



PERMAX™ 0.5LV

Polyurethane Spray Foam System
(RT3090-0.5LV)

Typical Physical Properties of Cured Foam

-Nominal Density ASTM D1622	0.5 lbs / ft ³	-Surface Burning Characteristics ASTM E84 Flame Spread Index Smoke Development Index	<15 @ 4 inches <400 @ 4 inches
-Thermal Resistance ASTM C518 Aged R value	3.6 @ 1 inch 12.0 @ 3.5 inches	-Compressive Strength ASTM D1621	0.7 psi nominal
-Air Permeance ASTM E2178 @ 75 Pa	.008 cfm/ft ² (0.04 L/s/m ²)	-Tensile Strength ASTM D1623	4 psi
-Water Vapour Transmission ASTM E96A @ 2in	19.5 Perms	-Viscosity Part A @ 75°F Part B @ 75°F	150-270 cps 900-1000 cps
-Open Cell Content ASTM D6226, %	96%		
-Dimensional Stability ASTM D2126 (158°F & 97% R.H.)	<5%		

Compliance Standards of Cured Foam

ICC-ES AC377	ESR - 3646	NFPA 286
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Description

PERMAX 0.5LV is a 2-component polyurethane spray foam system consisting of component Parts A and B, which when sprayed through special plural component spray equipment, will produce a premium seamless, monolithic, and durable low VOC open-cell polyurethane foam insulation suitable for residential and commercial interior wall applications. Air sealing properties of cured foam offer greater wall performance than traditional type insulation applications.

System Features

- Tested for compliance with ICC-ES AC-377
- High R-value increases structures' thermal performance and reducing operating energy costs
- Unique low emission formula that provides exceptional safety and peace of mind
- Vapor permeability allows breathing of moisture vapor while stopping air movement
- Excellent sound control in properly constructed wall cavities
- Easy to mix formula provides consistent results
- PBDE-free formulation



Usage

PERMAX 0.5LV is job-site mixed and spray applied with proportioner type of spray equipment to insulate a variety of interior wall, subfloor, and roof cavity conditions including: residential & commercial stud walls, attics, cavity-walls, ceilings, crawl spaces, sub-floor cavities, "controlled atmosphere" storage structures and metal buildings. Uncontrolled air leakage is eliminated increasing overall thermal performance of building structure and saving energy costs. Savings vary. Find out why in the seller's fact sheet. Higher R-values mean greater insulation power.

PERMAX 0.5LV 2-Part Polyurethane Foam System

Product Sizes

- Component A - 500 lbs Steel Drums
- Component B - 465 lbs Natural Poly Drums with Steel Lids

Storage and Shelf Life

Both components should be stored in their original containers, indoors, and maintained between 50°F and 85 °F. Containers should be opened carefully to allow any pressure buildup to be vented safely while wearing full safety protection. Materials stored at temperatures below 50°F will increase viscosity and some application equipment may not reach adequate spray temperature set points. Supply pumps and hoses must be sized to provide adequate supply when materials are cold and at a higher viscosity.

Shelf Life: Excessive low or high temperatures may decrease shelf life. When stored in the original unopened container at 50°F-85°F, the shelf life of the “Part B” component is six months. Temperature above 85°F decreases the shelf life. The “Part A” component has a shelf life of 6 months in unopened containers when stored at 65° - 85°F.

Surface Preparation

All surfaces to receive **PERMAX 0.5LV** must be clean and dry, free of dirt, oil, solvent, grease, loose particulates, curing compounds, frost, ice and other foreign matter which could inhibit adhesion. Moisture content and surface conditions of substrate are critical to adhesion of **PERMAX 0.5LV** and need to be verified by installing contractor in small test areas before proceeding with full application.

Suitable substrates include: OSB, plywood, lumber, CMU, structural & lightweight concrete and properly prepared galvanized, aluminum and painted metal. Lightweight insulating concrete or other friable substrates are not acceptable. Check surfaces for mill oil used in the manufacturing process on painted steel, galvanized, stainless and aluminum substrates. All oil must be removed and the surfaces clean and dry before priming using **Sherwin Williams® DTM Wash Primer** or **Krylon® Industrial Coatings™ Water-Reducible Wash Primer**.

Climatic Conditions and Humidity

Moisture in the form of rain, dew, frost can seriously affect the quality and adhesion of the **PERMAX 0.5LV** to the substrate or itself. Henry Company does not recommend the spraying of this system when the relative humidity (RH) exceeds 85%. When heating the interior of a building the relative humidity can change dramatically and should constantly be measured. Application should not take place when the ambient temperature is within 5°F of the dew point.

Wind velocities in excess of 12 miles per hour may result in excessive loss of exotherm and interfere with the mixing efficiency, affecting foam surface, cure, and physical properties and will cause overspray. Precautions must be taken to prevent damage to adjacent areas from overspray.

Recommended Substrate & Air Application Temperatures 32°F - 120°F

Processing Characteristics

Recommended Processing Temperatures - Ambient	30-50°F	65-80°F	>80°F
Part - A	130°F	120°F	118°F
Part - B	130°F	120°F	118°F
Hose	120°F	120°F	115°F

These temperatures are typical of those required to produce acceptable results using conventional **Graco®** equipment and a static proportioner pressure setting of 1200 psi. Environmental conditions may dictate the use of other temperature ranges; however 130°F must never be exceeded. It is the responsibility of the installing contractor to determine the specific temperature settings to meet environmental, equipment and product limitations.

The **Part B** (resin) drum temperature should be maintained at a minimum of 75°F during operation. A higher temperature may be required depending on the equipment, environmental conditions and settings used. If drum heaters are used, care should be taken to use poly drum compliant heaters and settings.

