ODOR SEALERS – MOP (Method of Procedures) prepared by Sentinel re: suppression of odor from FIRE/SMOKE/WILDFIRE impacts and other deodorizing challenges in restoration.

Required for Restoration Professionals:

- Restoration Field Supervisors
- Estimators
- Project Management
- Client Service Representatives
- Leadership

Can be SHARED with:

- Adjusters
- Owners
- General Contractors
- Engineers/Consultants
- Architects
- General Contractors

AIA/CSI/CSC: 02 51 29 Surface Cleaning Decontamination

Odor Sealers (aka Odor Encapsulants, Smoke Sealant Primer/Coatings) can be critical tools in successful restoration. This Technical Bulletin from Sentinel provides guidance that can be used internally for education, estimating, and materials management; and, externally to communicate when an odor encapsulant is effective and beneficial.

Section 1 is a Method of Procedures™ (a M.O.P) suitable for inclusion in proposals, bids and a Restoration Work Plan (RWP)[i]. Section 2 provides an informative overview of FFB (Features, Functions, Benefits) of water-based sealers as tools for CBPs (Combustion ByProducts) like soot, char and ash.

This tech bulletin focuses on Sentinel's flagship 538 Odor Encapsulant, but there are additional targeted solutions available. Contact us if your project may need:

- **Sentinel 539: antimicrobial added to 538**
- **Sentinel 537: super low-viscosity for crevices, knockdown/mist, hard-to-reach places**
- **Sentinel 540: dry fall coating**

Reach out for F9 recommendations, and these and more codes: PNT ATTIC (+, 12, 12+, 8, 8+), JST, JST+, SWALL++

Selectors for PNT (FLTA8X_JUN25)

odor

Sel	Description	Unit	Act	Unit Price	Green
ATT12	Seal attic framing for odor control - 9 to 12/12	SF	+	$2.17	◆
ATT8	Seal attic framing for odor control - 6 to 8/12	SF	+	$1.72	◆
ATTIC	Seal attic framing for odor control - up to 5/12	SF	+	$1.55	◆
SWALL	Seal stud wall for odor control	SF	+	$1.17	◆
SWALL+	Seal stud wall for odor control (shellac)	SF	+	$1.43	◆
SWALL++	Seal stud wall for odor control (anti-microbial coating)	SF	+	$2.64	◆
UL	Seal underlayment for odor control	SF	+	$0.80	◆

Item Information for PNTSWALL +

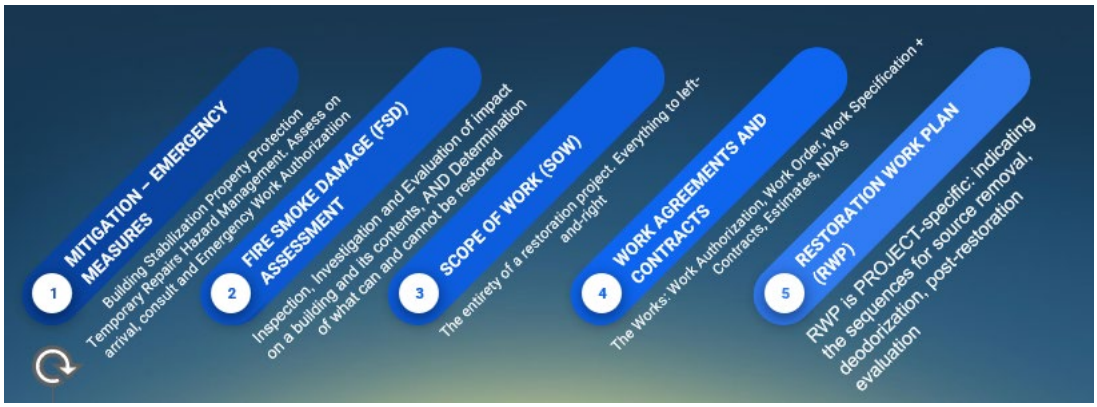
Definition:

Includes: Stain/odor sealer and labor.
Quality: Moderate coverage on studs.
Green: LEED considers paint to be green if it meets the following standard: All paints and coatings wet-applied on site must meet the applicable VOC limits of the California Air Resources Board (CARB) 2007, Suggested Control Measure (SCM) for Architectural Coatings, or the South Coast Air Quality Management District (SCAQMD) Rule 1113, effective June 3, 2011
Note: For proper usage, enter the square footage of wall

SECTION 1 – MOP (Method of Procedures)™ for Sentinel 538 series Odor Encapsulants/Sealers™

This is a MOP, i.e., a Method of Procedures (aka a Short Form Spec), which is intended to provide a general and abbreviated description of steps to be performed when using an odor encapsulating coating in the context of smoke and fire damage restoration[ii]. Sentinel specifications contain guidance from many sources, but the MOP primary source is the ANSI/IICRC S700 Standard for Professional Fire and Smoke Damage Restoration, 1st edition (2025)[iii]. The S700 will be cited in this MOP both in End (MOP) Notes, or in the text. Restorers are encouraged to copy from here into Restoration Work Plans (RWPs).

