



# SUPERIOR PRODUCTS INTERNATIONAL II, INC.

## PROJECT SPECIFICATION FOR RUST GRIP® ENCAPSULATION OF ASBESTOS

09900 CSI Format (02-09-09)

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A Technical Data Sheets, Application Instructions, and Material Safety Data Sheets, apply to this Section.

#### 1.2 RELATED SECTIONS

- A As projects and substrates vary, the particular sections related are dependent on an individual type of application and are to be clarified for that specific application.

#### 1.3 SUMMARY

- A This specification covers preparation of surfaces and the performance and completion of coating of surfaces to safely abate asbestos.
- B RUST GRIP® over porous surfaces to fill, seal, and encapsulate asbestos directly or over the surfaces that have the asbestos fibers encased such as wallboard, metal sheeting, composite materials where RUST GRIP is applied to seal and encapsulate the encasement around the asbestos fiber.

#### 1.4 SYSTEM DESCRIPTION

- A RUST GRIP® is a one-part polyurethane, metallic pigmented coating that absorbs atmospheric moisture to cure. It provides a protective coating resulting in superior adhesion, flexibility, abrasion and impact resistance. RUST GRIP® is resistant to most chemical solvents and acid splash.
- B RUST GRIP® can be used as a primer or a standalone coating and is patented for use to encapsulate lead-based paints, asbestos, and other toxic materials. RUST GRIP® can be applied over clean, dry surface rust, dry and clean building materials used as walls or roofing or most firmly bonded paints previously applied. No near-white sandblasting is required.

#### 1.5 SUBMITTALS

- A Performance Requirements
  - 1. American Society of Testing and Materials (ASTM)
    - a. ASTM E 108 Flame Spread over Pitch Roof Structure ASTM E-84 (NFPA 255); Flame Spread / Smoke Developed; Results; Class "A" Rating.



- b. ASTM D-7088; Resistance to Hydrostatic Pressure for Coatings (Fed Spec TT-C-555B)
- c. ASTM D-6904; Resistance to Wind Driven Rain for Exterior Coatings (Fed Spec TT-C-555B).
- d. ASTM D-4060; Abrasion Resistance (Taber test); Results; 0.06g
- e. ASTM E 903-96 Solar Reflectance 44.6% , Solar Absorption 55.5%.
- f. ASTM D 3359 Adhesion and Penetration – 18 layers of existing lead-based paint over surface.
- g. ASTM D 4541 Standard Method for Pull-off Strength (Avg. 1467psi).
- h. ASTM D 4541 Standard Method for Pull-off Strength.
- i. ASTM D 2369, D4017, D3960, D1475 Weathering 1000 hours.
- j. ASTM E-1795 Encapsulation of Existing Asbestos, rusted surfaces, biohazardous molds or Lead-Based Paints:
  - (i) ASTM D 2794 Direct Impact Resistance.
  - (ii) ASTM D3359, D 4541 Adhesion.
  - (iii) ASTM D 4060 Abrasion.
  - (iv) ASTM D 1653 Water Vapor Transmission.
  - (v) ASTM D522 Mandrel Bend.
  - (vi) ASTM Distilled Water Resistance – Immersion 24 hours.
  - (vii) ASTM D 1308, D3359 Steel.
  - (viii) ASTM D 1308, D4541 Steel or Aluminum.
  - (ix) ASTM Chemical Resistance–24 hours– 2 Reagents.
  - (x) ASTM D1308 Spot test on glass.
  - (xi) ASTM E 84 Surface Burn.
  - (xii) ASTM VOC.
  - (xiii) ASTM D 2369, D4017, D3960, D1475.
  - (xiv) Weathering (1000 hours).
  - (xv) Aging (interior and exterior).
  - (xvi) ASTM D 2486 (Scrub Resistance).
  - (xvii) Black Plastic – No Break thru after 12 cycles.
  - (xviii) ASTM D 3273, 3274 (Mildew Resistance).
  - (xix) ASTM D 3359 (Paint/ Repair Ability).
  - (xx) Tensile Properties (6780 psi after three weeks).
  - (xxi) ASTM D 2370 Visco-Elastic Properties.
- k. ASTM D-257-99 D-C Resistance of Insulating Material ASTM C-411; High-Temperature Surface Performance; Results; no warping, cracking, delaminating, or color change.
- l. ASTM B-117 / D-1654; Salt Spray (Fog); Results; Passed 450 Hours.
- m. China Center for Technical Testing:
  - (i) GB/T 1771-91 Resistance to Salt Fog (2000 hrs.) – passed.
  - (ii) GB/T 1866-88 manual Aging (2000 hrs.) – passed.
  - (iii) GB/T 10834-88 Resistance to Salt Water (1000 hrs.) – passed.
  - (iv) GB/T 5219-85 Adhesion (Pulling Apart Method) – passed.
  - (v) GB/T 1733-93 Boiling Water Immersion (8 hrs.) – passed.
- n. ASTM G85 Prohesion



