

SECTION 01 56 17 - TEMPORARY SPRAY APPLIED PROTECTION**PART 1 - GENERAL****1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

NOTE: PLEASE BE SURE TO REVIEW THIS DOCUMENT THOROUGHLY AND MAKE NECESSARY ADJUSTMENTS TO THE DOCUMENT, PARTICULARLY THOSE ITEMS 'HIGHLIGHTED' FOR YOUR CONVENIENCE. CONTACT THE MANUFACTURER FOR HELP WITH THE OPTIONS STATED HEREIN.

1.2 SUMMARY

- A. Section includes requirements for temporary protection of non-porous protection of building elements.
- B. Related Requirements:

****SPECIFIER NOTE** Retain subparagraphs below to cross-reference requirements Contractor might expect to find in this Section but are specified in other Sections**

- 1. Section 01 74 19 "Construction Waste Management and Disposal."**
- 2. Section 01 81 13 "Sustainable Design Requirements."**
- 3. Section 01 91 13 "General Commissioning Requirements."**
4. Section 01 10 00 "Summary" for work restrictions and limitations.
5. Section 01 12 00 "Multiple Contract Summary" for responsibilities for temporary facilities and controls for projects utilizing multiple contracts.
6. Section 012100 "Allowances" for allowance for metered use of temporary utilities.

****SPECIFIER NOTE** Coordinate the following for the Project requirements**

1.3 PRICE AND PAYMENT PROCEDURES

- A. Allowances**
- B. Unit Prices**
- C. Alternates**
- D. Measurement and Payment**

1.4 USE CHARGES

- A. Installation, removal, and use charges for temporary facilities to be included in the Contract Sum unless otherwise indicated.

1.5 DEFINITIONS

- A. Spray Applied Protection: A temporary component applied to non-porous surfaces for the purpose of protecting construction elements during the construction period.

1.6 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at **[Project site] <Insert location>**.
 1. Review requirements and installation, special details, and work scheduling that covers temporary spray applied protection.
 2. Perform a trial on a little visible area with a paint brush; remove after 3-7 days and evaluate the surface for suitability and for possible color or gloss differences (i.e. glossy aluminium window profiles). Do not use on polycarbonate glass, nor on wooden surfaces. In case of doubt, contact intelligent membranes.

****SPECIFIER NOTE**** If needed, insert list of conference participants not mentioned in Section 01 31 00 "Project Management and Coordination."

1.7 ACTION SUBMITTALS

- A. Product Data: Include manufacturer's written instructions for evaluating, preparing, and treating each substrate; technical data; dry film thickness; and tested physical and performance properties of products.

1.8 INFORMATIONAL SUBMITTALS

- A. Implementation and Termination Schedule: Within **[15] <Insert number>** days of date established for commencement of the Work, submit schedule indicating implementation and termination dates of the temporary protection.
- B. Protection Plan: Describe procedures and controls for protecting materials damage. Describe delivery, handling, storage, installation, and protection provisions for materials to be protected.

1.9 QUALITY ASSURANCE

- A. Provide applicator that has been approved by the manufacturer.
- B. Conduct a sample pull test on materials to insure compatibility and release.

1.10 DELIVERY, STORAGE, AND HANDLING

- A. Remove and replace liquid materials that cannot be applied within their stated shelf life (12 months from date of manufacture).
- B. Protect stored materials from direct sunlight.
- C. Store in a dry frost free environment between 41 and 77 degrees Fahrenheit. (5-25 degrees Celsius).

1.11 PROJECT CONDITIONS

- A. Environmental Limitations: Intelligent Protect is to be only spray applied within the range of ambient and substrate temperatures recommended in writing by the manufacturer.
 - 1. Protect adjacent materials from overspray by taping and masking adjacent surfaces.
 - 2. Do not apply to a damp or wet substrate or during snow, rain, fog, or mist.

