DIVISION 02 – EXISTING CONDITIONS

SECTION 02 87 13 MOLD REMEDIATION

SECTION 02 85 00 MOLD REMEDIATION

Sentinel® Mold Remediation Practices & Products

[Compendium Format Specification][i]

1 MOLD REMEDIATION[ii] PROJECT ORGANIZATION & ADMINISTRATION -

A. This specification is for professional mold remediation. This specification is intended to direct the safe and effective remediation of mold per understood objectives, and within a clearly defined work area. This specification can provide all participants with a framework for agreement on objectives, challenges, deviations from the standard of care, timetables, and shared terms, definitions, and vocabulary.

B. See the End Notes and footnotes for limitations and guidance to improve use of this document.

1.01 WORK INCLUDED

A. Provide labor, equipment, and materials to complete mold remediation principally by removal of mold.

1. Physically removing mold contamination is the primary means of remediation.

1. Mold contamination should be physically removed from the structure, systems, and contents.

2. Attempts to kill, encapsulate, or inhibit mold instead of proper source removal generally are not adequate.

3. Utilizing untargeted/broadcast spray; or, fog, foam, gas, or other remediation approaches without physical removal, is a deviation from the standard of care.

4. Restorer's professional judgment shall always conform to regulation, and should be informed by the most current and complete industry standard of care.

   a. As of composition date of this document, that standard of care is ANSI/IICRC S520 -2024 Standard for Professional Mold Remediation, 4th ed, 2024. Referred to further in this specification as the S520).

B. This Specification addresses mold-remediation of structural surfaces above-grade.

1. The remediation of mold in HVAC systems is beyond the scope of this document (Contact Sentinel for more information)

C. The purpose of mold remediation is to replace unacceptable fungal conditions, such as:

   a. visible mold growth (active or inactive/dormant, alive or dead), and/or,

   b. abnormal levels of mold-associated contaminants on surfaces or in the air;

2. Remediation is replacement of unacceptable mold contamination (above), with fundamentally clean conditions, and fungal conditions no greater than ordinary background in the Work Area for the structure, and its geography, use, occupancy, etc. This is called Condition 1 or Normal Fungal Ecology (for definition refer to the S520).

3. Proper remediation can be described as including:

   a. No visible mold growth

   b. Clean - no dirt, dust, debris

   c. Dry (normal topical and subsurface moisture)

   d. No microbial-related malodors.

1.02 RELATED AIA-CSI-CSC MASTERFORMAT SECTIONS[iii]

A. Specified in part, by reference or entirely elsewhere[iv]:

1. Section 00 26 00 Hazardous Materials Assessment

2. Subsection 00 31 26.33 - Existing Mold Information[v]
3. Subsection 02 26 33.13 – Mold Assessment[vi]
4. Section 02 50 00 – Site Remediation[vii]
5. Section 02 51 00 – Physical Decontamination[viii]
6. Section 02 51 29 – Surface Cleaning Decontamination[ix]
7. Section 02 70 00 – Water Remediation[x]
8. Section 02 80 00 – Facility Remediation[xi]
9. Section 02 82 00 – Asbestos Abatement[xii]
10. Section 02 83 13 – Lead Hazard Control Activities[xiii]
11. Section 02 87 00 – Biohazard Remediation[xiv]
12. Subsection 02 87 13.13 – Precautions for Mold Remediation[xv]
13. Section 02 87 13.16 – Mold Remediation Preparation and Containment
14. Subsection 02 87 13.19 - Mold Remediation Clearance Air Sampling[xvi]
15. Subsection 02 87 13.33 – Removal and Disposal of Materials with Mold[xvii]
16. Section 07 10 00 – Damproofing and Waterproofing[xviii]
17. Subsection 09 97 60 – Mold Retarding Coatings (aka Mold-Resistant Sealer, Mold-Resistant Coatings)[xix]
18. Section 23 05 63.13 - Anti-Microbial Coatings for HVAC Ducts and Equipment[xx]

B. References

1. ANSI/IICRC S520 -2024 Standard for Professional Mold Remediation, 4th ed, 2024.

C. Coordination and Superiority

1. Coordination: Coordinate with AHJs (Authorities Having Jurisdiction) to ensure that current applicable regulations are understood.

2. Superiority: Where contradicted by federal, state, or local laws and regulations, any of the preceding supplant the information in this document.

DELIVERY, STORAGE AND HANDLING (Consummable Supplies)

A. Delivery & Handling:

1. Deliver manufacturer's unopened containers to the work site.
2. Packaging shall bear the manufacturer's name, label, and product code.
3. Verify that products are within acceptable shelf life, and do not utilize any product that is older than the maximum shelf life stated by the manufacturer.
4. Dispose of materials in accordance with requirements of local authorities having jurisdiction.

B. Storage of materials:

1. Store only acceptable project materials on site.
2. Store in suitable and secured location(s) convenient to progress of work.
3. Comply with health and fire regulations.
    a. Verify that no products listed in the Basis of Design are flammable.
4. Storage temperature shall be between 40° F (4.5° C) and 90° F (32° C), or such other ambient temperature conditions as may be specifically recommended by product manufacturer.
5. Consummable liquid products (e.g., cleaning solutions, disinfectants/sanitizers, coatings/sealers/paints) shall not be permitted to freeze on site, and delivery should be refused if freezing during transit is probable.
6. Avoid storage directly in hot sun exposures or excessive temperatures.
7. Keep containers tightly closed when not in use.

8. Store securely closed and upright in original container. Lids or caps can leak if containers are placed on side.
9. Keep out of reach of children.
10. Labels must be marked: FOR PROFESSIONAL USE ONLY
11. Containers used for mixed solutions should be dedicated to a specific solution, and should be clearly identified with a secondary use label.[xxi]

1.04 JOBSITE CONDITIONS

A. Safety: Specifications are NOT primary safety & health documents. This Specification has not been written to wholly satisfy work-related safety and health practices associated with performing professional mold remediation.

1. Remediators shall understand and adhere to all applicable health and safety regulations related to the country or locale in which they work (e.g., US OSHA, CAN OH&S, EU OSHA, WorkSafe Australia, UK Health and Safety Executive), and any similar relevant local jurisdictions (AHJs).
2. Remediation Contractor is to ensure and document provision with and training for use of all necessary Personal Protective Equipment (PPE).
3. Owner and other MIPs shall bear no responsibility for failure of Remediator to properly equip and train workers with PPE.

B. Permits: Remediators shall obtain permits, where required.

C. Surface Protection/Prevention of Cross-Contamination: Cover or otherwise protect adjacent areas. Identify adjacent areas which could be cross-contaminated by remediation activity.

1. Careful attention should be paid to impact, interruption or exposure to any occupied areas possibly considered adjacent to or in the potential vicinity of the work area.
2. Damage

a. Each Contractor and Subcontractor shall be held responsible for and shall pay for all damage to or soiling of other work caused by its work or operations.

b. Cover or otherwise protect finished work from activity of occupants and/or of other trades.

D. Utilize adequate engineering controls. Engineering controls may include, but are not limited to:

a. source containment

b. isolation barriers

c. pressure differentials

d. dust suppression

e. high efficiency particulate air (HEPA) vacuuming and filtration.

