

1.0 PURPOSE

To establish a Standard Application Procedure (SAP) to be followed by an applicant requesting a Mine Safety and Health Administration (MSHA) "Suitability Number" for mine sealants proposed for use on ventilation controls in underground coal mines. Sealants applied to ventilation controls must have a flame spread index of 25 or less when tested according to ASTM E-162-87. This document outlines application procedures, fee information and summarizes performance requirements used by the Approval & Certification Center (A&CC).

2.0 SCOPE

The sealants evaluated under this SAP are designated for use in coating ventilation controls and seals. This is a voluntary procedure designed to facilitate the evaluation of mine sealants. A fee is charged (See Section 5.4).

3.0 REFERENCES

- 3.1. ASTM E72-80, "Conducting Strength Tests of Panels for Building Construction", American Society for Testing and Materials -1916 Race St. Philadelphia, PA 19103
- 3.2. ASTM E162-87, "Surface Flammability of Materials Using a Radiant Heat Energy Sources", American Society for Testing and Materials -1916 Race St. Philadelphia, PA 19103
- 3.3. 30 CFR Parts 70 and 75, Safety Standards for Underground Coal Mine Ventilation; Rule. Federal Register Volume 57, Number 95, May 15, 1992
- 3.4. Title 30 Code of Federal Regulations (30 CFR) Part 75.321, 75.322, 75.333 and 75.335
- 3.5. Performance Criteria and Test Guidelines for Evaluation of Nontraditional Ventilation Controls in Underground Coal Mines (ACRI 5001)

4.0 DEFINITIONS

- 4.1. Applicant - Only an individual or organization that manufactures or controls the assembly of a product may apply for a suitability number. An applicant is one that manufactures or controls the assembly of a product and applies to MSHA for acceptance of that product. The information provided by the applicant for Quality Assurance (Section 5.1.9) must demonstrate that the applicant has control of the manufacturing process.

- 4.2. CAS Number - A CAS Registry Number (CASRN, often referred to as a CAS Number) is a unique identifier that designates a single substance. The CAS number is assigned by the Chemical Abstracts Service. See: <http://www.cas.org/index.html>.
- 4.3. MSHA assigned “ID Number” - An identification number (not an acceptance number) that identifies the formulation of a component that is used in producing a product but made by another manufacturer.
- 4.4. Strength Enhancing Sealant - A sealant used to support dry-stacked block stoppings. A strength enhancing sealant must withstand at least 39 pounds per square foot when tested as an assembly per ASTM E72-80 - Section 12, “transverse loading of a vertical specimen.”
- 4.5. Suitability Number - A number assigned to a mine sealant that indicates that the sealant has met the requirements of this procedure, and 30 CFR Part 75.333.

5.0 APPLICATION PROCEDURE

5.1. Application Documentation

- 5.1.1. We recommended that applicants contact the Quality Assurance & Materials Testing Division at 304-547-0400 to discuss acceptance and testing requirements prior to submitting an application.
- 5.1.2. Send applications requesting a Suitability Number to the following addresses:
 - a. Attention: IPSO
Approval and Certification Center
Mine Safety and Health Administration
765 Technology Drive
Triadelphia, West Virginia 26059
 - b. FAX to: 304-547-2084
 - c. Email Submittals: Send application letters, specifications, drawings and other supporting documentation to zzMSHA-IPSO@DOL.gov
 - d. FTP Submittals: Application letters and supporting documentation can be placed on the MSHA FTP server, mfgr.msha.gov. Please call the Information Processing Services Office (IPSO) at 304-547-0400 to establish your user account.

