TECHNICAL DATA SHEET

Handi-Seal® Window & Door Sealant

Handi-Seal® Window & Door Sealant is a one-component polyurethane foam (OCF) sealant specifically designed to seal rough openings around doors and windows. A critical advantage of Handi-Seal® Window & Door Sealant is its low pressure build while curing, which greatly reduces the chance for bowing or distortion. The foam sealant stops air infiltration by blocking air from entering/escaping through gaps which prevents heat loss and noticeable drafts while improving the comfort level in your home. The foam sealant provides a critical component to proper window installation. Handi-Seal® Window & Door Sealant utilizes Dry Seal Technology™ to prevent moisture and mold problems by repelling water, unlike open cell formulas that absorb and trap water. Handi-Seal® Window & Door Sealant utilizes a non-flammable HFC propellant. The product is for professional use only.

Handi-Seal® Window & Door Sealant is available as a 12oz or 24oz straw foam and as a 24oz gun foam. The gun foam version is designed to be dispensed through any Handi-Tool® dispensing unit. The straw foam versions are designed to be dispensed through a straw adapter (included with each can).

Application Areas
Apply Handi-Seal® Window & Door Sealant onto any clean surface to fill and seal around windows and door frames, gaps, beneath base plates, mud sills, top plate penetrations, corner joints, T-joints, exterior cracks, around utility panels, pipes, duct penetrations, etc. It is specifically designed to be dispensed as a bead for filling cracks, crevices, and to fill smaller cavities.

Properties
The pre-pressurized, portable OCF system, applied in a bead form, expands and cures slowly to a semi-rigid, closed cell foam upon reacting with moisture, such as ambient humidity.

Handi-Seal® Window & Door Sealant dries tack-free in approximately 5 minutes or less depending on moisture and temperature conditions. The foam fully cures within 24 hours. Expansion of 2–3 times the dispensed bead within the first hour should be expected. It is recommended to fill the cavity only 1/3 of the way full to allow for expansion. If more more need be applied, Handi-Seal® Window & Door Sealant will adhere to itself.

Handi-Seal® Window & Door Sealant adheres to almost all building materials with the exception of surfaces such as polyethylene, Teflon®, silicone, oils, greases, mold release agents, and similar materials.

Optimum chemical temperature is between 65°F and 80°F (18°C - 27°), but may be applied in cold or hot ambient conditions, as long as the optimal chemical temperature range is maintained. Cured foam is dimensionally stable, and known to be resistant to temperatures ranging between -200°F to +240°F (-129°C to + 115°C).

Handi-Seal® Window & Door Sealant is water resistant and will not harm electrical wire insulations, Romex, rubber, PVC, polyethylene or other plastic (i.e. PEX, CPVC). It is approved for use around wires, plumbing penetrations, etc., and contains no formaldehyde. When cured, polyurethane foam is permanent, chemically inert, non-reactive and stable for an indefinite period of time. Cured foam should be protected against UV rays (i.e. sunlight) by painting or staining to prevent long term discoloration or degradation.

Handi-Seal® Window & Door Sealant meets the AAMA (American Architectural Manufactures Association) 812 voluntary test specifications for low pressure window and door sealant foams.

Application/Use
After following instructions for set-up, the cans are ready to use. Straw foam option: Attach the straw, shake well, invert the can, and begin dispensing. By activating the adapter lever carefully, the extrusion rate can be regulated. Gun foam option: The dispensing units can be metered by pulling the dispensing unit trigger for the desired rate, or with the metering screw located in the back. Foam application can be interrupted when needed as outlined in the instructions. The dispensing unit will be ready for immediate re-use, as long as it remains attached to a pressurized container. An empty gun foam container must be replaced with a new container.

Handi-Seal® Window & Door Sealant is especially useful for irregular voids and on non-linear cracks and crevices. Filling excessively large cavities can result in a prolonged curing process. Also, insufficient air or substrate moisture during cure may cause delayed expansion.

Remove fresh foam over spray with Handi-Cleaner® (P10083) or solvents such as acetone. Cured foam can only be removed mechanically.

Important Note: Use only in well ventilated areas. Wear protective glasses with side shields or goggles, nitrile gloves, and clothing that protects against dermal exposure when using. Read all instructions and safety information prior to use of any product. Consult the product's MSDS (available at www.fomo.com). The product contains no formaldehyde. Cured foam is non-toxic.

KEEP OUT OF REACH OF CHILDREN.

Special Handling
Provide sufficient cross-ventilation to remove any buildup of vapors. Contents are under pressure. Do not puncture or incinerate. Do not place in hot water or near radiators, stoves, motor vehicles or other sources of heat. Cured urethane foam produced from these ingredients will support combustion and may present a fire hazard if exposed to a fire or excessive heat (240°F).

Product Storage
Store in dry area. Do not expose the product to open flame or temperatures above 120°F (49°C). Excessive heat can cause premature aging of components resulting in a shorter shelf life. Handi-Seal® Window & Door Sealant is reusable by following product instructions.

