and from the outside in summer. In a mixed climate, the vapor retarder placement that could be right for summer may be wrong for winter and vice versa and that is why mixed climates generally should not have vapor retarders.

Cold winter climates:
Indoor air substantially contains more water vapor than the outdoor air as warm air can hold more water vapor than cold air.

As the water vapor migrates towards the exterior, it can get concentrated and cold enough to condense and thus wetting materials in the wall. A material that retards the flow of vapor from the warm indoor air into the wall can prevent that condensation; that is why the vapor retarder is placed to the interior side of stud cavity insulation.

Hot Climates:
Some wall designs in the hot-humid climate zone can benefit from lower permeance barriers on the hot-in-summer side of wall. The idea is that this is the reverse of the cold climate situation. The vapor drive is from the outside toward the inside, sometimes called "reverse vapor drive". However, the potential for trapping moisture must be examined by a dew-point analysis.

Dew Point Analysis
Parex USA offers dew point analysis services at no charge for architects, engineers and designers who need guidance in determining the location of potential condensation (where the dew point occurs) within a wall assembly. The wall analysis is based on a variety of factors, including environmental conditions and building materials used.



Weather Tech Products:

WeatherSeal Spray & Roll-On

This flagship water-resistive & air barrier is a vapor permeable membrane that offers ease of use, rapid installation, and exceptional flexibility. WeatherSeal Spray & Roll-on is an ABAA certified air barrier designed to maximize the energy efficiency of a structure.

- Water-Resistive, vapor permeable membrane
- ABAA evaluated and listed air barrier
- Code approved for use under EIFS and stucco or any code approved cladding (ESR 2045)
- One product needed to treat wall joints, rough opening flashings, and the sheathing field
- Above grade use
- Ready to use
- Spray and roll-on application
- High perm rating

WeatherSeal Trowel-On

This water-resistive & air barrier membrane is a vapor permeable, trowel applied membrane designed for use over a wide variety of substrates. It is available with or without gauging aggregate for maximum workability.

- Water-Resistive vapor permeable membrane
- ABAA evaluated and listed air barrier
- Code approved for use under EIFS and stucco or any code approved cladding (ESR 2045)
- One product needed to treat wall joints, rough opening flashings, and the sheathing field
- Above grade use
- Ready to use
- Trowel-On application
- Available with and without gauging aggregate

WeatherBlock Spray & Roll-On

This easy to use membrane offers high-performance vapor retarder functionality for use in extreme climate conditions, where prevention of vapor transmission will not trap moisture and is appropriate for the wall design. The product can be easily applied by sprayer or roller, and is available in ready to use 5 gallon Pails. It is used to treat wall joints, rough opening flashing, and the sheathing field to create a continuous, seamless protective membrane.

- Water-Resistive vapor retarder membrane
- One product needed to treat wall joints, rough opening flashings, and the sheathing field
- Above grade use
- Ready to use
- Spray and roll-on application

WeatherDry

This multi-function material is a specialized water-resistive, air barrier membrane designed for specialized uses with Parex USA branded EIFS projects and for stucco assemblies over CMU that require moisture protection. Engineered for use on low slope EIFS applications and when extra moisture protection is required for stucco assemblies over CMU. WeatherDry is a trowel applied base coat and adhesive material that can serve a dual-function as a water-resistive leveling coat to enhance surface barrier water-resistance properties while providing a smooth surface for specialty finish applications.

- Water-resistive, vapor permeable membrane
- Above grade use
- Concentrate, add cement
- Trowel-on application
- EIFS Base coat and adhesive

WeatherSeal BG (Below Grade)

This single-component waterproof membrane is designed to provide high-performance below grade protection from positive side water pressure. It allows low levels of moisture vapor to escape to prevent blistering and delamination while prohibiting infiltration of moisture through foundation walls, footings, retaining walls, planter boxes and between slab.

