



VRP® Wall System
Vitruan® Reinforced Polyurethane Interior Wall Finishing System
09 72 20

PART 1 GENERAL

1.01 SUMMARY

- A. SECTION INCLUDES: VRP® System by Vitruan (Vitruan Reinforced Polyurethane)
- B. RELATED SECTIONS
 - 1. Section 09910 - Paints: Preparation of substrate surfaces; painting of glass déco fabric surface.

1.02 REFERENCES.

- A. ASTM B 117 - Standard Practice for Operating Salt Spray (Fog) Apparatus
- B. ASTM D 522 - Standard Test Method for Mandrel Bend Test Of Attached Organic Coatings
- C. ASTM D2247 - Standard Practice for Testing Water Resistance of Coatings In 100% Relative Humidity
- D. ASTM D 2794 - Standard Test Method for Resistance of Organic Coatings to the Effects of Rapid Deformation (Impact).
- E. ASTM D 3363 - Standard Test Method for Film Hardness by Pencil Test
- F. ASTM D4060 - Standard Test Method for Abrasion Resistance of Organic Coatings by the Taber Abraser
- G. ASTM D 4541 - Standard Test Method for Pull-Off Strength of Coatings Using Portable Adhesion Testers
- H. ASTM D 4587 - Standard Practice for Fluorescent UV-Condensation Exposures of Paint and Related Coatings
- I. ASTM E 84 - Test Method for Surface Burning Characteristics of Building Materials.
- J. ASTM E 96 - Standard Test Methods for Water Vapor Transmission of Materials.
- K. International Association for Research and Testing in the Field of Textile Ecology - Öko-Tex Standard 100. (The Öko-Tex system ensures that the textiles, which have passed the tests and been certified, do not contain concentrations of substances that could be hazardous to human health.)

1.03 SYSTEM DESCRIPTION

Impact resistant, washable, scrubable, textured interior wall finishing system consisting of Vitruan Fabric adhesively applied directly to existing or new wall surfaces, a two-part water-based epoxy applied on site, and one coat of a low VOC, clear, water-based polyurethane.

1.04 SUBMITTALS

- A. General: Submit according to the Conditions and Division 01 Submittal procedures.
- B. Product Data:
- C. Submit product data sheets for Vitruan Glass Déco Fabric and Vitruan Coatings
- D. Vitruan installation instructions.

- E. Indicate any areas requiring special procedures, perimeter conditions requiring special attention, etc.
- F. Samples: Submit 8" x 11" samples for each pattern of Vitrulan Fabric.
- G. Test Reports: Submit product data sheets for each fabric, epoxy and urethane indicating flame and smoke development ratings (ASTM E 84) test results performed by ASTM certified laboratory.

1.05 QUALITY ASSURANCE

- A. Applicator/Contractor: Company experienced in the application of glass fabrics with minimum 5 years experience or approved by Vitrulan or Ger-Eck, LLC.
- B. Product Performance
 - 1. Vitrulan Fabric
 - a. 'phantasy plus':
 - 1) Tensile Strength >263 lbs/inch warp, >177 lbs/inch fill
 - 2) Water Vapor Transmission (ASTM E 96) 93.6 perms.
 - 3) Oeko-Tex 100 Product Class I: Shown to meet the human ecological requirements.
 - 2. Vitrulan 'plusCoat' 400 & 500 Polyurethane Coating
 - a. ASTM B 117 Salt Spray: Pass 5000 hours
 - b. ASTM D 522 Mandrel Bend Test: 32% Elongation Resistant to cracking at 1/8" diameter
 - c. ASTM D 2247 Water Resistance: No deleterious effects after 1000 hours
 - d. ASTM D 2794 Impact Resistance: 20 in-lbs
 - e. ASTM D 3363 Hardness: Gouge Hardness: 4H, Scratch Hardness: H
 - f. ASTM D 4060 Abrasion Resistance: 10-20 mg loss
 - g. ASTM D 4587 UV-Condensation Exposures Color: Pass SSPC Paint 36 Standard (less than 2.0 Δ E) Gloss: Pass SSPC Paint 36 Standard (less than 30 gloss change)
 - h. ASTM E 96 Water Vapor Transmission: 2.43 Perms
 - i. VOC Content: < 30 g/L
 - 3. Fire Performance
 - a. 'phantasy plus'
 - 1) Flame Spread - 5 Class A / 1
 - 2) Smoke Development - 0 Class A /1
 - 3) Class 1 (IBC/UBC), Class A (NFPA)
 - b. Vitrulan 'plusCoat' 400 (Gloss) & 500 (Satin) Polyurethane
 - 1) Flame Spread - 5 Class A /1
 - 2) Smoke Developed - 5 Class A /1
 - 3) Class 1 (IBC/UBC), Class A (NFPA)

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Section 01600: Deliver, store, protect and handle products to site.
- B. Store glass déco fabric rolls, still in unopened manufacturers boxes, vertically on end. After rolls have been opened, store horizontally.
- C. Store primer according to manufacturer's written instructions within a well ventilated area.