- 5.1.3. Each application for a Suitability Number must be in the English language and include the following information on the attached application form (Attachment 1- Item 1).
- a. Company name
 - b. Address
 - c. Telephone number and email of company representative
 - d. Provide your company Employer Identification Number (EIN) as distributed by the IRS or a DUNS number.
- 5.1.4. Assign an alphanumeric number (up to six digits) to distinguish concurrent applications until MSHA assigns a tracking number (Attachment 1- Item 2). Note: each sealant requires a separate application.
- 5.1.5. Provide a complete description of the product to include: (Attachment 1- Item 3)
- a. Product Trade Name
 - b. Description (include all variations)
- 5.1.6. Provide a statement concerning the effect of water on the installed product (Attachment 1- Item 4).
- 5.1.7. Formulation – Specify each ingredient by its chemical name, generic name, and/or CAS number along with its percentage (by weight) and tolerance (Attachment 1- Item 5).
- A component formulation that has been registered with MSHA may be identified by furnishing the MSHA assigned ID number; however, each additional ingredient the manufacturer adds to the registered formulation (ID number) should be identified by the chemical or generic name, along with its percentage (weight) and tolerance.
- 5.1.8. Provide product application instructions that briefly describe how the user is to prepare and apply the sealant. The instructions must address safety and health concerns associated with application of the sealant. Any precautions that need to be followed during the preparation and application of the product should be listed. The instructions must include mixing and application procedures as may be applicable to the preparation of test specimens required in Sections 5.2.1 and 5.2.2 (Attachment 1- Item 6)
- 5.1.9. Provide product sales literature (if available) - (Attachment 1- Item 7).

- 5.1.10. Provide an ASTM E162-87 test report conducted on a minimum of four specimens of sealant as discussed in Section 5.2.1. MSHA reserves the right to witness testing (Attachment 1- Item 8).
- 5.1.11. Provide a copy of the ASTM E72-80 test report if the sealant is used to construct dry-stacked block stoppings as discussed in Section 5.2.2. MSHA reserves the right to witness testing (Attachment 1- Item 9).
- 5.1.12. Provide the following samples (See Sections 5.2.1. and 5.2.2. & Attachment 1- Item 10):
 - a. Five pound sample of the sealant (as applicable).
 - b. Four samples of foam (used as sealant) as tested per ASTM E162-87.
- 5.1.13. Provide a copy of the Safety Data Sheet(s) (SDS) for the materials as they are brought into the mine, and will exist in the mine. In the case of products that change chemistry on site, provide SDS for both the initial and final forms. SDS should be in accordance with Hazard Communication Standard (HCS), 29 CFR 1910.1200 or MSHA HazCom, 30 CFR Part 47, Subpart F (Attachment 1- Item 11).

MSHA will examine SDS for discussion of hazards related to toxicity, dust, handling, storage, or explosions.

It is the responsibility of the manufacturer to provide appropriate safety and health guidelines for handling products that may promote sensitization, cause skin irritation, or emit hazardous dusts, mists, vapors or gases.

- 5.1.14. Provide a signed certification statement regarding toxicity and quality assurance (Attachment 1, Item 12).

5.2. Product Testing

- 5.2.1. Tests must be conducted on a minimum of four specimens of sealant in accordance with ASTM E 162-87 and the MSHA document Performance Criteria and Test Guidelines for Evaluation of Nontraditional Ventilation Controls in Underground Coal Mines (ACRI 5001). The sealant should be applied in a thickness of ¼ inch or greater on a noncombustible substrate most similar in material to the proposed substrate.
- 5.2.2. If a sealant is to be used to construct dry-stacked block stoppings, the applicant must submit test results conducted according to ASTM E72-80, Section 12, transverse loading of a vertical specimen. Eight-inch, two-cell hollow core concrete blocks should be used to construct the test walls. A minimum of three units

measuring a nominal 4 ft. by 8 ft. must be tested. Sealant must be applied according to the manufacturer in location and thickness. The perimeters of the wall must not be coated. Sealants composed of cementitious or silicate-based products should not be cured longer than 28 days prior to testing. A minimum 5 lb. sample of the uncured sealant used to construct the test walls must be left at the test site for MSHA. This sample must be taken from the same container used for the construction of the test walls (See: MSHA Document ACRI5001).

- 5.2.3. The product testing in paragraphs 5.2.1. and 5.2.2. must be performed by a test laboratory acceptable to MSHA. MSHA reserves the right to witness testing and must be informed of the test schedule. Alternatively, MSHA may request a video record of the tests.

- 5.3. Issuance of “Letter of Suitability”
 - 5.3.1. MSHA will provide the applicant with a Letter of Suitability or non-suitability upon completion of its evaluation.

