

TECHNICAL DATA SHEET



Silent Seal NA Two-Component Expanding Sealant

Silent Seal® NA is a polyisocyanurate two-component expanding sealant designed within the international guidelines for protection of the ozone layer, and with respect to the Montreal Protocol, 1987, and other environmental guidelines, utilizing a non-flammable, non-ozone depleting blowing agent to assist in the safety of the end user and the environment. Silent Seal Systems are dispensed through the state-of-the-art Handi-Gun® two-component dispensing unit, providing unsurpassed quality and flexibility in end-use performance. Silent Seal NA has been found suitable according to MSHA standards, Code of Federal Regulations, Title 30, Section 75.333 (Ventilation Controls). Suitability Number: MSHA-S10/00.

Application Areas

Silent Seal NA quickly and efficiently creates airtight seals on and around stoppings resulting in improved ventilation efficiency. Silent Seal NA may also be useful for additional above-ground applications, from an effective air sealant to a conventional product used to fill small holes and openings. It is specifically designed to spray onto flat or irregular surfaces and to fill small gaps and cavities. This product is not suitable to construct dry stacked block stoppings where a strength enhancing sealant is required, in accordance with MSHA guidelines.

Properties

Silent Seal NA passes ASTM E-162-87 with a flame spread index of less than 25, based on independent ASTM E-162-87 test results. The optic yellow color of Silent Seal indicates it is the sprayed-in-place air sealant developed exclusively for mine applications. Some of the advantages of Silent Seal are:

- Factory-attached dispensing hoses. No need to attach hoses prior to use.
- Handle is secured to tanks. No more handle popping out of box. No more tanks falling out of the box when the box gets wet.
- Passes ASTM E-162 with a flame spread of <25.
- Expands and seals in seconds. Cures in one hour.
- High optic yellow color. Makes visibility easy. See exactly where sealant is applied.
- Easy to open box for immediate use.
- Hoses extend from top of tanks. More reach and stability
- Polyisocyanurate formulation for improved performance.
- Adheres to coal, slate brattice, cement, wood and most other materials in mines.

Silent Seal NA fully expands and dries tack-free within seconds upon the chemical reaction of component A with component B. Expands with an approximate 8-to-1 ratio.

Silent Seal NA also adheres to almost all common construction materials with the exception of surfaces such as polyethylene, Teflon®, silicone, oils and greases, and mold release agents.

Optimal application temperature is 75°F (24°C) but may be sprayed onto colder or warmer substrates, with slight effects on the products' characteristics. The cured sealant is resistant to heat and cold, -200 - +200°F (-129 - +93°C) and to aging, but not to UV rays (i.e. sunlight) unless painted, covered or coated. Cured sealant is also chemically inert and non-reactive in approved applications.

Silent Seal NA requires no outside mechanical or electrical power source and is disposable. When properly applied, the sealant will create a seamless, continuous seal to insulate and protect against dust, air infiltration, etc.

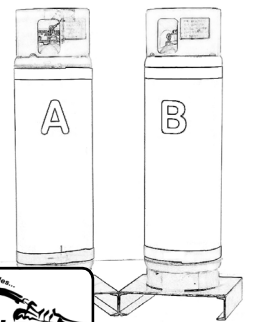
Preparation For Use

Substrate must be firm, free of loose particles, grease and mold release agents. Protect surfaces not to be sealed.

Shake kit *before* using.

Application / Use

After following instructions for set-up, kits are ready to use. Valves must be in the upright position. Materials are dispensed through the hoses and mixed in the disposable nozzle. With the nozzle attached to the Handi-Gun two-component dispensing unit, dispense sealant by squeezing the trigger. To interrupt or stop the flow of sealant, release the trigger. Once the dispensing process has stopped, the dispensing unit must be reactivated within one minute or a new nozzle must be installed. Fresh sealant may be applied in several stages to avoid overfilling of void or damage to non-rigid, confined cavities. Cured sealant can only be removed mechanically.



(Continued on page 2)

Fomo Products, Inc.
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management system registered to ISO 9001:2000



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Technical Data

DENSITY

ASTM D-1622 1.75 lbs/ft³ (28 kg/m³)

K-FACTOR (Per Inch)

ASTM C-518 (initial) $\frac{BTU}{(ft)(h)(^{\circ}F)} = 0.15$ $\frac{w}{mk} = 0.022$

R-VALUE (aged)

6-7/inch

TENSILE STRENGTH

ASTM D-1623

Parallel @ 7%

Perpendicular @10%

35 psi (241 k Pa)

39 psi (269 k Pa)

COMPRESSIVE STRENGTH

ASTM D-1621

Parallel @ 10%

Perpendicular @ 10%

20 psi (138 k Pa)

20 psi (138 k Pa)

DIMENSIONAL STABILITY

ASTM D-2126

HEAT AGE (120°F / 50°C, 10%RH)

HUMID AGE (120°F / 50°C, 100% RH)

COLD AGE (-40°F / -40°C)

+1.9%

+8.3%

+0.3%

CLOSED CELL CONTENT

ASTM D-2856

>90%

MOISTURE VAPOR TRANSMISSION

Parallel

2 perms

Perpendicular

1.3 perms

TACK-FREE / EXPANSION TIME

10-25 seconds

CUTTABLE

2-5 minutes

FIRE RATING

ASTM E-162

Flame Spread Index < 25

Approvals / Standards

Silent Seal NA conforms to or exceeds the following classifications, codes and standards:

MSHA Suitability Number "MSHA-S10/00"
Code of Federal Regulations, Title 30, Sections 75.333 (Ventilation Controls)

ASTM E-162-87
Flame Spread Index <25

Silent Seal NA is patented under U.S. patent #6,182,868B1.

Handi-Gun is patented under US patent #6,345,776. Other foreign and domestic patents pending.

ODP (Ozone Depletion Potential): Contains non-ozone depleting, non-flammable HFC propellant.

Theoretical Yield*

DISPOSABLE

II-180
P10737

15 ft³ (.42m³)

REFILLABLE

SYSTEM 17
P22020

165 ft³ (4.7 m³)

Note: * Yields are based on theoretical calculations, for comparison purposes, and will vary depending on ambient conditions and particular application.

Tank Specifications

System 17

Capacity

Dimensions

Height 33" (84 cm)
Diameter 15" (38 cm)
Base 14" x 14" (36 cm x 36 cm)

Empty Tank

60 lb (27 kg)

Filled Weight

210 lbs (95.3 kg)

*Filled tank weights are approximate for estimation purposes only. Actual gross weight is formulation specific and may be slightly higher or lower.

(Continued from page 1)

Important Note: Use only in well ventilated area or with certified respiratory protection. Wear impervious gloves, eye protection, and protective clothing when using. Read all instructions and safety information (MSDS) prior to use of any product. The product contains no formaldehyde. Cured sealant

is non-toxic. **KEEP OUT OF REACH OF CHILDREN.**

Product Storage

Store in a cool, dry area. Do not expose to open flame or temperatures above 120°F (49°C). Excessive heat can cause premature aging of components resulting in a shorter shelf life. Silent Seal NA is reusable by following product information.

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, Outside Ohio.

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) for specific information. Use only with adequate ventilation or 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, impervious gloves, and adequate clothing 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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