- (i) 1500 Hour Salt Fog.
      - (ii) Rated 9 (out of 10 possible).
      - (iii) State of Louisiana Department of Transportation.
    - o. ASTM G 20 submersion testing 180 days.
      - (i) Diesel fuel / water.
      - (ii) Ammonia / water.
      - (iii) Salt / water.
  - 2. ABS (American Bureau of Shipping) testing, IMO ( International Maritime Org) and US Coast Guard Approval.
    - a. MSC 41, Smoke Toxicity – passed.
  - 3. ABS (American bureau of Shipping) testing and approval.
  - 4. FM (Factory Mutual) testing and approval.
  - 5. IMO (International Marine Organization) tested and approved.
    - a. IMO A. 653 (16) Flame Spread.
  - 6. Window Recycling Test for Encapsulation of biohazardous materials:
    - a. Testing was done for encapsulating existing biohazardous materials on windows for HUD.
    - b. Window coated with RUST GRIP®.
    - c. Coated surface showed no wear, friction burn, or biohazardous material exposure.
    - d. Window was cycled a total of 29,700 times before test concluded.
  - 7. Maximum Temperature Exposure Test:
    - a. Thermal analysis testing was performed on RUST GRIP® to determine maximum temperature exposure during operation.
      - (i) Maximum temperature is 350 degrees F (175 degrees C).
- B Manufacturer's current product data sheet which includes the following information:
  - 1. Generic type of coating.
  - 2. Performance data with certified test reports.
  - 3. Recommended dry film thickness.

## 1.6 QUALITY ASSURANCE

- A Qualifications.
  - 1. All work shall be performed by skilled craftsmen qualified to perform the required work in a manner comparable with the best standards of practice.
  - 2. Continuity of personnel shall be maintained and transfers of key personnel shall be coordinated with the Project Manager.
  - 3. The Contractor shall provide a supervisor/superintendent at the work site during the cleaning and application operation.
  - 4. The supervisor/superintendent shall have the authority to sign change orders, coordinate work and make decisions pertaining to the fulfillment of the contract.
  - 5. The manufacturer of the coatings may have a factory representative on site if desired by the manufacturer.

## 1.7 HANDLING, STORAGE AND SAFETY

- A All materials delivered to job-site shall be in original sealed and labeled containers of the coating manufacturer.



- B All coatings shall be stored in facilities designed for the purpose of coating storage and mixing. Storage areas shall be located away from open flames, be well ventilated, and be capable of maintaining ambient storage temperature as recommended by the coating manufacturer.
- C Coatings, reducing agents, and other solvents must be stored in original containers until opened. If not reseal able, then they must be transferred to UL approved safety containers.
- D Provide proper ventilation, personal protection and fire protection for storage before, during and after application.

#### 1.8 ENVIRONMENTAL REQUIREMENTS

- A Coatings shall be applied in an enclosed area or during good weather.
- B Surface temperature shall be at least 5 degrees F above dew point.
- C The coating shall have no exposure to freezing temperatures after application (day or night) until fully cured. (applicator must consider temperature and wind-chill factor).
- D Air and surface temperatures shall be within limits prescribed by the manufacturer for the coating being applied and work areas shall be reasonably free of airborne dust at the time of application and while coating is drying.