 - 5.3.2. The Letter of Suitability will stipulate that during the preparation, handling and installation of ventilation control materials, concentrations of hazardous vapors, dusts, mists and gases (other than carbon dioxide*) shall not exceed the threshold limit values (TLV) as specified and applied by the American Conference of Governmental Industrial Hygienists in "Threshold Limit Values for Substance in Workroom Air" (1972). [* For carbon dioxide concentrations, see 30 CFR§75.321.] It is the responsibility of the manufacturer to provide appropriate safety and health guidelines for handling products that may promote sensitization, cause skin irritation, or emit potentially harmful substances [See 30 CFR § 75.322.]

 - 5.3.3. Containers of the suitable sealant must be legibly and permanently labeled with the nomenclature listed on the Letter of Suitability. MSHA may permit alternate forms of labeling.

 - 5.3.4. MSHA reserves the right to revoke a suitability number for cause.

 - 5.3.5. A product may be advertised as a “Suitable Sealant,” but such terms as “recommended,” “approved,” “accepted,” or “sanctioned” by MSHA must not be used. It may also be advertised as meeting the requirements of 30 CFR §75.333.

 - 5.3.6. A manufacturer may request a modification (extension request) to a previously issued Letter of Suitability letter for minor changes in sealant’s composition. MSHA will decide if testing is required. For modification, please see ASAP 1005.

 - 5.3.7. Companies other than the original manufacturer can market a suitable sealant under a different trade name or designation (private label). However, to maintain the

validity of the suitability, the “Suitability Number” may not be changed. Any other markings on the product are at the discretion of the manufacturer or distributor. Additionally, MSHA must be promptly notified of such actions. Under this type of marketing, the original manufacturer is still responsible for the suitability requirements.

5.3.8. All construction details, formulations, test results, or other information designated as proprietary and/or confidential will be regarded as such with the exception of the company name, address, phone number, product name and intended product use.

5.4. Fees

5.4.1. An hourly fee is charged to process an application. Following the receipt of the application, MSHA will advise the applicant, in writing, of the estimated charges to process the application. The applicant then must sign and return the letter agreeing to the estimated charges before processing can begin. This estimate does not include travel charges for witnessing a test when required. An incomplete application requiring further correspondence with the applicant will take longer to process. Therefore, it is to the applicant's advantage to submit a complete application with all the information and data requested in this procedure. If final total charges are less than the estimated amount, the lesser amount will be charged.

5.4.2. Applicants may submit a preauthorization notice with their applications. The preauthorization notice is a statement by the applicant authorizing MSHA to expend a stated amount of money in evaluating the application, eliminating the need for MSHA to provide an estimate letter. If final total charges are less than the preauthorize amount, the lesser amount will be charged.

6.0 Post-Suitability Evaluation Audit

MSHA reserves the right to request samples from the manufacturer for testing at no cost to MSHA. Samples will be requested for cause.

7.0 Revocation

MSHA may revoke any Letter of Suitability and require the removal of a product from underground mines should it be found to be unsafe, create a health hazard, or otherwise not be in conformance with the acceptance criteria.

6. Product Application Instructions – Provide a brief description of how the user is to prepare and apply the sealant. Also attach instructions as provided to the user.

7. Attached – sales literature (if available) Yes _____ No _____

8. Provide the proposed location, date & time of ASTM E162-87 testing.

9. Provide the proposed location, date & time of ASTM E72-80 testing (if applicable).

10. Provide the following samples:

- a. Five pound sample of the sealant (if applicable),
- b. Four samples of foam (used as sealant) as tested per ASTM E162-87,
Samples provided: Yes _____ No _____ (If No, attach explanation)

11. Provide the relevant Safety Data Sheet(s) in accordance with 29 CFR 1910.1200 or 30 CFR Part 47, Subpart F.

12. **Toxicity and Quality Assurance Certification Statement**

I certify that the sealant _____ (*trade name*)
in its final form presents no toxic hazard under normal use conditions. Furthermore, I certify
that the procurement, manufacturing and recordkeeping quality assurances used will be
sufficient to maintain the test performance demonstrated to MSHA, and sufficient to identify
and remove nonconforming product.

Signature _____

Print Name _____

Title _____ (*authorized company official*)

Date _____