

PENSIL® PEN200 SILICONE FOAM

APPLICATIONS

Pensil® Series PEN200 Firestop Foam has been tested as a seal for both floor and wall penetrations against the passage of fire, smoke or other hot gases. PEN200 is applied in liquid form and then foams in place, readily sealing around penetrating items such as conduits, cables, duct work or mechanical piping.

Pensil® Series PEN200 Firestop Foam may also be useful in sealing areas such as control rooms against infiltration of airborne contaminants such as coal dust, dirt, etc. The physical properties of PEN200 also make it an ideal product for use as a thermal or acoustical insulation, or for vibration dampening.

Pensil® Series PEN200 Firestop Foam is ideally suited for medium to large penetrations involving noncombustible penetrants, cable trays, or electrical, data, or telephone cables.

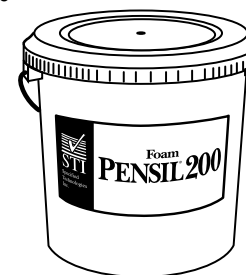
PHYSICAL PROPERTIES

Table A: PHYSICAL PROPERTIES		
As Supplied	Part A (Base)	Part B (Curing Agent)
Appearance	Black Liquid	Off-White Liquid
Specific Gravity	1.21	1.21
Consistency	Pourable	Pourable
Viscosity	75 Poise	75 Poise
Storage Warranty Period*	6 Months	6 Months
Cured Properties	Equal Parts A and B 1:1 Mix ratio as cured 12 hours @ 77°F (25°C)	
Work Life (after mix)**	100-300 Seconds @77°F (25°C)	
Appearance	Black RTV Foam	
Density	14-18 lb./cu.ft. (225 kg/m ³ to 285 kg/m ³)	
Yield Per 100 Lb Kit (Parts A+B)	5.5 to 7 cu. ft. (0.16 to 0.2 m ³) (depending on density)	
Specific Gravity	0.29	
Cellular Structure	Approx. 50% Closed Cell	
Oxygen Index	28 Minimum	
Application Temperature Range	50°-90°F (10°-32°C)	

* From data of shipment stored in original unopened container @80°F(27°C).
** Work life is the time during which the product remains pourable after mixing at 1:1 ratio.

PRODUCT DESCRIPTION

Pensil® Series PEN200 Firestop Foam is a two-component RTV silicone foam that features excellent crack-and-void filling capabilities. Unlike other foams, PEN200 exhibits uniform cell structure, assuring reproducible, smoke-tight, fire resistant installations. Minimal pressure during foaming virtually eliminates shrinkage of the cured material. The elastic properties of the foam readily accommodate minor vibration of the pipe, conduit, etc. without loss of system integrity. Used in a 1:1 mix ratio, PEN200, when properly mixed, expands to approximately 4 times its original volume, filling available spaces and forming an effective barrier against fire, smoke and water penetration.

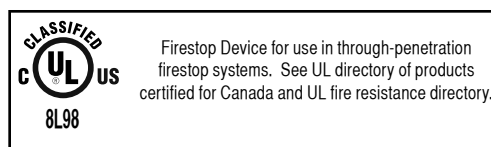


FEATURES

- **High Resilience** allows movement due to expansion, contraction, or vibration.
- **Excellent Water Resistance** for water-tight sealing.
- **Soft Setting Foam** for easy retrofitting of cables.
- **Uniform Cell Structure** ensures reproducible results every time. No charts to check!
- **Excellent Adhesion** to most building substrates.
- **Excellent Smoke Seal**

PERFORMANCE

PEN200 is the basis for systems that meet the exacting criteria of ASTM E814 (UL1479) as well as to the time-temperature requirements of ASTM E119 (UL263). Systems have been tested primarily for concrete or masonry construction with ratings up to 3 hours. STI firestop systems are designed to maximize the fire resistance of the seal by not only sealing off the spread of fire and hot gasses but also by minimizing the amount of heat conducted through the assembly. Thus all systems have been designed to provide T Ratings capable of matching the rating of the wall or floor assembly (where possible) when tested without penetrants.



SPECIFICATIONS

The firestopping product shall be a two-part, silicone, room temperature curing foam. The foam shall be completely water resistant and shall contain no solvents nor inorganic fibers of any kind. The through-penetration firestop foam shall be UL Classified and/or FM Systems Approved and tested to the requirements of ASTM E814 (UL1479).

SPECIFIED DIVISIONS

DIV.	7	07840	Through-Penetration Firestopping
DIV.	13	13900	Special Construction Fire Suppression & Supervisory Systems
DIV.	15	15250	Mechanical Insulation – Fire Protection
DIV.	16	16050	Basic Electrical Materials & Methods



INSTALLATION INSTRUCTIONS

GENERAL: Areas to be protected must be clean and free of oil, loose dirt, rust or scale. Installation temperatures must be between 50° F and 90° F (10° C and 32° C).

PRIMING: Adhesion to concrete or masonry surfaces is generally very good. Bond breaking contaminants must be removed using mechanical abrasion or solvent cleaning as required. Adhesion to difficult substrates may be improved with the use of SS4155 primer.