E. Light: Provide adequate illumination throughout mold remediation project.

1. Maintain minimum 80 footcandles (861 lx) on work surfaces.

F. Ventilation: Provide adequate ventilation. This a project-specific determination.

G. Conditions Conducive to Microbial Growth: If temperature and relative humidity readings indicate conditions that are likely to promote microbial growth, remediators should take steps to control the environment.

H. Security:

1. Post clear signage at all perimeter surfaces

2. Ensure that site and on-site supplies are secured, locked, chocked, powered down and protected against accident, intrusion, vandalism, and curiosity.

2 PRODUCTS (Tools, Materials & Equipment or TME) FOR MOLD REMEDIATION

2.01 MATERIALS (Basis of Design)

A. SECTION 2 OF THIS SPECIFICATION IS FOR ASSISTING MOLD REMEDIATION WITH:

1. Helping match remediation task with specific T-M-E products (Tools, Materials, Equipment[xxii]), which supports:

   a. Estimating (including when using property estimating software, e.g. Xactimate, Symbility, Encircle[xxiii])

   b. Specification/Workplan Development (including Preliminary Determination (PD), Restoration Work Plan (RWP) Development, as per IICRC S520), and other elements of Scope

   c. Accurate and optimized billing (especially property estimating software, see Estimating above)

   d. Training of mold remediation field team members

B. All specific products in this section must be accompanied by the term “or equal”.

1. Approved Equal or "or equal"[xxiv] means any equipment or material which is approved by the Architect/Engineer/Prime or Owner as equal in quality, durability, appearance, strength, design and performance to the equipment or material originally specified.

2.02 TOOLS, MATERIALS & EQUIPMENT

A. TME Safety/Training:

1. Equipment, tools, and materials used for remediation shall conform to safety and inspection requirements of local, state, provincial, or federal laws, and regulations.

2. Remediators shall follow manufacturer instructions and label directions for the safe and proper use of equipment, tools, and materials.

3. Remediators should have specialized training in using and operating equipment, tools, and materials during mold remediation work.
    a. Such training can be provided by product manufacturers, or by training providers accredited by the appropriate entity for mold remediation and related disciplines.

B. Inspection/Monitoring Tools: (e.g., thermo-hygrometers, infrared (thermal imaging) cameras, and moisture meters)
    1. When inspecting and monitoring remediation projects, the same tool should be used in the same general location to allow consistent data collection and to promote more accurate project monitoring and post-remediation evaluations.
    2. Maintaining air pressure differentials and containment integrity should be monitored and managed regularly (e.g., manometer, containment poly direction “billowing toward or away”, indicator smoke). Data logging instruments (such as manometers) are recommended because of increased accuracy in recordkeeping.
    3. Remediators should use inspection/monitoring tools to measure and record before and during the remediation project:
        a. Subsurface & Topical Surface moisture content
            i. Suspect areas identified with a thermal imaging camera should be verified by other means, such as using a moisture meter.
            ii. Observations of topical moisture should be logged
        b. Temperature
        c. Relative Humidity

C. Air Filtration Devices (AFDs) and Negative Air Machines (NAMs)
    1. Air filtration devices should be considered for mold remediation projects, based on factors such as:
        a. NAMs: Create pressure differentials (e.g., negative air machine installed to create negative or positive pressure differentials); or,

b. AFDs: to remove airborne contaminants (e.g., air scrubbing).

2. AFDs should be:
   a. Performance leak tested
   b. Equipped with a pre-filter and HEPA filter. Remediators should be prepared to change:
      i. prefilters frequently and with the unit running
      ii. Change HEPA filters by removing the AFD from the jobsite to an area that would not be adversely impacted by a release of contaminants;
3. Remediators should manage the exhaust:
   a. It is recommended to measure the exhaust (cfm[xxv]) using an anemometer to ensure airflow is within manufacturer's specifications
   b. To assure the AFD exhaust air does not put individuals at risk of exposure to airborne hazards generated from the workspace;
4. Remediators should:
   a. inspect for proper operation when the HEPA filter is changed, or when dropped, damaged, operated in a wet or humid environment, repaired or otherwise mishandled;
   b. thoroughly HEPA vacuum the AFD and damp wipe on all accessible surfaces including the intake prior to PRE/PRV or removing containment barriers; and
   c. seal the intake before moving the AFD from the work area

D. HEPA Vacuums: Remediators should use HEPA vacuums when performing remediation with proper procedures and precautions, including:

1. inspect and maintain HEPA vacuums at the beginning of each shift
2. seal, bag, or clean HEPA vacuums and accessories for transport to prevent cross-contamination

3. service HEPA vacuum in area where the release of contaminants can be controlled
4. replace vacuum bags according to manufacturer's specifications
5. avoid using shop-type or standard consumer vacuums for mold remediation.

2.03 C-A-C (CLEANERS, ANTIMICROBIALS & COATINGS)

A. Client Authorization for Use [ALL LIQUID PRODUCTS]:

1. The remediator must obtain informed consent before using any chemical products. Informed consent should include provision of Safety Data Sheets for cleaners, antimicrobials, and biocides.
2. The remediator must create and retain documents reflecting customer approval for the use of chemical compounds.

B. CLEANERS

1. CLEANER FOR MOLD-REMEDIATION (AND BIOFILMS,ORGANIC CONTAMINATION,BIOHAZARD, etc)
   a. Sentinel 300 EnviroWash Peroxide Cleaner
   b. Sentinel 300 EnviroTowels With Hydrogen Peroxide
   c. Sentinel 302 High Strength Ready-To-Use Peroxide Cleaner
   d. Sentinel 576 Enzyme Cleaner/Odor Eliminator
   e. Sentinel 586 Fresh Scent Enzyme Cleaner & Odor Eliminator

2. USE OF DISINFECTANTS AS CLEANERS - Antimicrobial products can be used as cleaners when:
   a. The product label (registered by/with the pertinent AHJ) includes directional language regarding if-and-how the antimicrobial may be used as a surface cleaner
   b. The manufacturer permits use of the antimicrobial as a cleaner

c. The manufacturer label states, or the manufacturer will disclose on request, the specific active ingredient(s) that imbue the antimicrobial with expected cleansing ability for the type of contaminants encountered in mold remediation.

d. "Cleans as it disinfects" or similar marketing claims, are not applicable to mold remediation. For remediation, cleaning must be a separate operation, as disinfecting/sanitized of 99.9+% antimicrobial kill performance is predicated on "pre-cleaned surfaces.

e. As a Cleaner: Sentinel 305 Hydrogen Peroxide Disinfectant may be used to clean, followed by a wholly separate subsequent step to kill mold (or other microbes). As stated on the USEPA-registered label for *Pre-Cleaning Instructions*:

I. Remove visible solids and gross filth before wet cleaning.

II. Apply product to hard, non-porous soiled surfaces using a sprayer, sponge, brush, mop or rags/towels.

III. Wipe with a clean, rag, sponge, or towel.

IV. Rinse food contact surfaces with potable water.

V. Allow to air dry or wipe with a clean, absorbent cloth or sponge.

3. MISTING [FOGGING] (for Dust and Particulate Control purposes)

a. *Misting* is preferred term instead of *fogging* for dust control and knockdown

b. Misting should only be conducted as an adjunct to proper cleaning.

c. Misting with EPA-registered disinfectants is discouraged for fungicidal use (i.e., mold killing), especially in lieu of proper source removal and/or moisture mitigation, even when there may be instructions for such use on the product label.

