




TECHNICAL DATA SHEET

SILENT SEAL® VCF



LOW PRESSURE POLYURETHANE FOAM INFORMATION

Description	Low pressure, medium density, two-component expanding polyurethane foam sealant
Applications	Mine ventilation sealant that quickly and efficiently creates an air tight seal on and around mine ventilation devices, including metal and block stoppings resulting in improved ventilation efficiency. This product is not suitable to construct dry stacked block stoppings where a strength enhancing sealant is required, in accordance with MSHA guidelines. Silent Seal can be used as a rib and roof covering to reduce spalling and scaling and reduce rust. In order to be used in a rib and roof application, Silent Seal must be part of the mine's control plan and CANNOT be used to provide structural rigidity/support.
Preparation for use	Substrate must be clean, dry, free of loose particles and free from dust, grease and/or mold release agents. Protect surfaces not to be foamed.
Use	Condition cylinders to 70-85°F (21-29°C). Follow instructions for set-up found in the operating instructions
PPE	 Recommend using only in a well-ventilated area. Wear protective glasses with side shields or goggles, nitrile gloves, and clothing that protects against dermal exposure. Read all instructions and SDS prior to use of any product.
Note	FOR PROFESSIONAL USE ONLY. Cured foam is inert and non-toxic.
Product Storage	Store in a dry area. Do not expose the kits or cylinders to open flame or temperatures above 90°F (32°C). Excessive heat can cause premature aging of components resulting in a shorter shelf-life.
Temperature	For best results, chemical temperature must be between 75-85°F (24-29°C). Warm/Cool cylinders for a minimum of 1 day prior to use. Cured foam is resistant to heat and cold, -200°F to 240°F (-129°C to 116°C).
Disposal	Refer to SDS (Section 13) or operating instructions for more information. Always dispose of empty cylinders according to applicable federal, state, provincial and local regulations.
Shelf-life	12 months

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STANDARD

RESULTS

Density Core	ASTM D1622	1.75 lbs/ft ³ (28 kg/m ³)
Air Barrier Properties @1.57 psf (75 Pa)	ASTM E283-Modified	<0.003 cfm/ft ² (<0.0152 L/s/m ²)
Compressive Strength	ASTM D1621	15 lbf/in ² (103 kPa) Parallel 9 lbf/in ² (62 kPa) Perpendicular
Tensile Strength	ASTM D1623	27 lbf/in ² (186 kPa) Parallel
Dimensional Stability	ASTM D2126	+/- 7%
Tack-Free/Expansion Time	---	15-30 seconds
Closed-Cell Content	ASTM D2856	>90%
Cuttable	---	15 minutes
Fire Rating	ASTM E162	Flame Spread Index 9
Perm Rating- Method A 1" Thick (2.54 cm)	ASTM E96	0.91 perms - Class II Vapor Retarder

APPROVALS/STANDARDS/CLASSIFICATIONS

MSHA S10/02	Silent Seal VCF is a non-strength enhancing mine sealant. Suitability Number MSHA-S10/02
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TEMPERATURE

Chemical Storage Temperature	Optimum 75-85°F (24-29°C) but not <60°F (16°C) or >90°F (32°C)
Outside Application Temperature	40-100°F (4-38°C)
Process Core Chemical Temperature	75-85°F (24-29°C)
Surface Temperature (Substrate)	40-100°F (4-38°C)

YIELD¹ (1.75 Density)

	Weight¹ (including packaging, per cylinder)	Board Feet	Cubic Feet
P12045 II-180	38 lbs (17.2 kg)	180 ft ² (16.7 m ²)	15 ft ³ (0.42 m ³)
P23096 System 17 Refill	201 lbs (kg)	2002 ft ² (186 m ²)	167 ft ³ (4.72 m ³)
P23498 System 60 Refill	705 lbs (kg)	7,783 ft ² (723 m ²)	649 ft ³ (18.4 m ³)

¹ Yield is based on density for 1" covering. We state our core density when describing the foam. Injection of foam into a cavity may result in higher in-place densities due to packing effects. These higher densities may result in lower yields.

Always read all operating, application and safety instructions before using any products. 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 ICP of all liability with respect to the materials or the use thereof. For additional information and location of your nearest distributor, call ICP 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. Yields shown are optimum and will vary slightly depending on ambient conditions and application. This information supersedes all previously published data. The customer is responsible for deciding whether products and associated TDS information are appropriate for customer's use.