- Water-resistive vapor retarder
- Below grade use
- Seamless waterproofing membrane system
- Rapid installation and excellent adhesion to damp surfaces
- Ready for installation without heating or thinning
- Does not become brittle with age
- Maintains elastomeric properties at low temperatures
- Solvent free
- Anti-microbial additive prevents growth of mold and mildew
- Ready to use
- Sprayer, roller, trowel or brush application







WeatherTech WRBs Product Guide

	WEATHERSEAL SPRAY & ROLL-ON	WEATHERSEAL TROWEL-ON	WEATHERBLOCK SPRAY & ROLL-ON	WEATHERDRY	WEATHERSEAL BG
Product Type					
Air Barrier	X	X	X	X	X
Vapor Permeable	X	X		X	
Vapor Retarder / Barrier			X		X
Substrate					
Glass Mat Gypsum Sheathing	X	X	X		
Gypsum sheathing	X	X	X		
OSB	X	X	X		
Plywood	X	X	X		
Concrete / Masonry	X	X	X	X	X
Cement Board	X	X	X		
Used Under					
Siding	X	X	X	X	
EIFS	X	X	X	X	
Brick	X	X	X		
Stone	X	X	X		
Stucco	X	X	X	X	
Panelized Systems	X	X	X		
Protection / Below Grade					X
Grade					
Below Grade Use					X
Above Grade Use	X	X	X	X	
Use on EIFS					
Adhesive for EIFS		X		X	
Base Coat for EIFS				X	
Application					
Spray & Roll-On	X		X		X
Trowel-On		X		X	X
ABAA Evaluated	X	X			

Can Be Used Under

SIDING | EIFS | BRICK | STONE | STUCCO | PANELIZED SYSTEMS

Can Be Used Over

GLASS MAT GYPSUM SHEATHING | GYPSUM SHEATHING | OSB | PLYWOOD | CONCRETE/ MASONRY | CEMENT BOARD

WeatherSeal Spray and Roll-On and WeatherSeal Trowel-On Test Results

Test	Method	ICC and ASTM E2570 or ABAA Criteria	Results
Accelerated Weathering	AC 212	25 Cycles followed by Hydrostatic Pressure Test: No water penetration on the plane of the exterior facing side of the substrate.	Pass: no water penetration
Air Infiltration	ASTM E2178	Calculated flow Rate at 75 Pa (1.57 lb/ft^2, 0.3 in H_2O) = < 0.02 L/m^2*s (< 0.004 cfm/ft^2)	< .00001 L/m^2*s (0.00001 cfm/ft^2) at 75 Pa (1.57 lb/ft^2, 0.3 in H_2O)
Air Leakage of Air Barrier Assemblies	ASTM E2357	Pass < 0.2 L / s·m^2 at 75 Pa) (< 0.04 cfm / ft^2 at 1.57 psf)	Pass
Air Leakage	ASTM E283	No Criteria	< 0.004 cfm/ft^2
Freeze – Thaw Resistance	ASTM E 2485	10 Cycles	Pass: No Deleterious Effects
Hydrostatic Pressure Test	AATCC 127 (Water Column)	Resist 21.6 in (55 cm) water for 5 hours before and after aging	Pass: No water penetration
Elongation	ASTM D412	No Criteria	360%
Flexibility	ASTM D522	No Criteria	No Cracking at 1/8" (3 mm)
Nail Seal ability, Head of Water	ASTM D1970	Pass 5 inches of Water	Pass 5 inches of water
Pull Adhesion	ASTM D4541	110KPa	Pass
Racking	ASTM E72	Deflection at 1/8 in (3.2 mm)	Pass: No cracking at field, joints or flashing connection
Restrained Environmental	ICC ES AC 212 / ASTM E2570	5 Cycles of wetting and drying	Pass: No cracking at field, joints or flashing connection
Structural Loading	ASTM E1233 Procedure A	10 Cycles @ 80% design load	Pass: No cracking at field, joints or flashing connection
Surface Burning Characteristics	ASTM E84	ICC and ASTM E2568 Flame Spread <25 Smoke Developed <450	Flame Spread =0 Smoke Developed =0
Tensile Bond Strength	ASTM E2134/ ASTM C297	Minimum 15 psi (104 kPa)	Pass: all listed substrates Stainless Steel, Color Coated Aluminum, Galvanized Metal, Copper, Aluminum, Rigid PVC, Parex USA Flashing Membrane
Water Resistance	ASTM D2247	14 Days	Pass: No Deleterious Effects.
Water Penetration	ASTM E331	2.86 psf (137 Pa) for 15 minutes	Pass: 25.4 psf (1216 Pa) for 165 minutes
Water Penetration	ASTM E331	Tested after Structural Loading, Racking and Restrained Environmental Cycling at 2.86 psf (137 Pa) for 15 minutes	No Water Penetration
Water vapor transmission	ASTM E96 Procedure B	Vapor Permeable	7 perms, 12 Perms
Weathering	ICC ES AC 212 / ASTM E2570	210 hours of UV Exposure, 25 cycles of accelerated weathering, 21.6 in (549 mm) water column for 5 hours	Pass
Wind Driven Rain	F.S. TT-C-555B	No Criteria	Pass
VOC	EPA Reference Test Method 24	US EPA, South Coast AQMD and Greenseal Standard	10 g/L
Regional Harvest		LEED MRc 5.1	100% at all facilities
Evaluation of Fire Propagation	NFPA 285	In Accordance with IBC Chapter 26	Meet requirements for use on all Types of construction
Radiant heat exposure	NFPA 268	In Accordance with IBC Chapter 26	No ignition upon 20 minute radiant heat exposure at 1.25 w/cm2.