1. Description of Work:
    a. Section Includes: All labor, materials, tools and other equipment, services and supervision required to complete restoration.
    b. Smoke damage restoration with associated specialized wet and dry cleaning and deodorizing actions including application of Sentinel 522 Cleaner and Odor Destroyer™ (counteractant), and 538 series Odor Encapsulants
    c. "Restorers should establish attainable goals of source removal, including the post-removal surface appearance, with the property owner and other MIPs (materially interested parties) before the work begins."[iv]
    d. Completed work will satisfy the following IN THE WORK AREA: Per the S700, completion can be described as: "Confirmation that removal of fire-related residues and odors from surfaces is complete, is based on clearance criteria that should include visual observation, (e.g., surface wipes, white glove), smoke odor testing, and can include the surface preparation procedures required for repair treatments, where applicable (e.g., sealing...)."
        i. Information for 538 series, such as SDS, label and this M.O.P., should be shared with all involved to make aware prior to application. Consult client re: preference of 538 White, Clear, or Natural Wood (e.g., 538 White for drywall; 538 natural wood for attic, crawl lumber). Prior notice is a best practice for all chemicals and coatings associated with remediation. Documentation is available from Sentinel.
        ii. It should be discussed and understood if the smoke sealer coating application will be held back until after Quality Assurance (below), or if can be applied prior to PRE (Post-Remediation Evaluation)
2. Quality Assurance. For all projects: Before work begins, the restorer and all parties will decide what objectives must be satisfied, and who will make those determinations (all or portions may or may not involve specialized experts)
    a. QA/QC procedures will be in writing in the Restoration Work Plan, and fulfillment will be documented daily
    b. "Restorers should know that there are two categories of odor inspections; surface and air. Odor evaluations should be performed periodically during the restoration process (interim) and again (final) at the end of the project to obtain clearance." (S700, Sec. 10.3)
    c. The restorer will decide when objectives are achieved, and conduct (and document in writing) a Post-Restoration Evaluation (PRE, S700, Sec. 10).
        i. Clean Only: "Where cleaning alone was the sole remedy for fire residue removal, restorers should wipe target surfaces of representative areas of the project with a dry absorbent media (e.g., white cosmetic sponge, folded paper, cellular sponge) then visually inspected... Clearance criteria should be that no visible transfer ...onto the wipe media surface is considered satisfactorily restored."
        ii. Prep (Clean) for Paint: Fire residues do not deposit evenly, and cleaning source removal procedures may not fully return pre-loss condition or utility. Adhered fire residues often result in surface staining, discoloration, smearing (which may be addressed by methods, including sealer application)
            1. The non-adhered residues should be removed (dry/"chem") sponge or equal, followed by Sentinel 522 dual action solution cleans and reduces odors to the level where the surface is able to accept repair treatments (e.g., sealing)
            2. Clearance criteria: No visible transfer of fire residues on dry absorbent media. Repair processes, including 538 sealer application, should follow satisfactory dry wipe testing (unless prior agreement with MIPs to deviate from the S700 standard Sec. 11).
            3. If agreed previously, a specialized expert will conduct a Post-Remediation Verification (PRV). Typically, PRV would be once MIPs are satisfied with PRE, and before 538 sealer is applied



3. Typical/Generic Process of Remediation of Combustion By-Product Impacts and Damage from a Fire/Smoke Event (this diagram and MOP are simplified, see IICRC S700, and Sentinel Spec 02 51 29 for more information, and contact Sentinel)
    a. Mitigation (stabilization, property protection, emergency work authorization; S700, Sec. 5)
    b. Fire Smoke Damage Assessment (FSD): Inspection for Restorability & Characterization – Conduct and document an inspection, per S700, Sec. 3
        i. If restorer's professional judgment indicates a need for specialized experts, seek agreement from MIPs
        ii. Draft an RWP (S700, Sec. 2.4.3) for MIPs agreement; compile materials for the SOW (Scope of Work)
    c. Restoration Work Plan (RWP): An outline of a set of goals, prepared by the Restorer. RWPs break down a process into small, achievable tasks. Structural cleaning following a smoke event is the physical removal of residues from affected materials, surfaces. Fire residue damage ranges from light to severe, source removal procedures will vary in levels from gentle to aggressive. Consequently, results will range from complete removal/determination of a non-restorable condition, to thorough cleaning that follows dry then wet cleaning methods that escalate in intensity.
    d. Scope of Work (SOW): Location for documentation of important factors not in an RWP, e.g., a timeline for all deliverables; any milestones, reports, and end products that are expected; contracts, estimates
    e. Performance (Structural Remediation)[v]
        i. Set-Up Work Area: Containment, Pressurization, Filtration, Security (see S700, Sec. 6). Expect to maintain integrity of the containment throughout the remediation process, including PRE. It is recommended that control of airflow continue so long as particulate redistribution is a concern
            1. Knockdown (optional) to control particulates[vi]
        ii. Source removal procedures include but are not limited to:
            1. Demolition and disposal of burnt or non-salvageable materials if present; and
            2. Cleaning methods selected for each space or surface may be a combination of dry or wet. Use HEPA and other methods to remove initially as much as possible dry. Clean wet from top to bottom. Cleaners and degreasers specially formulated for the removal of fire residues in structures are typically alkaline. Select cleaning methods and chemistry based on project specifics (e.g., Sentinel 315 Smoke & Soot Cleaner/Wash or Sentinel 522 Smoke Odor Cleaner and Destroyer respectively)
            3. Contact Sentinel for more information re: wildfire/WUI, chemical and other "special" fires
4. Application of 538 series Odor Encapsulation Sealer/Coating[vii]
    a. Surfaces are already clean after remediation. Remove peeling paint. Discoloration (e.g. bleeding stains) is generally not an issue when not visible to occupants (e.g. cavity/stud wall), and 538 is self-priming and seals back most residual staining. Severe discoloration can be corrected by Sentinel SBP (Stain-Blocking Primer); for rust or iron stain (steel, brick), prime with Sentinel DTM (Direct-to-Metal primer).
    b. Apply in 1-2 coats, using best painting practices to provide a continuous satin dry film without skipped areas or holidays, using a 90° cross-hatch pattern for brush or roller (1/4-1/2"), or double x-hatch for airless spray (Titan 440X or equal. 2200-3000 psi, tip orifice .015-.019, fan 3-5" (15-25 cm).
    c. Coverage is dependent on the porosity and profile of the surface. Estimate 200-400 sq. ft. / gal.