PART 2 - PRODUCTS

2.1 SPRAY APPLIED PROTECTION MATERIAL

- A. Manufacturer: “Intelligent Protect” as manufactured by Intelligent Membranes, United Kingdom, Clopton Farm, Lower Road, Croydon, Cambridgeshire SG8 OEF. www.intelligentmembranes.com UK: (+44) 01223 208174, Canada: +1 (613) 927 1011, USA +1 (347) 220 8403.
 - 1. Intelligent Protect glass protection film is a 5-star preservation solution for your windows, frames and surfaces. It is a spray-applied, peelable film with high weather resistance.
 - 2. Using Intelligent Protect with doors and windows slightly open allows you to open and close these doors during construction works without detaching the film.
 - 3. Water-based, VOC-free polymer, Intelligent Protect offers a complete seal to any substrate that dries itself into an extremely tough removable polymer membrane.
- B. System Description: A water based, VOC free polymer. The liquid is applied with an airless paint spray device and dries to a peelable, flexible protection film. The film protects non-porous surfaces against damages that can occur during construction. The protection film is easily removed, leaving no residue.
- C. Suitable Substrates:
 - 1. Windows, Doors, Bathtubs, Shower trays, Glass, Sliding shower doors, Tiles, Aluminium, Glass, UPV, Worktops, Steelworks.
- D. Properties:
 - 1. White Liquid, light transparent colourless film when dried
 - 2. Density: +/- 2.1 lbs/1 (0.95 kg / 1)
 - 3. Semi-transparent, flexible, peelable
 - 4. Weather resistant after 4-48 hours depending on weather conditions

5. Total minimum consumption as to guarantee easy peelability and protection:
 - a. Windows: 1.32 lbs/ 10.6 sq.ft. or .023 inch or 1.1 lbs/ 10.6 sq.ft. on large glass surfaces (0,6kg/m² or ~600 micron or 0,5kg/m² on large glass surfaces).
 - b. (Smooth/polished) concrete surfaces: 2 lbs/ 10.6 sq.ft. or .024 inch (0,9kg/m² or ~900 micron (~0,9kg/m²)).
 - c. Verify layer thickness with a wet film gauge. Do not apply more than 3.31 lbs/ 10.6 sq.ft. (1,5kg/m²).

E. Product Certifications

Test institute	Test	Standard	Value	Report
SHR	UV resistance and natural ageing	EN ISO 16474-3:2013 – 400H.	Pass	17.0432-1 17/10/2017
Bureau Veritas	System evaluation	VERITAS	Pass	BV.AVS.4.12.14127A T-01 – 30/11/2021
	Absence of micropores	Aanalysis x4, x7, x10	Pass	BV.AVS.4.21.14012 AT-2 – 27/01/2021
SGS	Resistance to sparks of grinding and welding	SGS TEST PROGRAMM	Pass	204624B – 04/02/2021
Univerité de Liège	Traction	NBN EN ISO 527-3 (2019)	6,4 N/mm ²	LMC/21/008 – 20/01/2021
	Elongation	NBN EN ISO 527-3 (2019)	122 %	LMC/21/008 – 20/01/2021
	Hardness Shore A	ISO 7619-1 (2010)	87	AU-20-10 – 06/10/2020
	Hardness Shore D	ISO 7619-1 (2010)	49	AU-20-10 – 06/10/2020
CAI ULIÈGE	VOC content	ISO 11890-2	Pass	

****SPECIFIER NOTE**** This product is NOT suitable for wood or polycarbonate surfaces.

F. Cautions:

1. Do not apply in full sunlight or on concrete with surface temperature over 86 degrees Fahrenheit.
2. Do not dilute with water or solvents and avoid contact with any liquids during drying.
3. Do not use a heat source at close range to aid drying.

2.2 EQUIPMENT

A. Spray Equipment: Use only equipment recommended by the manufacturer.

1. Graco ST Max II 495 or 595 airless spray machine, or manufacturer approved equal.

2.3 MISCELLANEOUS MATERIALS

- A. Materials and tools commonly used:
 - 1. Masking tape.
 - 2. Airless pump, accessories and extension cord. (airless spray machine)
 - 3. Empty buckets and water for cleaning tools.
 - 4. Handheld paddle mixer.
 - 5. Surface temperature meter.
 - 6. Personal safety equipment: Safety glasses, gloves, helmet, coveralls and masks.
 - 7. Wet film gauge.