#### 1.9 WARRANTY

- A Submit a specimen of the Manufacturer's standard ten (10) year material warranty for coating over standard building materials which are subject to deterioration from outside influences or destruction to make way for new development. When applying directly to the asbestos fiber, there is a fifty (50) year warranty if RUST GRIP applied directly to the asbestos fiber as described above by soaking the material with RUST GRIP.
  - 1. Applicator/Contractor must be certified by the Manufacturer.
  - 2. Applicator/Contractor shall comply with the Manufacturer's warranty procedures and requirements.
  - 3. Applicator/Contractor shall provide a copy of the project drawings, plus photographs which include descriptions of the project and all unusual details, with the form. Before, during, and after photos shall be submitted with project profile to the Manufacturer at the end of the project prior to issuance of warranty.
  - 4. Completed warranty registration forms must be returned to the Manufacturer's Warranty Department with appropriate signatures of the contractor and building owner no later than 15 days after completion of the project.
  - 5. A Representative of the Manufacturer will inspect the project upon completion and within 6 months after completion. All defective work shall be repaired in accordance with this specification and to the satisfaction of the Manufacturer/Project Manager/Owner.
  - 6. Applicator/Contractor shall provide warranty inspections throughout the duration of the warranty period.



## PART 2 – PRODUCTS

### 2.1 ACCEPTABLE MANUFACTURER

- A Drawings and Specifications are based on RUST GRIP<sup>®</sup>, one part solvent-based encapsulation coating for abatement of asbestos, which is manufactured by Superior Products International II, Inc., Shawnee, Kansas, Tel. (913) 962-4848.
- B Equivalent materials of other manufacturers may be substituted for approval of the Project Manager. Requests for substitution shall include manufacturer's literature for each product giving the name, generic type, descriptive information and performance data certified by a qualified testing laboratory as referenced in Article 1.3 above, and in Section 01630.

### 2.2 MATERIALS

- A Colors: RUST GRIP<sup>®</sup> will be a silver-grey color and cannot be tinted.
- B Encapsulation of existing asbestos directly to the surface or over encasements similar to all types of building materials used to build or construct walls or encasements around asbestos fibers, clean surface with power wash 2500 psi and wipe with acetone to dry the surface. Apply two coats at 8 mils wet 4 mils dry (200 sq/ft per gallon). Comply with manufacturer's recommended technical data for other requirements.
- C Encapsulation directly to asbestos fibers would require that RUST GRIP be applied at a first coat of 9 sq.m (100 sq.ft) per gallon to keep the surface wet with the coating to enhance the penetration and absorption of the RUST GRIP into the surface of the asbestos. Using the spring, brush or roller to force the coating into and as deep as possible by using pressure into the fiber is the desired effect. Give the coating one hour to dry and reapply the RUST GRIP in a second coat at 13 sq.m (130 sq.ft.) per gallon to fill voids, pinholes and secure over the surface of the fiber.
- D All materials are to be lead and chromate free.

### 2.3 EQUIPMENT

- A The applicator's/contractor's coating equipment shall be designed for application of materials specified and shall be maintained in first class working condition. Contractor's Equipment shall be subject to approval of the Project Manager.
  - 1. Recommended spray equipment is airless sprayer (3,000 psi or more) with carbon steel or titanium tip sized between .015 and .017 inch. Recommended equipment is Graco Model 5900 or Graco Model 7900HD.
- B In accordance with requirements set forth by regulatory agencies applicable to the construction industry, the manufacturer's printed instructions and appropriate technical bulletins, the contractor shall provide and require use of protective life-saving equipment for persons working in or around the project site.
- C Equipment shall include protective helmets which shall be worn by all persons while in the vicinity of the work.



- D Where ventilation is used to control hazardous exposure, all equipment shall be explosion-proof. Ventilation shall reduce the concentration of air contaminants to the degree that a hazard does not exist.
- E Whenever the occupational noise, exposure exceeds State and Federal maximum allowable sound levels, the contractor shall provide and require the use of approved ear protective devices.
- F All temporary ladders and scaffolding shall conform to applicable safety requirements. They shall be erected where requested by the Project Manager to facilitate inspection and be moved by the contractor to locations requested by the Project Manager.

### **PART 3 - EXECUTION**

#### **3.1 EXAMINATION**

- A All structural repairs must be made before preparation of surface and application of product begins.
- B Thoroughly examine surfaces scheduled to be coated prior to commencing work.
- C Report in writing to the Owner's representative any condition that may affect proper application and overall performance of the coating system.
- D Do not proceed with work until such conditions have been corrected.
- E Commencing with work indicates acceptance of existing conditions and responsibility for performance of applied coating.