C. ANTIMICROBIALS

1. EPA-REGISTERED ANTIMICROBIAL DISINFECTANT/SANITIZER

a. Sentinel 305 Hydrogen Peroxide Disinfectant[xxvi]

I. USEPA REGISTRATION NUMBER: 96165-1
II. USEPA ESTABLISHMENT NUMBER: 96165-MN-1
III. DEODORIZER: Sentinel 305 Hydrogen Peroxide Disinfectant deodorizes odors commonly found on Restoration projects by killing odor causing bacteria.
IV. CLEANER (see above): Surfaces must be absent of visible soils and must be pre-cleaned prior to disinfection.
V. FUNGICIDAL: (See Section 3 below)
VI. USE IN REMEDIATION: This product is compliant with the following industry standards for professional restoration and remediation, when used properly:
i. STRUCTURAL FIRE: BSR-/IICRC S700 Standard for Professional Fire and Smoke Damage Restoration
ii. BIOHAZARD: ANSI/IICRC S540 Standard for Trauma & Crime Scene Cleanup
iii. WATER/FLOOD DAMAGE: ANSI/IICRC S500 Standard for Professional Water Damage Restoration
VII. Secondary/Service Container Labels – 4″x5″, 4 Per Page
VIII. [RESERVED]

2. MISTING [FOGGING] (for Antimicrobial purposes)

a. For Antimicrobial tasks, do not mist (or fog) instead of direct application of sanitizers and disinfectants, such as by pump sprayer, airless sprayer, brush, mop, rag.

b. With EPA-registered disinfectants, any misting (or fogging) instructions must appear on the approved label, and be followed explicitly.

D. POST-REMEDIATION TREATMENTS

1. Stain Removers

2. Coatings

a. Mold-Resistant Coatings[xxvii] (MRC) – See end of Section 3 Execution, as well.

I. Sentinel 24-7 Premium Interior/Exterior Mold & Mildew Resistant Coating – White

II. Sentinel 24-7 Premium Interior/Exterior Mold & Mildew Resistant Coating – Clear

III. Sentinel 24-7 Zero Mold Resistant Coating – White

IV. Sentinel 24-7 Zero Mold Resistant Coating – Clear

V. Sentinel 24-7 Zero High-Build Mold Resistant Coating – White

VI. Sentinel 24-7 HVAC Mold & Mildew Resistant Coating –White

VII. Sentinel 24-7 Zero Mold Resistant Waterproofing Sealant - White

VIII. Complimentary coatings (see end note)[xxviii]

2.04 MIXING

A. If using optional catalysts or mixtures for cleaners and/or odor counteractants, accomplish job mixing and application only when acceptable to the Architect/Engineer.

B. Mix components only in containers furnished or approved in writing by the Manufacturer. Also, see Sec. 1 Delivery, Storage and Handling re: container management.

C. Thinning or diluting of these products is not permitted, unless expressly instructed in writing in advance by the manufacturer

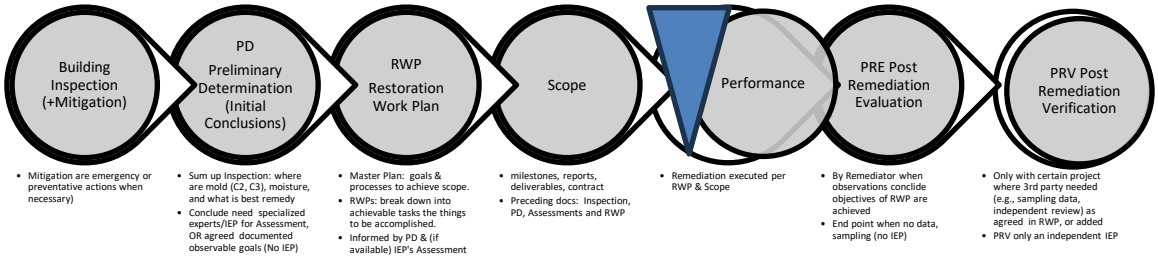
2.05 RECORDKEEPING REQUIREMENTS FOR TME

A. General Equipment Logs: Remediator's must create and maintain, per the IICRC S520 Mold Remediation standard, equipment logs or similar documents that include a description of equipment and supplies used on the project (including biocides and antimicrobials), the quantity and length of time used (where applicable) and other relevant information

B. Negative pressure recordkeeping: Remediators shall create and retain records of pressure readings in and out of containment (if negative pressure is being used);

C. Equipment related to Health & Safety: The remediator should keep documentation of project safety and health elements (e.g., safety and health plan, occupant communication and worker “Right-to-Know” information; safety meetings; hazard signs; PPE; a general description of the nature and location of containment, negative air machines, air filtration devices, and the like, used on the project)

3 EXECUTION[xxix]



3.01 CONDITION 1, 2, 3

A. Completed work will satisfy the following IN THE WORK AREA:

1. Clean (free of dirt, dust, debris), and,
2. Dry, and,
3. no fungal malodor outside the norm for building type and location.

B. Per the S520, completion can be described as:

1. Elimination of Condition 3 (visible mold);
2. Cleanliness sufficient to reasonably presume elimination of Condition 2 (residual fungal fragments, spores, etc.);
3. Return to Condition 1 (normal fungal ecology)

3.02 PRE-WORK DETERMINATION PROCESS

A. The standard-of-care for mold remediation outlines a 4-5 step pre-work process to proceed from initial observations to an agreed upon workplan, a scope of work, and other agreements such as contracts necessary before activity begins. The steps are:

1. Building Inspection (+ Mitigation)
2. Preliminary Determination
3. Assessment (dependent on project factors)

4. Restoration Work Plan
5. Scope of Work

B. The professional mold remediation project will only succeed when these steps are followed and documented because this is the process that both identifies the present unacceptable conditions, and then clearly states the objectives that must be satisfied for the project to be considered complete.

3.03 BUILDING INSPECTION

A. The Remediator should conduct an inspection. "An inspection is the gathering of visual and historical information regarding the past, present, and potential future mold and moisture condition of the building, system, contents, or area in question."[xxx] A physical, in-person walk-thru is a minimum, and duration must be permitted to the extent deemed necessary by the remediator.

B. Inspection & Mitigation: Remediators should conduct an Inspection before commencing work, but some mitigation services may be initiated before or during the assessment of conditions or performance of remediation processes (i.e., emergency actions, preventative measures to stabilize, avoid damage worsening).

1. Inspection should precede all but the most drastic emergency mitigation, regardless of prior evaluations by other parties.
2. Some mitigation services may be initiated before or during inspection of conditions (or Assessment by an IEP). These mitigation services should be conducted in accordance with a separate written agreement (e.g., contract for emergency mitigation, work plan for mitigation [all such agreements should be incorporated into the overall project scope]).

