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Fire Stop Sealant Technical Data Sheet

Product Description

Fire Stop Sealant is a high-performance, fire-resistant sealant designed to prevent the spread of fire, smoke, and toxic gases through gaps, joints, and penetrations in fire-rated walls, floors, and ceilings. This sealant is specifically formulated to offer superior fire protection while maintaining a flexible, durable, and weather-resistant seal. It can withstand high temperatures, up to 1200°F (650°C), ensuring that fireproofing is maintained even in the most extreme conditions.

Fire Stop Sealant is primarily used in commercial, industrial, and residential construction to seal gaps around cables, pipes, ducts, and other penetrations in fire-rated barriers. It effectively stops the passage of flames, smoke, and other hazardous substances, helping to maintain the integrity of fire-rated walls and floors for the duration required by local building codes. It forms a strong bond to a variety of building materials, including concrete, drywall, wood, metal, and masonry, making it versatile for different applications.

This fire-resistant sealant is easy to apply and does not require mixing, making it a convenient solution for both new construction and retrofitting projects. It is available in a range of sizes to suit various needs, from small cracks to large gaps around penetrations. Once cured, it maintains its flexibility and remains resistant to aging, UV exposure, and moisture. It is a must-have in any building or facility that needs to meet fire safety regulations and standards, such as those set by the National Fire Protection Association (NFPA) or the International Building Code (IBC).

Recommended Use

1. **Sealing Penetrations in Fire-Rated Walls, Floors, and Ceilings**:
   - Fire Stop Sealant is ideal for sealing penetrations caused by pipes, cables, HVAC systems, or electrical conduits passing through fire-rated barriers. It prevents the spread of smoke, flames, and gases during a fire emergency, enhancing the overall safety of the building.
2. **Commercial and Industrial Buildings**:
   - It is commonly used in commercial and industrial facilities, including office buildings, manufacturing plants, warehouses, and hospitals, to seal gaps around mechanical systems, ducts, and plumbing, which could otherwise serve as a conduit for fire and smoke.
3. **Residential Applications**:
   - Fire Stop Sealant is also suitable for use in residential construction, particularly in areas where fire-rated walls and floors are required, such as between attached garages and living spaces or around utility penetrations.
4. **HVAC and Plumbing Systems**:
   - Ideal for sealing around HVAC ducts, pipes, and other building services, Fire Stop Sealant prevents the passage of smoke and gases that could spread through these systems during a fire. It helps maintain the integrity of fire barriers while still allowing for system functionality.
5. **Retrofitting and Renovation Projects**:
   - In retrofit applications, Fire Stop Sealant is used to seal gaps around new penetrations or repairs in existing fire-rated structures. It provides an easy-to-apply solution to upgrade or repair fire-resistant seals without extensive remodeling.
6. **Protecting Critical Infrastructure**:

- Fire Stop Sealant is used to protect critical infrastructure such as data centers, electrical rooms, and other areas housing essential services, where fire protection is critical for preventing damage and loss.

7. **Compliance with Fire Safety Codes**:
   - The sealant is formulated to meet or exceed local and international fire safety standards. It is essential for building projects that need to comply with fire codes, ensuring that penetrations do not compromise the fire integrity of a structure.

Technical Data Specification

- **Colour**: Red or White (depending on variant)
- **Appearance**: Smooth paste
- **Viscosity**: Medium
- **Specific Gravity**: 1.5–1.7 g/cm³
- **Flash Point**: > 200°C
- **Temperature Resistance**: Up to 1200°F (650°C)
- **Curing Time**: 24-48 hours (depends on thickness and environmental conditions)
- **Fire Rating**: Up to 4 hours, depending on system tested
- **Water Resistance**: Excellent
- **UV Resistance**: Excellent
- **Shelf Life**: 12 months in unopened container

Dosage, Addition, and Method of Application

1. **Dosage**:
   - The amount of Fire Stop Sealant required depends on the size of the gap or joint. Typically, it should be applied generously to completely fill the space around penetrations, ensuring that no gaps remain where fire or smoke can pass through. The thickness of the sealant should meet the minimum required for the specific fire rating of the assembly.
   - **Application Tips**: For small gaps (up to 1 inch), a thin, even bead of sealant is sufficient. For larger gaps, multiple layers of sealant may be required to ensure complete coverage.
2. **Addition**:
   - Fire Stop Sealant is ready to use directly from the container and does not require mixing. For optimal performance, it should be applied in conditions with temperatures between 50°F (10°C) and 90°F (32°C). Extreme temperature conditions may affect the sealant's curing time or performance.
3. **Surface Preparation**:
   - Clean and dry the surfaces to be sealed to ensure good adhesion. Remove any dust, dirt, oil, or old sealant residues that might impair the bond between the sealant and the substrate. A wire brush or scraper may be used to clean rough surfaces, followed by wiping with a solvent if necessary.
   - For better adhesion, roughen smooth surfaces such as metal or plastic using sandpaper or a wire brush.
4. **Application Method**:
   - **Step 1**: Cut the tip of the cartridge to the desired size, typically matching the width of the gap to be sealed.
   - **Step 2**: Load the cartridge into a caulking gun, ensuring it is securely in place.
   - **Step 3**: Apply a continuous bead of sealant along the gap or penetration, ensuring that the sealant fills the entire joint and forms a smooth, even surface.

- **Step 4**: Smooth the sealant with a putty knife or a similar tool to ensure an even finish and proper adhesion. Make sure the sealant has fully covered the penetration without leaving voids.
- **Step 5**: Allow the sealant to cure as per the recommended curing time. The sealant will remain flexible while providing a fire-resistant seal.

5. **Post-application**:
   - Ensure that the sealant is fully cured before exposing it to high temperatures or moisture. It is not recommended to paint over the sealant unless specified by the manufacturer.
   - Clean tools immediately after use with a solvent if necessary.

Safety Instructions

1. **Handling**:
   - Wear suitable personal protective equipment (PPE), including gloves and eye protection, to avoid skin and eye contact. Inhalation of fumes or dust should be avoided by using the sealant in well-ventilated areas.
   - Avoid direct contact with the sealant during application. If skin contact occurs, wash thoroughly with soap and water.
   - Do not ingest or inhale the sealant. If accidental ingestion occurs, seek medical attention immediately.
2. **Storage**:
   - Store Fire Stop Sealant in a cool, dry place, away from direct sunlight, heat, and open flames. The sealant should be kept in its original container, tightly sealed, to prevent drying out or contamination.
   - The shelf life of the product is typically 12 months when stored under proper conditions.
3. **First Aid**:
   - **Eye Contact**: Flush immediately with plenty of water for at least 15 minutes. Seek medical attention if irritation persists.
   - **Skin Contact**: Wash affected areas thoroughly with soap and water. If irritation occurs, consult a doctor.
   - **Inhalation**: Move to fresh air. If breathing becomes difficult, seek medical help immediately.
   - **Ingestion**: Do not induce vomiting. Rinse mouth with water and seek medical attention immediately.
4. **Disposal**:
   - Dispose of the product according to local regulations for hazardous waste. Ensure that the container is empty and properly sealed before disposal.
   - Avoid disposing of sealant residues in drainage systems or watercourses.