Light	Moderate
• Generally can be cleaned • Building systems may be impacted. • Painting or replacement may not be required. • Smoke odors: undetectable to moderate. • Non-Restorable: few other than select delicate non-salvageable contents.	• More intense, but generally can be cleaned • Building systems may be impacted. HVAC likely requires cleaning. A sealer may isolate non-removable particulate from the airstream • Smoke odors: faint to strong • Non-Restorable: mostly non-salvageable contents. • Painting/Replacement: some cosmetic repair with sealers, or replacement.
Heavy	**Severe**
• Physical damage (e.g., burning, scorching, charring) to structural materials. Heavy deposits of fire residues over a wide area. • Building systems: Behind walls & ceilings infiltrated by fire residues. HVAC: may be heavy deposits • Require aggressive source removal (e.g., abrasion cleaning, media blasting) in local areas • Smoke odors: very strong, particularly smoldering, oxygen-starved fires. • Non-Restorable: Significant replacement of surfaces. contents	• Damage to major building elements such as floor or roof framing, HVAC, and other building systems and assemblies. • Extensive water damage often requires mitigation services • Very aggressive source removal may be required • Smoke odors: very strong and may be difficult to remove or persistent. Use of fixatives and sealers may be required Non-Restorable: There will likely be a substantial amount of non-salvageable contents. Significant replacement of surfaces.

A Wildfire Word

While some skills are transferable, and the 538 series of odor encapsulating sealers have an important role in wildfire work, there are differences from structural fire. For example, residues can have different chemistry affecting cleanup; ash is more of a factor than soot. To do wildfire right, get trained and use a targeted RWP. Start with our WUI Wildfire Product Selector

Dry Smoke Residues:

- Dry, loose, non-smeary particles
- An oxygen rich fire with natural materials as a primary fuel
- Burns fuel more efficiently and completely
- Drier, loose residue responds well to removal procedures

Wet Smoke Residues:

- Airborne combustion products containing a high liquid component in the form of aerosols
- Generated by smoldering, oxygen-starved fires
- Tacky, penetrating and extremely malodorous
- Wet smoke results from slower burning, oxygen-starved fires where combustion rates are poor
- Condense to form a solid layer or film (like stain or varnish)

MOP NOTES

[i] This MOP is for structural remediation, and due to space limitations cannot also encompass how to use the 537, 539 and 540 versions of odor encapsulation coatings. Similarly, due to space limitations, many subtypes of deodorizing and decontamination cannot be included here, including HVAC, Contents and Biohazard.

[ii] For architects and engineers, coordinate with 02 51 29 Surface Cleaning Decontamination specification. For a compendium specification (i.e., comprehensive as possible) contact Sentinel.

[iii] The user is NOT obligated to utilize this specification in entirety, but instead is encouraged to adopt/adapt/apply those provisions relevant per professional judgment into project documents governing this work (RWP, SOW). No Restorer or Specifier should propose or assert that work satisfies an IICRC Standard or other standard of care/guidance document. Every project is unique, and no project will involve every issue addressed by a Standard.

[iv] S700 10.2. "MIPs" Materially Interested Parties

[v] Structural remediation is defined as that portion of a remediation project that deals specifically with a building's structure and typically does not address a building's contents or HVAC components.
regulations

[vi] a method of dust control (suppression and/or capture).. Fog and mist are put into the air by special equipment with the intent to remain airborne for a predictable amount of time long enough to attach to or absorb solid particulates and when heavy enough, will fall to the ground (i.e., knock or pull them down to the surface below). The droplets and particulates that fall to surfaces due to knockdown are considered knockdown residue, or simply, residue. Physical cleaning of the knockdown residue is required

[vii] For complete surface preparation, review datasheet for 538, and 02 51 29 AIA/CSI/CSC Specifications.