	COVERAGE	WET MIL THICKNESS
ParexUSA WeatherSeal Spray & Roll-On	400 - 500 ft^2 - depending on substrate	10-12
Parex USA WeatherSeal Trowel-On with Gauging	150 - 190 ft^2 - depending on substrate	35
Parex USA WeatherSeal Trowel-On without Gauging	140 - 160 ft^2 - depending on substrate	63
Parex USA WeatherBlock	350 - 400 ft^2 - depending on substrate	10-12
Parex USA WeatherSeal BG	145 ft^2 - depending on substrate	15
Parex USA WeatherDry	90 - 110 ft^2 as a waterproofing membrane - depending on substrate 80 - 100 ft^2 as an adhesive - depending on substrate	62.5

Additional Benefits:

Premier Warranty
WeatherTech products come with a stand-alone 5 year product warranty for moisture protection. The warranty level can be increased when used in conjunction with Parex USA brands of EIFS and Stucco assemblies.

Low VOC
WeatherTech membranes are low VOC and solvent free, ensuring minimal impact on outdoor and indoor air quality.

Below and Above Grade
WeatherTech offers products for use above grade as well as below grade.

Easy to Apply
WeatherTech products can be spray, roller, or trowel applied, allowing the applicators flexibility. Factory tinted material provides easy visual recognition for coverage rates, mil thickness, cure times, etc.

Ready To Go
All WeatherTech products are ready to use right out of the pail. Except for concentrated formulations, like WeatherDry, which require the addition of cement.

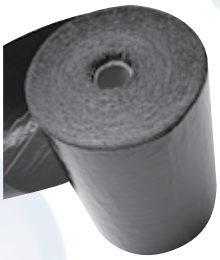
ABAA
Since August 2011, the WeatherSeal line has been listed by the Air Barrier Association of America (ABAA).Parex USA WeatherSeal Spray & Roll-On and Parex USA WeatherSeal Trowel-On have successfully met or exceeded the multiple tests required to be evaluated and listed with the ABAA. This demonstrates Parex USA's strong commitment to providing high-performance material solutions that meet the most stringent industry requirements.

The ABAA represents credibility to the industry, as air and water barrier solutions become an increasingly popular option for energy efficiency. This association also provides the opportunity to work with leaders in building envelope design to ensure the development of sound standards and best practices for quality application.

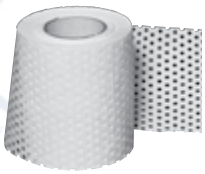



Accessories

Parex USA 396 Sheathing Tape
- Non-woven fabric used to tape joints and to flash terminations and rough openings
- Comes in rolls of 4, 6 or 9 inch widths.



Parex USA 365 Flashing Membrane
- It is a self-sealing, rubberized asphalt membrane that functions as a moisture and air barrier.
- It functions as a seal and flashing at sills of rough openings, deck framing, etc., interfacing with the building substrate and other weather resistive barriers.
- Comes in rolls of 3, 6 or 12 inch widths.