#### **3.2 SURFACE PREPARATION**

- A General:
  - 1. Comply with manufacturer's written instructions and recommendations applicable to substrates and paint systems indicated. Surfaces must be totally dry before applying product.
  - 2. Material applied prior to approval of the surface by the Project Manager shall be removed and reapplied to the satisfaction of the Project Manager at the expense of the Contractor.
  - 3. Dust, dirt, oil, grease or any foreign matter that will affect the adhesion or durability of the coating must be removed by washing with citrus cleaner. Surface must be complete dry and clean.
  - 4. Surfaces are to be tested for salt contamination. Chlor-Rid or an equivalent is to be used as directed if salts are present.
  - 5. All surface preparation and repairs shall be approved by the Project Manager/Owner before primer is applied.
- B Dirt, Oil, Tar, Grease, and Contaminants Removal:
  - 1. Power wash surface (3,500 psi) with citrus cleaner to remove all dirt, oil, tar, grease, or contaminants and previous coatings not tightly bonded.



2. Surfaces are to be tested for salt contamination. Chlor-Rid or an equivalent is to be used as directed if salts are present.
3. When surface is clean, rinse well with water and pick up all rinse water using industrial wet/dry vacuum.
4. Surface must be completely dry and clean.

### 3.3 MIXING INSTRUCTIONS

- A Prior to application of RUST GRIP<sup>®</sup>, the coating shall be mixed mechanically or by hand for a minimum of three minutes and then applied. Make sure metallic pigments on the bottom of the pail come to the surface and mix well into the green/yellow resin to make a complete blend of silver grey color. When mixing, mix slowly and avoid forming a vortex that will draw humid air into the mixture. If this happens, it can bubble and cause thickening or premature curing.
- B RUST GRIP<sup>®</sup> should not be diluted or thinned.

### 3.4 APPLICATION INSTRUCTIONS

- A RUST GRIP<sup>®</sup> can be applied by brush, roller, or airless sprayer.
1. If application is by brush, use a soft or medium bristle brush. Two coats will be required to achieve the desired thickness when using a brush or as many coats as is necessary to obtain a saturated surface of the fibers or a full 8-10 mils (200-250 micron) dry coating film over the saturated surface or encasement.
  2. If application is by roller, use a 1/4 inch nap roller. Two coats will be required to achieve the desired thicknesses when using a roller which is the same desired dry thickness film over the fiber or encasement.
  3. If application is by spray, use a standard airless sprayer (3,000 psi or less) with a carbon steel or titanium tip sized between .015 and .017 to achieve the desired thickness as described above to be 8-10 mils (200-250 micron) dry film over the saturated surface.
- B RUST GRIP<sup>®</sup> must be applied very wet over the surface to allow complete absorption of RUST GRIP<sup>®</sup> into the porous fiber of the asbestos. RUST GRIP must be applied in two coats being no more than one hour apart to achieve the dry film thickness over the surface of the building materials used to encase the asbestos fibers and that being 8-10 dry mils (200-250 microns dry).
- C When applying directly to the fiber, the first coat of RUST GRIP<sup>®</sup> should be applied at 9 sq.m (100 sq.ft.) per gallon to wet out and fill the pores and to penetrate into the fiber surface of the asbestos. Forcing the coating as deeply as possible into the surface must be done to ensure complete encapsulation of the asbestos and to form a bond to the substrate.
1. Bonding is necessary for the asbestos to remain adhered to the substrate if possible and to seal over the surface when locking down and curing.
  2. The application first seals and stabilizes the surfaces, then produces a durable, long-lasting protective jacket over the asbestos. The use of a "Patch-Test" is recommended.



- D When applying directly to the encasement of building materials holding the asbestos fibers, apply the first coat in a heavy fashion and keeping the surface wet with RUST GRIP to fill and seal the pores, cracks and profile of the surface. This first coat is applied at 15 sq.m (150 sq.ft) per gallon to saturate the surface. Give this one hour to dry and apply the second coat to assure filling any pores, voids, gaps or pinholes still remaining over the surface giving the final dry film thickness of 8-10 mils (200-250 micron dry film).
- E Allow one hour for the first heavy coat RUST GRIP® to dry and then come back to apply another heavy coat over the surface at approximately 15 sq. m per gallon (150 sq.ft.) to assure that all voids and pin holes are filled and sealed.
- F A dry film thickness of no less than 8 mils (200 microns) should be present over the entire surface of the coated asbestos.
- G A top coat is not necessary for RUST GRIP® to perform the encapsulation. ENAMO GRIP can be used as a top coat if a finish color is desired to complete a particular color scheme. Apply at a coverage rate of 200 square feet per gallon per coat (8 - 9 wet mils) to produce 4 dry mils per coat as a finish top coat.