C. The findings of a remediator's Inspection should be legible and professionally documented. Note that the standard of care makes a remediator responsible for having their Inspection available to others associated with the mold remediation project. The remediator should also retain this documentation among the records of the project.

D. Inspection Components: There are commonly 12 key components to a professional inspection, including, but not limited to:

1. Building History: Consult with the Owner, Owner's Agent regarding whether building history indicates past and/or present evidence of water intrusion or migration, including factors that could predict future mold. Obtaining a building history and performing an inspection assists in locating concealed mold contamination.

2. Occupant information: Collect and possibly act upon occupant information that could influence occupant security, structure comfort & functionality. Note that occupant health information may result in involvement of specialized medical expertise (see 3.03 ASSESSMENTS, below)

3. Mold Growth (Condition 2 & 3): Visible mold growth (Condition 3) contamination can be active or dormant, visible or concealed/hidden, or it can be in the form of settled spores, fragments, or other fungal components (Condition 2), or a combination thereof.

    a. Document visible mold growth

    b. Approximate concealed/not visible growth. Discuss with the project team when professional judgment indicates that destructive testing may be necessary. Implement source controls to limit and reduce the spread of contaminants. All actions shall be consistent with applicable regulations.

4. Abnormal Moisture: Active water intrusion or condensation[xxxi]:

    a. Identify pathways of water intrusion: It is recommended that remediators have a basic knowledge of building science as it applies to moisture intrusion and air pathways.

    b. A building moisture inspection should be performed and documented in accordance with the latest edition of ANSI/IICRC S500, Standard for Professional Water Damage Restoration. Survey subsurface moisture content, and use the information to create a moisture map that can be shared with the project team.

c. Topical moisture, if excessive, should be identified, documented. Visible droplets, including beading moisture, are not normal in most indoor environments.

5. Water Stains
6. Structural Damage
7. Structure Defects
8. HVAC operation
9. Odors
10. Construction materials and assemblies
11. Construction type and methods
12. Hazardous materials survey (in work area minimum): Identify suspect materials for evaluation by a qualified (such as licensed for asbestos) expert's official inspection.

3.04 PRELIMINARY DETERMINATION

A. After the initial Building Inspection is completed, remediators should develop a preliminary determination (PD) which is the initial set of conclusions based on the information and observations collected by the inspection that it identifies, which can include:

1. locations or suspect locations of actual or potential mold growth (Condition 3)
2. assumptions about possible Condition 2 areas;
3. known or suspected areas of moisture intrusion; and,
4. the need for assistance from other specialized experts such as an IEP to conduct assessments, collect environmental samples for analysis or to perform necessary services beyond the expertise of the remediator [See 3.04 ASSESSMENTS].

B. A preliminary determination (PD) should be in writing and made available by the remediator.

C. The remediator's initial conclusions present a decision stage in the project regarding the type(s) of information required to complete the project with satisfaction for all elements of the project team. The choice presented is:

1. A project where independent clearance is decided upon, often based upon

   a. data-supported confirmation of pre-project contamination,

   b. data-supported confirmation at close-out that remediation goals have been achieved preliminary determination (PD), or both,

   I. IMPORTANT REMINDER: The remediator cannot confirm Condition 2 by visual inspection alone.

   II. Condition 2 can only be confirmed using sampling and analytical methods. When confirmation is necessary or required, it is recommended that Condition 2 be independently confirmed by an IEP. See ASSESSMENTS].

2. Or a project where the project team agrees that professional judgment and inspection are enough that both goals and processes can be formulated upon non-quantifiable observations. Stated differently, the remediator can observe Condition 3, and assume a Condition 2 exists based on a combination of visual observations and other available data.

3. In this case an Assessment by an IEP is typically deemed unnecessary, however a document that includes the RATIONALE or JUSTIFICATION should be prepared by the Remediator, after full disclosure - agreed on by consensus, and will then, along with the Building Inspection, form the basis of the RWP (Restoration Work Plan) [See RESTORATION WORK PLAN].

D. The RATIONALE or JUSTIFICATION: *The majority of mold remediation projects are relatively simple, and the involvement of an IEP is not typical, let alone mandatory.* Since mold contamination cannot always be seen by the unaided eye, the remediator should justify certain cleaning and contaminant control measures based on the informed and reasonable belief that certain surfaces adjacent to mold growth must be included in

the work plan (RWP). This is called: assumption of Condition 2. This is the RATIONALE: the Remediator's assumptions and justifications that should be communicated in writing to the client, and which should include (but not limited to) three components[xxxii]:

1. Cost/benefit of retaining an independent IEP (and provide reference to the Limitations, Complexities, Complications and Conflicts (LCCC) section of the IICRC S520 Standard); and,
2. Precautionary principles (doing the work safely, risk management factors)
3. Technical justifications (for the work area, the resulting containment, the anticipated timeline; and building conditions such as building and ventilation mechanics and operations, occupant conditions such use of the area, a cost-benefit analysis of remediation and analysis, and other supporting evidence.

3.05 ASSESSMENTS (Independent Investigation by an IEP – Indoor Environmental Professional)

A. Assessments are performed by an Indoor Environmental Professional (IEP), are performed prior to start of remediation activity, and should not be confused with:
   1. Building Inspection or Preliminary Determination - conducted by mold remediator
   2. Investigation - a term used in mold remediation, but not defined by the IICRC S520 Standard of Care
   3. The examination by trained (and licensed) experts to identify hazardous materials [See SEPARATE ASSESSMENT FOR HAZARDOUS BUILDING MATERIALS}

B. An Assessment includes the evaluation of data obtained from a building history and inspection (including the Remediator's Building Inspection) to formulate an initial hypothesis about the origin, description, location and extent of Condition 2 or 3.

1. If necessary, a sampling plan is developed, and samples are collected and sent to a qualified lab for analysis.
2. The subsequent data is interpreted by the IEP. Using the understandings of the cause and location of the mold contamination, the remediator or other qualified professional may better advise development a Remediation Work Plan (RWP).

C. An assessment for mold remediation is not required for all mold remediation projects.

1. In circumstances where an entire building is fully involved with visible, active growth mold contamination, engagement of a separate consultant may not be necessary.
2. In circumstances when the scope of work can be determined without sampling or independent assessment, engagement of a separate consultant may not be necessary.

D. There are situations where an assessment performed by an IEP/independent third-party is highly recommended.

1. When confirmation of Condition (1, 2, or 3) is requested.
2. When health effects potentially impacting occupants have been attributed to mold, the remediator should inform their customer that an independent assessment by a qualified IEP (see Indoor Environmental Professional).IEP is required by the industry standard of care.
   a. The inspection process is not intended to be an exposure assessment, and as such is not intended to address occupant health complaints or risks.
   b. If occupants' express health concerns or have medical questions during the inspection process, remediators should instruct them to seek advice from qualified healthcare professionals.

E. Independence of Assessment: Unless waived by the Owner or Owner's Agent in writing, an IEP who is employed to assess should have no business affiliation with the remediator.