PART 3 - EXECUTION

3.1 TEMPORARY FACILITIES, GENERAL

- A. Conservation: Coordinate construction and use of temporary facilities with consideration given to conservation of energy, water, and materials. Coordinate use of temporary utilities to minimize waste.

****SPECIFIER NOTE**** Coordinate requirements in subparagraph below with provisions in Section 01 74 19 "Construction Waste Management and Disposal."

- 1. Salvage materials and equipment involved in performance of, but not actually incorporated into, the Work. See other Sections for disposition of salvaged materials that are designated as Owner's property.

3.2 INSPECTION AND PROTECTION

- A. The successful application of the temporary spray applied protection depends on the thorough preparation of the substrate, including:
 - 1. Standing water/condense shall be removed piles of dust and free particles shall be removed with a vacuum cleaner with a cloth; low amounts of dust and free particles do not pose a problem.
 - 2. The Ambient and substrate surface temperature must be above 41 degrees Fahrenheit (5 degrees Celsius).
 - 3. All ventilation areas shall be taped off.

3.3 INSTALLATION, GENERAL

- A. Follow manufacturers current printed instruction.
- B. Installation shall follow approved shop drawings and narrative.

****SPECIFIER NOTE**** retain the following for occupied facilities.

- C. Isolation of Work Areas in Occupied Facilities: Prevent dust, fumes, and odors from entering occupied areas.

1. Prior to commencing work, isolate the HVAC system in area where work is to be performed [in accordance with coordination drawings].
 - a. Disconnect supply and return ductwork in work area from HVAC systems servicing occupied areas.
 - b. Maintain negative air pressure within work area, using HEPA-equipped air-filtration units, starting with commencement of temporary partition construction, and continuing until removal of temporary partitions is complete.
2. Perform daily construction cleanup and final cleanup using approved, HEPA-filter-equipped vacuum equipment.

3.4 SETTING UP THE AIRLESS SPRAY EQUIPMENT

- A. Mix the product as directed by the manufacturers printed instructions.
- B. Proceed with the following:
 1. Place airless spray equipment above the product pail.
 2. Prime the machine.
 3. Pump wastewater into waste bucket until product is circulating.
 4. Build up pressure to 1,740-2,175 PSI (120-150bar)
 5. Repeat for spray hose/gun until product is circulating.
 6. A commonly used tip is the 517-or 519 spray tip, up to 521 when using larger spray machines.
 7. After use, clean the spray equipment with water.
 8. Clean filters

3.5 TEMPORARY SPRAY APPLIED PROTECTION INSTALLATION

- A. Application:
 1. Vaseline must be applied to all gaskets prior to the application of the product..
 2. Open the product container and mix for a smooth consistency with a handheld paddle mixer at low speed, do not add water.
 3. Spray apply the product on the window and/or door surfaces in one motion up and down to make two passes in total using an airless spray equipment..
 4. Apply in a thickness of 1.32–1.54 pounds/10.76 sq.ft or 23.62-27.56 mils (0.6-0.7kg/m2 or 600 to 700 microns). Minimum 118 mils (500 microns) on all areas.
 5. Depending on temperature, humidity, ventilation and sprayed thickness, the film will be tack free within 0.5 to 8 hours after the application with a total drying time between 4 to 48 hours during which time the film may not come in contact with rain or any other form of water, nor with temperatures below 41 degrees Fahrenheit (5 degrees Celsius).
 6. Spray at 12-23 inches (30-60cm) from the surface at a 90 degree angle to the surface.
 7. Verify thickness with a wet film gauge to insure the proper coverage as indicated above.

3.6 REMOVAL OF TEMPORARY SPRAY APPLIED PROTECTION

- A. Removal of the temporary spray applied protection shall occur when the need for its' service has ended, but no later than 18 months for window surface application externally and 24 months for window surface application internally.

- B. Once the film has been removed, it can be recycled as per local guidelines.
- C. Remove protection film no later than Substantial Completion.
- D. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.
 - 1. At Substantial Completion, repair, renovate, and clean permanent facilities used during construction period. Comply with final cleaning requirements specified in Section 01 77 00 "Closeout Procedures."

END OF SECTION 01 56 17