SYSTEM SELECTION: Space limitations preclude highly detailed information pertaining to individual application systems. Please consult the STI Product and Application Guide as well as the UL® Fire Resistance Directory for additional information.

FORMING: PEN200 is installed as a liquid fill, therefore, forming or damming is required. In some systems, forming materials may contribute to the fire-resistance rating of the system and must be left in place. Consult appropriate STI drawing or UL Fire Resistance Directory for system requirements.

MIXING & FOAMING: PEN200 is supplied as two equal components (Parts A & B). Settling (of filler) and separation during storage is expected, therefore both components must be stirred with a clean paddle or suitable powered mixer prior to use.

After the A and B components have been individually stirred, mix equal parts of PEN200A and PEN200B. Mixing may be accomplished using a paddle mixer or other suitable power mixer in a container or by the use of automatic mixing and dispensing equipment. If paddle mixing is used, mix aggressively for 30 seconds immediately before transferring to the penetration. Product set will occur in 1-3/4 to 5 minutes at room temperature. Mechanical mixing and dispensing is recommended for large volume applications.

PEN200 when properly mixed, will expand to approximately four times its original volume, to yield a foam density of 14-18 lbs./cu. ft. Installation of foam in confined spaces will result in higher densities. Incomplete mixing of parts A and B will result in a non-homogeneous product with a characteristic marbled appearance. Measurement of foam density provides the most accurate determination of proper mixing.

CURE RATE: Properly mixed components will set within 1-3/4 to 5 minutes at room temperature. Cure time is affected by the temperature of the mix. Lower temperatures will increase the cure time, while higher temperatures will decrease it. Optimum temperatures for proper mixing and foaming are between 50°F (10°C) & 90°F (32°C).

LIMITATIONS: Contact with materials containing sulfur or amine compounds may retard or inhibit the cure of PEN200 Firestop Foam. Use with materials suspected to contain these chemicals should be tested prior to installation. In areas where damage from rodents or other pests is a concern, protect foam seals with a suitable wire screening.

MAINTENANCE

Inspection: Installations should be inspected periodically for subsequent damage. Any damage should be repaired using SpecSeal® products per the original approved design.

Retrofit: When adding or removing penetrants, care should be taken to minimize damage to the seal. Reseal using SpecSeal® products per the approved design. **NOTE:** New penetrants of a different nature than the original design may require a totally new firestop design or extensive modifications to the existing design. Reseal all openings as per the requirements of the modified design.

TECHNICAL SERVICE

Specified Technologies Inc. provides toll free technical support to assist in product selection and appropriate installation design. Design system drawings suitable for submittal or specification purposes are available on request.

PRECAUTIONARY INFORMATION

Consult Material Safety Data Sheet for additional information on the safe handling and disposal of this material. Wash areas of skin contact with soap and water. Avoid contact with eyes. Containers of PEN200 A and B components must remain tightly closed prior to and after their use. **PEN200 B CURING AGENT CAN GENERATE HYDROGEN GAS ON CONTACT WITH ACIDIC, BASIC OR OXIDIZING MATERIALS AND SUCH CONTACT MUST BE AVOIDED.**

WARNING: PEN200 generates hydrogen gas during the foaming process. Foaming should be carried out in areas ventilated and monitored to insure that the lower explosive limit of 4% of hydrogen in air is not exceeded. Hydrogen gas rises rapidly. Sources of ignition at and above the work area should be extinguished.

AVAILABILITY

Pencil® Silicone Foam is available from authorized STI distributors. Consult factory for the names and locations of the nearest sales representatives or distributors. The standard package is a 100 lb. kit comprised of 50 lbs. Component "A" and 50 lbs. Component "B".

Table B: ORDERING INFORMATION

Cat. No.	Description
PEN200	Silicone Foam 100# Kit (50# Part A, 50# Part B)

CITY OF NEW YORK MEA 11-93-M

IMPORTANT NOTICE: All statements, technical information, and recommendations contained herein are based upon testing believed to be reliable, but the accuracy and completeness thereof is not guaranteed.

WARRANTY

Specified Technologies Inc. manufactures its goods in a manner to be free of defects. Should any defect occur in its goods (within one year), Specified Technologies Inc., upon prompt notification, will at its option, exchange or repair the goods or refund the purchase price.

LIMITATIONS AND EXCLUSIONS:

THIS WARRANTY IS IN LIEU OF ALL OTHER REPRESENTATIONS EXPRESSED OR IMPLIED (INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR USE) AND UNDER NO CIRCUMSTANCES SHALL SPECIFIED TECHNOLOGIES INC. BE RESPONSIBLE FOR ANY INCIDENTAL OR CONSEQUENTIAL PROPERTY DAMAGE OR LOSSES. PRIOR TO USE, THE USER SHALL DETERMINE THE SUITABILITY OF THE PRODUCT FOR ITS INTENDED USE, AND THE USER ASSUMES ALL RISKS AND LIABILITY FOR SUBSEQUENT USE.

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