3.06 SEPARATE ASSESSMENT FOR HAZARDOUS BUILDING MATERIALS:

A. This specification does not specifically address the protocols and procedures for restoration, remediation, or abatement when potentially hazardous, regulated materials are present or likely to be present in water-damaged or contaminated structures, systems, and contents.

1. Potentially hazardous, regulated materials include but are not limited to asbestos, lead, respirable crystalline silica, arsenic, mercury, polychlorinated biphenyls (PCBs), pesticides, fuels, solvents, radiological residues, and other chemical and biological contaminants.

2. U.S. EPA's current DLCL (dust lead clearance levels) are 10 µg/ft² for floors, 100 µg/ft² for window sills and 400 µg/ft² for window troughs.[xxxiii]

3.07 RESTORATION WORK PLAN (RWP)

A. The findings of a remediator's Inspection, and Preliminary Determination are professionally incorporated into the Restoration Work Plan (RWP).

B. The standard of care defines an RWP: "An outline of a set of goals and processes by which a team and/or person can accomplish those goals [remediation] and offering the reader a better understanding of the scope of the project. ***RWPs break down a process into small, achievable tasks and identify the things to be accomplished***."[xxxiv]

C. The RWP should consider 12 criteria:

1. containment;
2. pressure differentials;
3. hazardous or regulated materials;
4. worker safety and health provisions;
5. contents;
6. contaminated material removal and handling;
7. detail cleaning;
8. disposal;
9. occupant requests for special or limited procedures;

10. post-remediation evaluation and internal quality controls;
11. post-remediation verification requirements from an IEP and/or government regulations; and
12. containment removal.

D. When an Assessment is being conducted by an IEP, then the information available should be incorporated into and or accompany the RWP.

E. The remediator preparing the RWP ensures it is legible and professional.

F. The remediator is responsible for having their RWP available to others associated with the mold remediation/project team.

G. The remediator will utilize the RWP as a checklist at the end of a mold remediation project to compare work completed versus goals specified at start of work (a Post-Remediation Evaluation or PRE).

H. The mold remediator will retain the RWP among documentation among the records of the project.

3.08 SCOPE OF WORK

A. The Standard of Care defines the term Scope: “the area in an agreement where the work to be performed is described.”.

1. The SOW should contain any milestones, reports, deliverables, and end products that are expected to be provided by the performing party.
2. The SOW should also contain a timeline for all deliverables.

B. The remediator provides the Inspection, Preliminary Determination, Assessments (if any), and Restoration Work Plan (RWP) for inclusion in the Scope.

3.09 STRUCTURAL REMEDIATION

A. WORKSITE PREPARATION (see also JOBSITE CONDITIONS)

1. The first responsibility of the remediator is to ensure the safety of workers and occupants.

a. If structural components, such as those that are load bearing, have been compromised and require removal, a qualified structural engineer shall be involved in decisions to remove such components.

b. Coordinate commencement of work with owner so as not to cause inconvenience to the facility, or when present in adjacent spaces, any occupants.

c. Post notices in conspicuous areas multiple days in advance of beginning work on specified phase (as agreed to with Owner or Owner's agent), noting start date, any instructions to occupants and business phone number. Utilize signage as recommended or required by local ordinance and industry standard.

2. Deactivate and isolate HVAC/&R systems before commencing structural remediation work.[xxxv]

3. Temperature and relative humidity readings taken before and during a project should be recorded to document environmental conditions inside and outside of the remediated space before and during the project. If readings indicate conditions that are likely to promote microbial growth, remediators should take steps to control the environment.

4. It is recommended that verification of the required pressure differential start before any disturbance of materials within the contaminated area and continue until after PRE and/or PRV confirms all contamination has been removed.

B. HAZARDOUS MATERIALS IN STRUCTURES:

1. Regulated materials, such as lead or asbestos take precedence over mold remediation, and they shall be addressed according to federal, state, provincial, and local laws, and regulations. This Specification cannot provide definitive guidance on the regulatory issues involved

with the multiple hazardous materials which are frequently encountered in structures.

2. There are many hazardous materials which can be present in structures where restoration contractors may be asked to remediate mold. Common hazards can include, but are not limited to, asbestos, lead, mercury, and PCBs.

3. Determination as to whether these or other potentially hazardous materials are present, may have been conducted by a consulting professional, certified industrial hygienist, or other IEP. The remediator should ask about whether such an evaluation was conducted, and what potentially hazardous materials were identified, if any.

4. The remediation contractor should not assume that hazardous materials are not present.

3.10 WET (LIQUID-ASSISTED) CLEANING FOR MOLD REMOVAL

A. General Cleaning Practices for Mold Remediation:

1. Always test an inconspicuous area(s) for color stability and effect on finish appearance when a concern or uncertainty exists concerning the appearance of surfaces post-cleaning that will be visible to occupants after project completion.

   a. For example, cleaners (and antimicrobial disinfectants/sanitizers) that utilize oxidizer chemistry are prone to changing surfaces with a varying amount of bleaching-like (whitening, brightening, color fading) activity. Hydrogen Peroxide cleaners are preferred over bleach.

   b. Avoid using bleaches (sodium hypochlorite) for mold remediation activity other than stain removal after PRE/PRV.

2. Account for additional moisture control when using all cleaners for mold removal, especially those that require a rinse. Cleaning, however, is a topical activity and generally does not add to subsurface moisture content on most surface materials.

   a. Surfaces with anticipated food contact should be rinsed.

B. Recommended Cleaning Products (from Section 2 – Basis of Design:

a. Sentinel 300 EnviroWash Peroxide Cleaner

b. Sentinel 300 EnviroTowels With Hydrogen Peroxide

c. Sentinel 302 High Strength Ready-To-Use Peroxide Cleaner

d. Sentinel 576 Enzyme Cleaner/Odor Eliminator

e. Sentinel 586 Fresh Scent Enzyme Cleaner & Odor Eliminator

C. General Steps in Cleaning:

1. Remove visible solids and gross filth before wet cleaning.
2. Apply product to hard, non-porous soiled surfaces using a sprayer, sponge, brush, mop or rags/towels.
3. Clean from top to bottom; farthest point working backwards to point of entry/egress
4. Wipe with a clean, rag, sponge, or towel.
5. Rinse food contact surfaces with potable water.
6. Allow to air dry or wipe with a clean, absorbent cloth or sponge

D. Contaminants Other Than Mold:

1. All surfaces to be remediated should be properly prepared in that preexisting bulk contamination should be removed: it should be clean and free from sand, clay, grease, dust, salt, soot, or other foreign matter.

2. If necessary, oil, grease and similar surface contamination should be removed with any manufacturer-approved degreasing surface cleaner which is free-rinsing and does not require a neutralizer. Oils and grease in sufficient quantity that residues are tangible to fingertip touch can provide a hydrophobic barrier behind which microorganisms can evade cleaning and antimicrobial processes.

3. All failing (loose, scaly, or flaking) paint must be removed back to a sound substrate before any microbial disinfection or cleaning is attempted.