WARNING:

ICP low pressure one-component polyurethane foam sealants and adhesives (OCF), low pressure spray polyurethane foams and foam adhesives (SPF), and low pressure pour-in-place polyurethane foams (PIP) are composed of diisocyanate, hydrofluorocarbon, hydrocarbon, hydrofluoroolefin or hydrochlorofluoroolefin blowing agent, and a polyol blend. The urethane foam produced from these ingredients will support combustion and may present a fire hazard if exposed to a fire or excessive heat about 240°F (116°C). Read all instructions, ICP Product Stewardship Guidelines and SDS (Section 8) prior to use of any product. ICP polyurethane products are for professional use only.

Before using any OCF, SPF or PIP product, read the SDS and instructions carefully before use (www.handifoam.com). **OCF Products:** wear protective glasses with side shields or goggles, nitrile gloves, and clothing that protects against dermal exposure. Recommend using in a well-ventilated area. Avoid breathing vapors. **SPF/PIP Products:** wear protective glasses with side shields or goggles unless using a full-face respirator, nitrile gloves, and clothing that protects against dermal exposure. Recommend dispensing product in a well-ventilated area and with certified respiratory protection or a powered air purifying respirator (PAPR); however, well ventilated exterior applications may not need respiratory protection. It is the responsibility of the employer to complete a PPE evaluation and/or exposure assessment to determine if respiratory protection is required. Personal Protective Equipment can be purchased through ICP by ordering the Polyset® Contractor Safety Kit (F65251). The Contractor Safety Kit includes nitrile gloves, contractor safety glasses, and a size Medium NIOSH-approved negative pressure half mask respirator.

Refer to each product's TDS for specifications, testing results, and other attributes. The customer is ultimately responsible for deciding whether products and associated TDS information are appropriate for customer's use. For professional use only. Building practices unrelated to materials can lead to potential mold issues. Material suppliers cannot provide assurance that mold will not develop in any specific system. Product uses a non-flammable compressed gas. Keep away from heat. Smoking and open flames, including hot work, should be prohibited in the vicinity of a foaming operation. Avoid contact with skin and eyes. May cause sensitization by inhalation and/or direct skin contact. Persons previously sensitized to isocyanates may develop a cross-sensitization reaction to other isocyanates. Avoid prolonged or repeated breathing of vapor. 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 ICP of all liability with respect to the materials or the use thereof. For additional information and location of your nearest distributor, call ICP 330.753.4585.

LIMITED WARRANTY and LIMITATION OF DAMAGES: ICP warrants only that the product shall meet ICP specifications for the product when shipped by ICP. NO OTHER EXPRESSED OR IMPLIED WARRANTIES APPLY AND ANY IMPLIED WARRANTIES OF MERCHANTABILITY, NON-INFRINGEMENT OUTSIDE THE U.S. AND FITNESS FOR A PARTICULAR PURPOSE ARE EXPRESSLY DISCLAIMED. Buyer and users assume all risks of use, handling and storage of the product. Failure to strictly adhere to any recommended procedures shall release ICP from all liability. The user of the product is responsible to determine suitability of the product for the particular use. The exclusive remedy as to any breach of warranty, negligence or other claim is limited to the replacement of the product. Liability for any indirect, incidental or consequential damage or loss is specifically excluded.

Refillable Cylinder Warranty Statement

ICP further warrants that the refillable cylinder is fit to dispense ICP foam products that are loaded into the cylinder by ICP. The sole remedy for any breach of warranty is replacement of the cylinder. NO OTHER EXPRESSED OR IMPLIED WARRANTIES APPLY AND ANY IMPLIED WARRANTIES OF MERCHANTABILITY, NON-INFRINGEMENT OUTSIDE THE U.S. AND FITNESS FOR A PARTICULAR PURPOSE ARE EXPRESSLY DISCLAIMED. The terms, conditions and warranties applicable to ICP's products dispensed from the cylinder are covered in other ICP documentation relating to that purchase. Liability for any indirect, incidental or consequential damage or loss specifically excluded. **Buyer must not make any changes to the cylinder or the cylinder components, including plumbing.** Any such change may produce dangerous results and cause damage or injury, including a loss of product stored in the cylinder. ICP is not responsible for damages or injuries resulting from any such changes. Those damages or injuries are Buyer's responsibility, and ICP may charge Buyer for the costs of any resulting cylinder damage or repairs. ICP also reserves the right to restrict future sales if the Buyer does not address safety concerns such as modified or missing plumbing, pressure relief valve activated or excessive cylinder pressure.

Heated Accessory Warranty Statement

See the specific hose manufacturer's warranty regarding any warranty applicable to the accessories. ICP makes no warranty regarding the accessories and they are sold "AS IS" and ALL EXPRESSED AND IMPLIED WARRANTIES ARE EXPRESSLY DISCLAIMED. Liability for any indirect, incidental or consequential damage or loss is specifically excluded.



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WITH GLOBALLY SOURCED MATERIALS