Fomo Products, Inc.
A Member of the FLM Group of Companies
management system registered to ISO 9001

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Technical Data

CORE DENSITY– GUNFOAM ASTM D1622	1.44 lbs/ft^3 (23 kg/m^3)
CORE DENSITY– STRAWFOAM * ASTM D1622	1.60 - 1.90 lbs/ft³ (25.6-30.4 kg/m³)
K-FACTOR ASTM C518-INITIAL	0.194 BTU·inch / ft²·h·°F
R-VALUE	5.16 per inch
TACK-FREE TIME	Approx. 5 minutes
FULLY CURES 1" bead (at 70˚F 50% rh)	12-24 hours
CUTTABLE (1" Bead)	<1 hour
COMPRESSION STRENGTH ASTM D1621– PARALLEL	3.62 psi (24.9 kPa)
Closed Cell Content **Open Cell Content** ASTM D6226/ASTM D2856	68.56% Closed Cell <31.44% Open Cell
Pressure Build AAMA 812-04 Third Party Tested	1.89 psi
FIRE RATING ASTM E84 Caulking & Sealant Tested at 3/4" bead thickness	Flame Spread Index = 5 Smoke Developed = 10

Approvals / Standards

Handi-Seal One-Component Window and Door Sealant conforms to the following Classifications, Codes and Standards:

AAMA 812-10 voluntary test specifications for low pressure window and door sealant foams

ASTM E-2112 Standard Practice for Installation of Windows, Doors and Skylights, sec. 5.9.2

Canadian Standards Association Window and Door Installation Guidelines, A440.4-98

VOC Content: Contains no VOCs (minus exempted compounds) Calculated Value

NFPA 30B Classification: Level 1 Aerosol

CCMC 13392-R Meets CAN/ULC S710.1 Durability requirements as an air leakage control sealant.

UL Classified - File # R13919 Caulking and Sealants
ASTM E-84 (8.3%)
Flame Spread 5 Smoke Developed 10

Theoretical Yield*

Product	Bead Size 1/4" (6.3 mm)	3/8" (9.5 mm)	1/2" (12.7 mm)	VOLUME
12oz (340g) Straw Foam P40030	1379 ft (420 m)	613 ft (187 m)	345 ft (105 m)	.47 ft³ (14.7 L)
24oz (680g) Straw Foam P10141	2140 ft (652 m)	950 ft (290 m)	534 ft (163 m)	.79 ft³ (22.4 L)
24oz (680g) Gun Foam P10131	2900 ft (884 m)	1290 ft (393 m)	726 ft (221 m)	1.04 ft³ (29.5 L)

*Yields are based on theoretical calculations, for comparison purposes, and will vary depending on ambient conditions and particular application. One 24 oz can of HANDI-SEAL® will seal 5-7 average sized windows. Theoretical yield is based on published core density (an inverse relationship). Note that straw foam core density may be up to 30% higher than gun foam, and consequently, the theoretical yield is reduced accordingly, based on 1.6 to1.9 lbs/ft³. Density is effected by the applicator

Always read all operating, application and safety instructions before using any products from Fomo Products, Inc. Use in conformance with all local, state and federal regulations and safety requirements. Failure to strictly adhere to any recommended procedures and reasonable safety precautions shall release Fomo Products of all liability with respect to the materials or the use thereof. For additional information and location of your nearest distributor, call Fomo Products, Inc. 1 330.753.4585 or 1 800.321.5585.

NOTE: Physical properties shown are typical and are to serve only as a guide for engineering design. Results are obtained from specimens under ideal laboratory conditions and may vary upon use, temperature and ambient conditions. Right to change physical properties as a result of technical progress is reserved. This information supersedes all previously published data. Yields shown are based on theoretical calculations and will vary depending on ambient conditions and particular application. Read all product directions and safety information before use. Consult local building codes for specific requirements regarding the use of cellular plastics or urethane products in construction.

WARNINGS: Follow safety precautions and wear protective equipment as recommended. Consult Material Safety Data Sheet (MSDS) at www.fomo.com for specific information. Use only in a well ventilated area or with certified respiratory protection. NIOSH approved positive pressure supplied air respirator is recommended if exposure guidelines may be exceeded. Contents may be very sticky and irritating to skin and eyes, therefore wear safety glasses or goggles, nitrile gloves, and clothing that protects against dermal exposure when operating. If liquid chemical comes in contact with skin, first wipe thoroughly with dry cloth, then rinse affected area with water. Wash with soap and water afterwards, and apply hand lotion if desired. If liquid comes in contact with eyes, immediately flush with large volume of clean water for at least 15 minutes and get medical help at once. If liquid is swallowed, get immediate medical attention. Products manufactured or produced from these chemicals are organic and, therefore, combustible. Each user of any product should carefully determine whether there is a potential fire hazard associated with such product in a specific usage. **KEEP OUT OF REACH OF CHILDREN.**

LIMITED WARRANTY: The Manufacturer warrants only that the product shall meet its specifications: THIS WARRANTY IS IN LIEU OF ALL WRITTEN OR UNWRITTEN, EXPRESSED OR IMPLIED WARRANTIES AND THE MANUFACTURER EXPRESSLY DISCLAIMS ANY WARRANTY OF MERCHANTABILITY, OR FITNESS FOR A PARTICULAR PURPOSE. The buyer assumes all risks whatsoever as to the use of the material. Buyer's exclusive remedy as to any breach of warranty, negligence or other claim shall be limited to the replacement of the material. Failure to strictly adhere to any recommended procedures shall release The Manufacturer of all liability with respect to the materials or the use thereof. User of this product must determine suitability for any particular purpose, including, but not limited to, structural requirements, performance specifications and application requirements prior to installation and after product is applied.

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