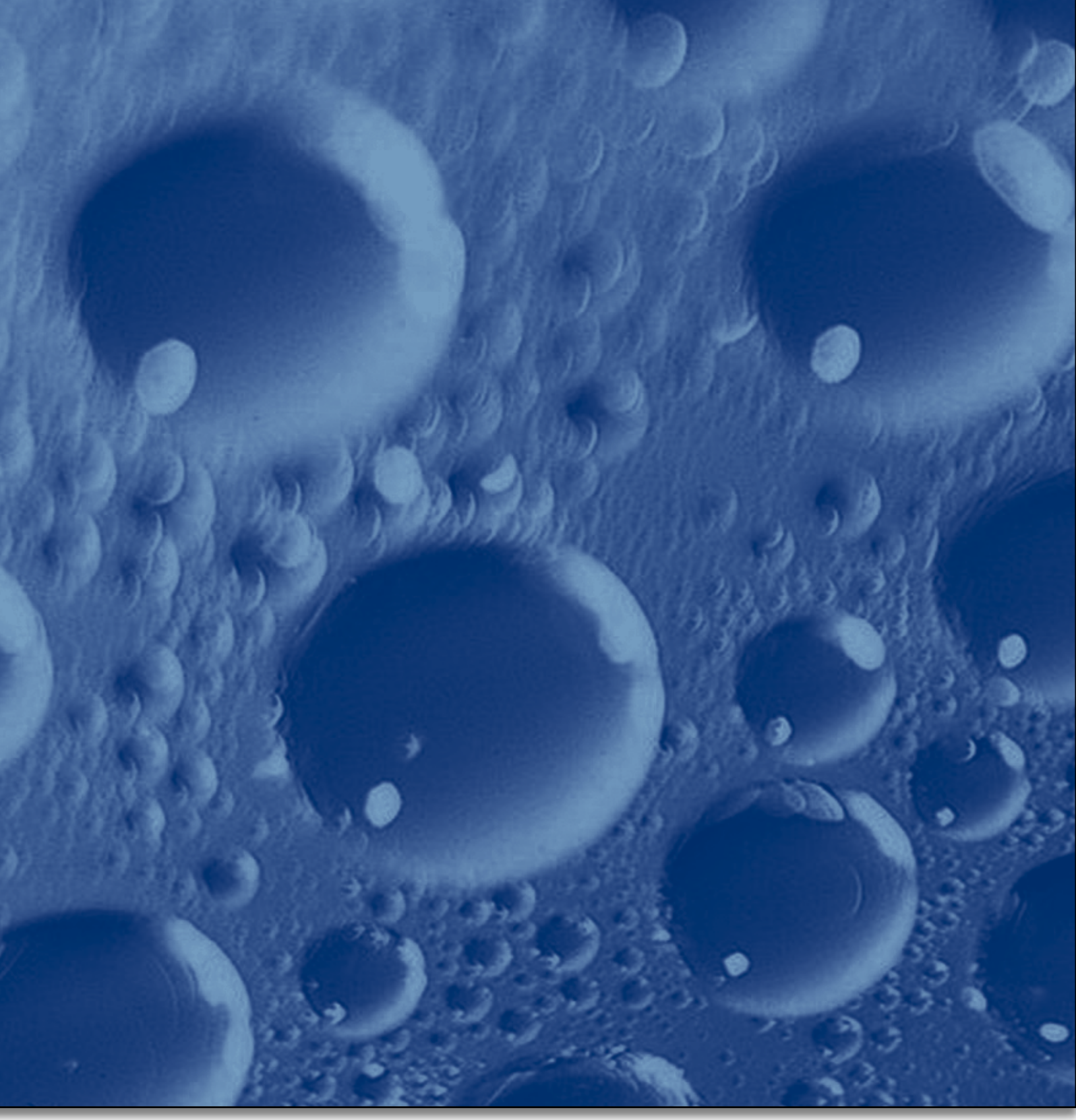
Parex USA 369 DrainEdge (For use with EIFS)
- It is a perforated, embossed polyolefin material that allows drainage at the EIFS system termination.
- Comes in rolls of 7 inch widths.









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PAREXUSA SUSTAINABILITY