E. Cleaning Challenges:

1. Irregular profile surfaces can provide locations for mold and particulates to escape cleaning actions, or microbial treatments

    a. Consider a cleaning procedure that involves a lifting dynamic (such as hydrogen peroxide) foaming cleaners for surfaces, or absorbene (or similar for wallcoverings or contents).

    b. Consider proposing a mold-resistant coating to isolate contaminants. Note this is a Deviation from the Standard of Care, and coatings should be applied after the PRE or PRV, unless decided otherwise and documented by the project teams

2. Additional tools and processes may be required for difficult to access and inaccessible areas.

3.11 FUNGICIDAL USE IN MOLD REMEDIATION OF ANTIMICROBIALS

A. Fungicidal Label directions for Sentinel 305 Hydrogen Peroxide Disinfectant

1. Pre-clean all surfaces prior to treatment.
2. Evenly apply to hard, non-porous surface to be cleaned. Make sure to wet surface thoroughly.
3. Ensure surface remains visibly wet for 10 minutes.
4. Rinse food contact surfaces with potable water.
5. After the completed contact time (10m), wipe surface dry or allow to air dry.

3.12 COMPATIBILITY CONCERNS WITH CLEANING AND USE OF FUNGICIDES ON COMMON CONSTRUCTION MATERIALS

a. Copper Pipe: Extended contact with or immersion in alkaline liquids can pit copper, but typical remediation will not involve exposure of that intensity.

b. CPVC Pipe:

I. Cleaners: Incidental undesired contact between cleaners and antimicrobials with this type of plumbing can be addressed by wiping with a rag and clean water.

II. Antimicrobials:

III. Coatings: the application of fungicidal and mold resistant coatings to these pipes is often not necessary because once cleaned, the CPVC does not provide a nutrient-source and substrate hospitable to future fungal growth.

c. Insulated Electrical Wire: Check with wire manufacturers to ascertain that no problems are foreseeable with application of water-based, non-corrosive cleaner or coating products to the exterior surfaces of properly installed, insulated and undamaged Romex-type wire

d. PEX and similar: Check with flexible pipe manufacturers to ascertain that no problems are foreseeable with application of water-based, non-corrosive cleaner or coating products to the exterior surfaces of properly installed and undamaged flexible plumbing components

3.13 POST-REMEDIATION EVALUATION

A. After completion of cleaning and disinfecting/sanitizing, the remediator should conduct a Post-Remediation Evaluation (PRE) to determine that tear-out, drying, cleaning, antimicrobial application, and other aspects of remediation prior to coating application have been completed.

B. The PRE should be conducted implementing internal quality control procedures.

C. The PRE can consist of, but is not limited to: visual inspection, olfactory observations, laser particle counting, and moisture measurements. PRE does not provide numerical confirmation of remediation.

D. The PRE should determine that the structures and systems in the scope of work are free of contamination, debris, dust, unrestorable materials, malodors, and visible mold.

E. If the PRE indicates that the completion of these phases of remediation are questionable, recleaning is recommended.

F. Remediators should document all aspects of the PRE.

3.14 POST-REMEDIATION VERIFICATION

A. Post-Remediation Verification (PRV) is conducted by an IEP if requested by the Owner or Owner's Agent after the remediator has advised that the PRE is completed.

B. The PRV is a verification that a structure, systems, and/or contents have been returned to normal building conditions for the project site (see IICRC Standard and Reference Guide for Professional Mold Remediation, 2008 [Standards Section 12.2.11, page 49: Reference Guide: Chapter 11, page 178].

C. The PRV should be conducted by an independent IEP.

D. The PRV should not be conducted by the remediator.

3.15 POST-REMEDIATION TREATMENTS – these services commonly provided by remediators should only be provided after all MIPs (including IEPs, if involved) are satisfied that Condition 1 has been achieved (clean [free from dust, dirt, and debris], dry (typical of that surface) and free from malodors (microbial). This is also referred to as NFE (Normal Fungal Ecology). Use of stain removers, or use of mold-resistant coatings (MRC), prior to PRE (PRV) can be considered but only as a properly documented and agreed upon deviation from industry standards and this specification.

A. Stain Removers

1. Mold-stains present after cleaning, negatively affecting intended appearance of the final project, can be addressed, but as a separate scope of work.

2. Discoloration (e.g. bleeding stains) is generally not an issue when not visible to occupants (e.g. cavity/stud wall).

3. Mold stain specific stain removers formulated with hydrogen peroxide or sodium hypochlorite can be effective in removing stains .
4. Mold-Stain Removers are never to be utilized in lieu of proper use of cleaners and antimicrobial disinfectants
5. Sentinel Stain-Removing Cleaners (with Hydrogen Peroxide): [from Section 2 – Basis of Design]
   a. Sentinel 300 EnviroWash Peroxide Cleaner
   b. Sentinel 302 High Strength Ready-To-Use Peroxide Cleaner
6. Avoid hydrogen peroxide stain removers:
   a. Containing more than 8% hydrogen peroxide. Among other concerns (e.g., collateral surface damage, worker skin discoloration), this level of peroxide triggers government transportation restrictions that complicate logistics
   b. Are formulated with very high levels of peroxide to destructively exfoliate surfaces, rather than clean
7. Consider stain removers that via oxidation reduce “elbow-grease” labor because lifting (foaming, effervescing) ingredients transform from a liquid into a gas when contacting organic contaminants. The escaping oxygen lifts embedded discoloration, and the detached residues are easier to clean.
8. When using stain removers that are formulated with oxidizers, test on an inconspicuous surface. Metals may react poorly, especially brass and copper (See COMPATIBILITY above).

B. Mold-Resistant Coatings (MRCs) aka Sealers, Encapsulants

1. Purpose of MRCs: MRCs (Mold-Resistant Coatings) are indispensable to reduce mold growth post-remediation. The way MRCs work is simple, chemical and mechanical: Spores land on the paint-like dry coating, and attempt to take root, but the MRC includes chemistry inhospitable to mold colonization.

2. Mold-Resistant Coatings is the preferred term in the industry's IICRC S520 Standard (Mold Cleaners, Antimicrobial Chemicals and Coatings as Remediation Tools, 4th Edition, 2025, pp 25-28)

    a. Sealer is a usable term, but can be confused with odor sealers used in fire damage restoration.

    b. Encapsulation or encapsulants for mold-remediation can be confused with encapsulation of asbestos or lead-based paint. Moreover, the asbestos and lead usage implies management of a hazard in place. The goal of mold remediation is removal of the mold to the extent possible.

3. The best practice in professional mold remediation (and as stated in the IICRC S520 Standard) is that MRC application should only proceed after consensus among the MIPs that:

    a. Condition One (or Normal Fungal Ecology) has been achieved

    I. Documented by the PRE prepared by the remediator

    II. Documented by a PRV prepared by an IEP (when such a third-party is involved)

    b. Containment, engineering controls, site access restrictions, per the S520 Standard should be maintained in place through the PRE/PRV process. This can be advantageous to the remediator applying and MRC as cleanup from coating application, such as mist from airless paint sprayers can be minimized.