**NOTE:** When the asbestos is encased by metal sheeting or wood, you must coat the metal sheeting or encasement to encapsulate the asbestos on the inside. At the present time, the encasement is not air tight, allows moisture to enter the matt and causes deterioration and allows the asbestos fibers to float.

RUST GRIP heavily coated on the exterior side will seal all the seams, seal the air flow, prevent moisture migration into the fiber and secure the fibers inside the encasement. This is exactly what our EPA (Environmental Protection Agency) requires for encapsulation.

In many areas where asbestos is found, it is open and exposed and not encased, we would apply directly to the asbestos to have the RUST GRIP absorbed into it to seal and solidify it.

In other areas like tile flooring, where the asbestos was mixed into the clay to make tile, we simply coat over the tiles to strengthen and encapsulate the entire tile piece. The same for roof panels that have asbestos blended into the make-up.

- H Industrial Acrylic Caulk (trowelable grade) can be used to bridge and seal cracks up to a ¼" thick and repair all areas where compatibility testing has been successfully completed.
- I RUST GRIP® is a high solids (50% by volume) content material. Allow to dry thoroughly before applying second coat.
- J Coverage rate per gallon varies depending upon porosity, texture, condition of the surface and mil thickness of the coating. Rough, highly textured surfaces require more material than flat or smooth surfaces.
  - 1. The calculated coverage rate for RUST GRIP on a flat, smooth surface is:  
200 sq. ft per gallon (applied at 8 wet mils = 4 dry film thickness per coat.)





with a requirement of two separate coats for a total of 8-10 mils (200-250 microns) dry film thickness over the final surface.

- K RUST GRIP® can be used over various interior or exterior surfaces including: walls, ceilings, trim, flat transite, rough, porous, textured or irregular surfaces, cementitious surfaces, stucco, wood siding, shingle siding, window frames, windowsills and porch walls, wood overhangs, porch ceilings, and wood trim and posts.
- L Under normal drying conditions, RUST GRIP® develops full strength and chemical resistance properties 10 to 21 days following application.
- M Follow all applicable state and/or federal OSHA Guidelines.

### 3.5 INSPECTION

- A After application of each coating in the specified system and its surface has cured, measure its thickness with a properly calibrated Nordson Microtest Dry Film Thickness Gauge, or equivalent. (Use an instrument such as a Tooke gauge if a destructive tester is deemed necessary). Follow standard method for measurement of dry paint thickness. The Project Manager shall, at his discretion, use the contractor's or his own equipment to perform similar inspections.
- B Make as many determinations as needed to ensure the specified thickness are achieved. The contractor shall apply additional coat(s), at no extra cost to the Owner, to all surfaces having less dry film thickness than specified until the specified thickness is achieved.
- C The coating contractor shall permit the Owner's representative and/or coatings manufacturer (as requested by Owner) to inspect his work for conformance to this specification. Owner reserves the right to reject all work which does not comply with this specification.

### 3.6 CLEAN UP

- A Do not attempt to clean equipment using water. Use a solvent to clean equipment and brushes.
- B Upon completion, painting contractor shall clean up and remove from site all surplus materials, tools, appliance, empty cans, cartons and rubbish which result from painting work. Site shall be left in a neat and orderly condition.
- C Remove all protective drop clothes and masking from surfaces not being painted. Provide touch-up around same areas as directed by Owner's representative.
- D Remove all splatters and drippings.
- E Upon completion of the work, all staging, scaffolding and containers shall be removed from the site or destroyed in a manner approved by the Project Manager.



- F The contractor shall keep the area of his work in a clean condition and shall not permit blast cleaning materials to accumulate as to constitute a nuisance or hazard to the execution of the work or the operation of the existing facilities.

### 3.7 PROTECTION

- A Diligence should be taken to ensure that vehicles, equipment, fixtures, miscellaneous hardware, etc. are protected against coating spillage, over-spray, etc.
- B Surfaces not to be coated will be marked, removed, or otherwise covered to protect against cleaning and coating application procedures and weather. Such damages shall be corrected at no expense to the Owner. Care shall be exercised to avoid lapping on glass or hardware. Finished surfaces shall be free from defects or blemishes.
- C Protective coverings or drop clothes shall be used to protect floors, fixtures, and equipment.
- D Surfaces, from which materials cannot be removed satisfactorily, shall be repainted as required to produce a finish satisfactory to the Project Manager.

- END OF SECTION -