Mix Part B for a minimum of 30 minutes prior to spraying or recirculating at the beginning of each day and again after any extended breaks. Best practices include using a high shear / high rpm mixer installed in the center bung hole of the Part B drum. Continuous mixing during spraying can be used for optimal results.

PERMAX 0.5LV 2-Part Polyurethane Foam System

Application

The proportioning equipment should be designed for spray application of polyurethane foam and be able to maintain 1:1 metering with a +2% variance and adequate main heating capacity to deliver heated and pressurized materials up to 130°F. Heated hose must be able to maintain pre-set temperatures for the full length of the hose. Minimum 2:1 ratio feeder pumps on the A side and 1:1 ratio feed pump on the B side, are required to supply stored materials through minimum ½-inch supply hoses. Pressurized and heated tanks systems may be used if sized appropriately to provide adequate flow at maximum operating capacity and temperatures.

Guns such as **D-gun, Gap Pro, Fusion-gun, Probler** with tip size approximately 16 lbs/min are suitable for most residential applications.

Balanced chemical output pressures are important to producing good mix. Foam output pressures greater than 200 psi differential indicate either improper chemical temperatures, or worn gun/packing parts. Unequal pressures will cause poor chemical mixing through the module and uneven backpressure. A critical requirement for good spray mixing requires appropriate tip/module sizing to the proportioner and adequate heating capacity. Unequal pressure (>200 psi) can cause excessive pump wear.

Yield and in-place-density is dependent upon the temperature of the substrate, ambient air temperature, pressure, gun tip size, and the output of the proportioning unit.

Thermal & Ignition Barriers

PERMAX 0.5LV open cell SPF insulation must be separated from the interior of the building by an approved thermal barrier and be installed in accordance with all National, State and Local building code requirements.

Non-Prescriptive Thermal Barrier

International Fireproof Technology, Inc. – Paint to Protect® DC315

- Apply Intumescent coating @ 12 mils DFT (86.9 ft² per gallon, 18 mils WFT)
- Foam not to exceed 11.5 inches in walls and in ceilings

Ignition Barrier

International Fireproof Technology, Inc. – Paint to Protect® DC315

- Apply Intumescent coating @ 3 mils DFT (350 ft² per gallon, 4 mils WFT)
- Foam not to exceed 11.5 inches in walls and in ceilings

Please refer to and follow the appropriate manufacturer's installation recommendations and guidelines for the products listed above.

Caution

Read and understand the Material Safety Data Sheet for this product before use. The numerical flame spread and all other data presented is not intended to reflect the hazards presented by this or any other material under actual fire conditions. Polyurethane foam may present a fire hazard if exposed to fire or excessive heat (i.e. cutting torches). The use of polyurethane foam in interior applications on walls or ceiling presents an unreasonable fire risk unless protected by an approved fire resistant thermal barrier with a fire rating of not less than 15 minutes. A UBC or IRC code definition of an approved "thermal barrier" is a material equal in fire resistance to ½" gypsum board. Each firm, person, or corporation engaged in the use, manufacture, or production or application of the polyurethane foams produced from these resins should carefully examine the end use to determine any potential fire hazard associated with such product in a specific use and to utilize appropriate precautionary and safety measures.

Consult with local building code officials and insurance agency personnel before application. Polyurethane foams will burn when exposed to fire. Caution during application must be observed with signs posted for other trades, "**Caution Combustible Insulation, No Welding or Hot Work Allowed**". On a daily basis remove all debris and shavings from the job site leaving a clean work area.

In freezing conditions [below 32°F], jobsite air temperature must be maintained above 50 degrees F. during the cure cycle so extreme temperature drops to the curing [green] foam are not experienced. **When using fuel fired heating units the exhaust must be vented directly outdoors to prevent unsafe carbon monoxide conditions in the work area.** Electric heating units are preferred. All heaters must be turned off before the application of foam begins. Henry Technical Personnel should be consulted in all cases where application conditions are marginal.

PERMAX 0.5LV 2-Part Polyurethane Foam System

Worker Exposure Hazards – Both Components A and B can cause severe inhalation and skin sensitization. For interior applications: full body protection required including air supplying respirator such as a self-contained breathing apparatus (SCBA) or a supplied air respirator (SAR) in the positive pressure or continuous flow mode (this includes air supplied hoods). For exterior applications: required either a full face air purifying respirator or half face worn in combination with chemical safety goggles. The recommended APR cartridge is an organic vapor/particulate filter combination cartridge (OV/P100). It is recommended that all applicators and workers obtain recurrent formal training before exposure to or applying this product. More product information and training materials can be found at Henry Company www.henry.com – or on SPFA or CPI websites including: www.spraypolyurethane.com, www.polyurethane.org, www.sprayfoam.org

Warning signs should be posted at all entrances stating, “Warning, Breathing Hazard During the Application of Insulation materials. DO NOT ENTER without Proper Breathing Protection.”

Freight Classification

Component A - Resin Compounds Item 46030, Class 55, NOIBN Non-Hazardous
Component B - Resin Compounds Item 46030, Class 55, NOIBN Non-Hazardous

Limited Warranty

This information herein is to assist customers in determining whether our products are suitable for their applications. Customers should inspect and test our products before use and satisfy themselves as to contents and suitability. Our products are intended for sale to industrial and commercial customers. We warrant that our products will meet our written specifications at the time of sale only. We will replace at no charge any product proved to have a material defect within 12 months of purchase, provided it has been applied in accordance with our written directions for uses we recommended as suitable for this product. Proof of purchase must be provided.

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