4. Sentinel MRCs (Mold-Resistant Coatings) referenced in this subsection (also listed in Section 2 – Basis of Design, above):

    I. Sentinel 24-7 Premium Interior/Exterior Mold & Mildew Resistant Coating – White

    II. Sentinel 24-7 Premium Interior/Exterior Mold & Mildew Resistant Coating – Clear

    III. Sentinel 24-7 Zero Mold Resistant Coating – White

    IV. Sentinel 24-7 Zero Mold Resistant Coating – Clear

V. Sentinel 24-7 Zero High-Build Mold Resistant Coating – White

VI. Sentinel 24-7 HVAC Mold & Mildew Resistant Coating –White[xxxvi]

VII. Sentinel 24-7 Zero Mold Resistant Waterproofing Sealant - White[xxxvii]

5. SENTINEL 24-7 ZERO and all the Sentinel coatings for Mold Remediation meet or exceed the recommended requirements in the IICRC S520 Standard (see Subsection 8 below).

6. Surface Preparation – discussion is generally unnecessary as mold remediation inherently results in surfaces that arre abnormally clean. If a painter would normally prime[xxxviii] (e.g., to prevent future rust and stains) that can be incorporated by the specifier or project manager, and should be discussed by the MIPs when reviewing the RWP before start of work. Discoloration (e.g. bleeding stains) is generally not an issue when not visible to occupants (e.g. cavity/stud wall).

7. General Application of MRCs

   a. Apply in 1-2 coats, using best painting practices to provide a continuous dry film without skipped areas or holidays,

   b. Brush or Roller: use a 90° cross-hatch (3/8” nap)

   c. Airless Spray: use double x-hatch for airless spray

   I. Sample: Titan 440X or equal.

      i. 2500 psi

      ii. tip orifice .015-.019

      iii. fan 3-5” (15-25 cm).

   d. Coverage is dependent on the porosity and profile of the surface. Estimate 150-300 sq. ft. / gal.

8. MRCs Four Performance Criteria:

   a. For guidance on what MRC performance data should be evaluated by restorers, Chart 1 is provided in the IICRC S520

standard, and there are four key qualifiers that should be deliverable:

I. Fire Testing: prove negligible support of flame or generation of smoke

II. Permeability: provide data on how well the MRC allows moisture movement; avoids causing condensation

III. Air Pollutants: demonstrate very low VOCs (Volatile Organic Content)

IV. Prevent Mold Growth: No Mold Growth: Even when applied to wood, and exposed to mold, a food source, and ideal conditions (temp, humidity) for 28 days.

b. SENTINEL 24-7 ZERO and all the Sentinel coatings for Mold Remediation meet or exceed the recommended requirements in the IICRC S520 Standard

Using tests developed by ASTM International, this grid provides basic guidance on how a remediator, and their client can evaluate the suitability of a coating, and to compare coatings available.

Attribute	Test Method	Recommended Performance
No increase in fire risk	ASTM E84 Standard Test Method for Surface Burning Characteristics of Building Materials	Class "A", (no or minimal contribution to Flame Spread, Smoke Development
Surfaces can breathe (Water vapor is not trapped causing condensation)	ASTM D1653 Standard Test Methods for Water Vapor Transmission of Organic Coating Films	Breathes at a rate of at least 2 Perms (A vapor barrier is <1 Perm)
Does not exceed low VOC requirements	ASTM D6886 Standard Test Method for Determination of the Weight Percent Individual Volatile Organic Compounds in Waterborne Air-Dry Coatings by Gas Chromatography	Less than 100/grams per Liter
Resist future mold growth on or in the coating film	ASTM G21 Standard Practice for Determining Resistance of Synthetic Polymeric Materials to Fungi ASTM D 3273 Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber	G 21: "0" rating = no growth, or D3273 "0" rating = no growth

Chart 1: Suitability of Coating Chart

Remediators asked to use a coating *should* ask the product manufacturer for documentation that satisfies the performance attributes recommended in Chart 1.

-o0o-

END NOTES

(INCLUDES SUPPLEMENTARY SYSTEM PRODUCTS BY NAME)

This section is provided as a courtesy to the specifier or project designer/manager.

This section may be included or excluded in the project specific specification at their discretion.

---

[i] For Mold Remediation, this is our most complete detail document, including a more exhaustive citation of the construction specifications that this document can interface with easily, can inform "boilerplate" spec frameworks, and /or building project workplans. Section and Subsections in this specification are derived from the MasterFormat system. MasterFormat®, a publication of CSI and CSC, is a master list of numbers and titles classified by work results of architectural, design, construction, and operations processes. It is primarily used to organize project manuals and detailed cost information, and to relate drawing notations to specifications. CSI is the Construction Specifications Institute. CSC is Construction Specifications Canada. The U.S. and Canadian formats were merged into a single format in 1972 (as the Uniform Construction Index, or UCI). For specification information for other nations, such as BSI in the UK, or AUS-SPEC in Australia, contact getinfo@senpro.com

[ii] This specification is in U.S. English. Partial translations may be available. Please contact your Sentinel representative for more information.

[iii] [RESERVED]

[iv] SECTIONS AND SUBSECTIONS THAT MAY ALSO BE CONSIDERED:
00 31 26 Existing Hazardous Material Information (parent for mold/lead/asbestos/PCB information).
02 26 33 Biological Assessment (parent to 02 26 33.13).
02 87 16 Excrement Removal (occasionally relevant for biohazard/Category 3 water jobs that overlap mold scopes).
02 40 00 Demolition and Structure Moving – general demo, often referenced by 02 87 13.33.
07 26 00 Vapor Retarders and 07 27 00 Air Barriers – often referenced in "correct source of moisture" paragraphs (not mold-specific, but key for causation and prevention)
Division 09 (finishes) sections for repainting and re-finishing, where mold-resistant coatings are specified as replacements (e.g., 09 91 23 Interior Painting).
01 74 00 Cleaning or 01 71 00 Construction Cleaning
02 87 10 Microbial Mitigation

[v] Status: Active MasterFormat number under "Available Project Information." Use: For including pre-existing mold survey data, reports, or testing information in Procurement/Contracting requirements and front-end documents.

[vi] Status: Active, but more niche; used where assessment is a distinct professional service scope. Use: IAQ consultant or industrial hygienist investigation, sampling, and reporting distinct from remediation contractor's work.

[vii] Status: Active Division 02 group heading; the parent for 02 51 00–02 55 00 families. Use: Environmental/brownfields site cleanup; mold is usually facility/interior, so mold remediation is more correctly placed under 02 80 00/02 87 00 than 02 50 00.

[viii] Status: Active. Use: Site or surface decon by physical means; mold-specific chemistry and coatings are better kept under 02 87 13, but 02 51 00 and its children can be referenced for methods.

[ix] Status: Active and used; appears in CSI's official list of numbers and titles. Use: High-pressure washing, wet cleaning, and similar surface prep for remediation, including smoke/soot and sometimes mold-stained surfaces. N.B., 02 51 33.19 – Surface Removal Decontamination by

Ultrasound. Status: Active but very infrequently used; highly specialized. Use: Niche applications (e.g., delicate components); unlikely to be part of typical building mold remediation specs.

[x] Status: 02 70 00 exists as "Water Remediation," but it is oriented to site groundwater/surface water, not structural mold. Use: For brownfields and contaminated water work; mold remediation in buildings should not be placed here except for coordination with site-wide remediation phases.

[xi] Use: Parent for 02 81–02 89; includes asbestos, lead, PCB, biohazard, mold, and other facility-based hazards.

[xii] See Sentinel BPE Asbestos Bridging & Penetrating Encapsulant

[xiii] See Sentinel Lead Encapsulant, Sentinel 206 PeroxyStrip Paint Remover, and complete line of lead abatement, lockdown, and dust cleaning products.

[xiv] Status: Active and current MasterFormat section in Division 02 under "Facility Remediation." Use: Umbrella for hazardous biological contamination in facilities; mold remediation sections are sometimes nested under or coordinated with this title. At Sentinel, biohazard specifications are intended for project types included in the IICRC S540 standard.

[xv] Status: Active and used as a sub-subsection of 02 87 13. Use: Procedures for selective demolition, packaging, transport, and disposal of mold-impacted materials, often coordinated with general demo section 02 41 19.

[xvi] Status: Active and used, but somewhat more specialized; not in every project, more common where there is a third-party IAQ consultant or regulatory/insurance driver. Use: Defines post-remediation verification (PRV) sampling, methods, and acceptance criteria, often referencing the assessor's or IAQ consultant's protocol.

[xvii] Status: Active and used as a sub-subsection of 02 87 13. Use: Procedures for selective demolition, packaging, transport, and disposal of mold-impacted materials, often coordinated with general demo section 02 41 19.

[xviii] In CSI MasterFormat, Section 07 19 28 corresponds to "Waterproofing Membrane Repair" under Division 07 – Thermal and Moisture Protection.

[xix] Section 09 97 60 "Mold Retarding Coatings" is a MasterFormat number and title only; CSI does not publish a standard "required" technical spec for it, so specifier uses the Coatings section (sec 2.2/page 25) of the IICRC S520 (ANSI/IICRC S520 -2024 Standard for Professional Mold Remediation, 4th ed) to define the detailed requirements in your project specification by adapting a special- or high-performance-coatings section format. • This sits in the same general 09 96 xx–09 97 xx range as other special coatings (e.g., graffiti-resistant and fire-retardant coatings) and is the logical place to specify application of fungicidal or mold-resistant coatings on interior finishes. Use 09 97 60 for field-applied mold-retarding or fungicidal coatings over walls/ceilings.

• Coordinate with substrate sections (e.g., gypsum board 09 29 00) where the substrate itself is mold-resistant, and keep the coating work in 09 97 60.

• Where you only have cosmetic staining on otherwise clean and dry substrates, you can treat stain-blocking primers or coatings under appropriate finishes sections (e.g., 09 90 00 Paints and Coatings, or 09 97 60 Mold-Retarding Coatings), but the actual "mold remediation" cleaning still belongs in 02 87 13.

[xx] Status: Active HVAC Division 23 subsection used in practice in tandem with mold remediation specs. Use: For IAQ-driven work where duct interiors and components are cleaned and coated as part of a broader mold/IAQ project. Titles vary by master (examples include sections for HVAC duct cleaning and treatment). Use: Paired with 02 87 13 when mold remediation includes NADCA-style duct cleaning and microbial control within air distribution systems.

[xxi] For more information, see https://www.epa.gov/pesticide-registration/labeling-requirements or https://www.osha.gov/laws-regs/standardinterpretations/2017-06-20 . For preprinted secondary use labels from Sentinel, send a request via email to getinfo@senpro.com

[xxii] E.g., can be consumables (specialized liquid cleaning solutions) or new/replacement installed components of building systems, or enhancements intended to be permanent.

[xxiii] ~~Xactimate, Symbility, Encircle are registered trademarks (Verisk, Symbility Solutions, and BASF respectively).~~

[xxiv] The Robinson-Patman Act requires sellers to treat competing customers in a "proportionately equal" manner regarding promotional allowances and services. This means that if a seller offers a promotional benefit to one buyer, they must offer "or equal" (or equivalent) opportunities to all other competing buyers, usually based on the dollar volume or quantity of goods purchased.

[xxv] Cfm: cubic feet per minute

[xxvi] Not for sale or use in CA (State registration pending). Contact Sentinel for updated registration status)

[xxvii] A subset of mold-resistant coatings are fungicidal coatings. These products differ from Mold-Resistant Coatings typically because of an additional characteristic in that when in the wet, just applied state, there is a mold-killing action that can happen when the wet coating may contact residual mold that escaped previous remediation steps (clean, antimicrobial). This a pesticidal claim, and thus fungicidal coatings are EPA-registered and regulated as such.

[xxviii] Sentinel DTM Rust Inhibiting Direct to Metal Primer - White
Sentinel SBP Stain Blocking Primer-White
Sentinel Lead Encapsulant

[xxix] [RESERVED]

[xxx] See the Section 7 Inspection & Preliminary Determination of the S520, 4th ed.

[xxxi] Elevated Moisture Content: moisture correction and control is imperative.

a. For restoration and remediation, the source of the moisture intrusion must be identified and rectified. The building's problems may require services and skilled trades outside of remediation (See Deviation in the introduction section and in the EndNotes) .

b. Using appropriate moisture detection and measuring equipment, a survey of subsurface moisture content (aka moisture map) should be conducted in all substrates, as determined by the professional judgment of the remediator.

c. Topical moisture, if present, should be identified, documented, removed and the cause eliminated. Visible droplets, including beading moisture, are not normal in indoor environments.

[xxxii] See the definition of Assessment in the Definitions section of the S520, 4th ed.

[xxxiii] In January 2021, EPA finalized a rule that lowered the DLCL to 10 µg/ft² for floors, 100 µg/ft² for window sills. DLCL for window troughs remained the same at 400 µg/ft². The new clearance levels became effective March 8, 2021. https://www.epa.gov/lead/hazard-standards-and-clearance-levels-lead-paint-dust-and-soil-tsca-sections-402-and-403

[xxxiv] See the definition of RWP in the Definitions section of the S520, 4th ed.

[xxxv] Ductwork and air conveyance systems are often also contaminated in water-damaged and/or mold infested structures. Isolation of HVAC/&R systems can reduce the likelihood of cross-contamination or recontamination from mold sources in the building ventilation systems. Isolation of previously uncontaminated ductwork is also important as cleaning within these systems can be complex and expensive. Whether to remediate air conveyance systems or structural elements first is a project by project decision, and may vary from area to area in a building. Whichever is chosen first must be protected from cross-contamination during remediation where work is done second. It is beyond the scope of this document to address mold contamination inside air conveyance systems and their components. Contact Sentinel for HVAC-specific guidance.

[xxxvi] The remediation of mold in HVAC systems is beyond the scope of this document (Contact Sentinel for more information)

[xxxvii] The remediation of mold in conjunction with implementation of liquid-applied waterproofing systems is beyond the scope of this document (Contact Sentinel for more information)

[xxxviii] Sentinel DTM Rust Inhibiting Direct to Metal Primer - White
Sentinel SBP Stain Blocking Primer-White