- D. Extra Any unused material (other than scraps) should be rolled, wrapped and placed into original manufacturer box with clearly identifiable label indicating pattern number and approximate length remaining on roll.
- E. Extra material: Inspect materials on site to verify acceptability. Verify that all boxes are marked with correct pattern number as indicated on shipping receipt. Report any damaged boxes or rolls immediately to shipper or manufacturer (Vitruan).

1.07 WARRANTY

- A. Project Warranty: Refer to Conditions of the Contract for project warranty provisions.
- B. Manufacturer's Warranty: Submit, for Owner's acceptance, manufacturer's standard warranty document executed by authorized company official. Manufacturer's warranty is in addition to, and not a limitation of, other rights Owner may have under Contract Documents.
 - 1. Warranty Period: 2 years commencing on Date of Substantial Completion.

PART 2 PRODUCTS

2.01 MANUFACTURER:

Vitruan Textile Glass GmbH Bernecker Str. 8 95509 Marktschorgast Germany

DISTRIBUTOR:

USA: Ger-Eck,LLC 1012 Sandstone Dr. South Windsor, CT 06074

<http://www.vitruanusa.com>, E-mail: g.griffin@vitruanusa.com . Tel: 888-267-4067

LOCAL REPRESENTATIVE:

2.02 MATERIALS

- A. Vitruan Glass Déco Fabric

NOTE: [Substrate smoothness may dictate the choice of fabric. Contact Vitruan for your specific criteria]

- 1. 'phantasy plus': Offers textured and more decorative designs on a heavier fabric that offers the substrate surface support. Can be customized.
 - a. Total Fabric Weight: 8.2 oz/sq.yd.
 - b. Fabric Thickness: 0.044 inches (1.12 mm)
 - c. Roll Width: 39.4 inches = 1 meter
 - d. Roll Length: 82 linear feet = 25 meters
- 2. Vitruan Pattern Number: [Enter Pattern # Here]
- B. Vitruan 'plusCoat' 200 Epoxy: Low odor, low VOC 135 g/L, two component, waterborne acrylic epoxy, tinted to match specified paint color, provide manufacturer and color. [Enter Color Selection / Paint Color Here]
- C. Vitruan 'plusCoat' 400 (Gloss) & 500 (Satin) Polyurethane: Two component, low VOC < 30 g/L, low odor, high performance waterborne, non-yellowing polyurethane coating, gloss and matte [Make selection here 400 for Gloss and 500 for satin/matte]
- D. Substrate Primer: Compatible with substrate
- E. Accessories
 - 1. Spray Equipment
 - a. Vitruan 'plusCoat' 200: Airless Sprayer: 2500 – 3000 psi, with a .015 - .017 tip, a ¼" – 3/8" hose and a 60 mesh Manifold Filter
 - b. Vitruan 'plusCoat' 400 Airless Spray: 2000 – 2400 psi, with a .015 - .017 tip and a ¼" – 3/8" hose
 - 1) Air-assist Sprayer: 500-600 psi unit with a .015 - .017 tip.

- 2) Conventional sprayer: DeVilbiss pressure pot with ± GA 503 gun and FF needle assembly with 777 air cap.
2. Roller: 3/8" woven nap, phenolic core roller.

PART 3 EXECUTIONS

3.01 EXAMINATION OF WALLS AND MATERIALS

- A. Project Conditions
 1. Mask windows and other items not to be painted.
 2. Remove electrical, telephone and other wall plates and covers.
 3. Application temperatures should be between 50 – 95° F and relative humidity not above 80%.
- B. Vitrolan Fabric
 1. Report and reject damaged rolls before cutting or beginning installation.
 2. Check that batch numbers are the same before cutting. Large Projects may require multiple batch numbers.
- C. Substrate condition
 1. Inspect wall surfaces for moisture content. Do not apply coverings if evidence of moisture on surfaces exists or is suspected
 2. Inspect flatness of wall surfaces and verify that there are no significant uneven areas.
 3. Verify that substrate surfaces are primed.
 4. All surfaces to be covered must be structurally sound, dry, clean, free of all dirt, oil, dust, and any other contaminants that are not tightly adhering to the surface that is to be covered. In addition, all glossy and/or shiny surfaces must be dulled.
 5. Repair drywall as necessary new drywall patches should be smooth. Spot prime repaired and new areas with Primer.
 6. Spackle nail holes and other surface imperfections with lightweight spackling compound. Sand spackling smooth.
 7. Kitchen walls should be washed to remove grease. A solution of Trisodium Phosphate mixed 1 lb. per 5 gallons of water is recommended. Follow all manufacturers' instruction regarding the use of this product.
 8. Water stains, ballpoint pen and crayon marks, etc. should be spot primed with Block Primer before coating application.
- D. Acceptable Substrates
 1. Gypsum Board
 2. Cement board
 3. Interior Plaster
 4. Smooth Masonry
 5. Contact Vitrolan for additional acceptable substrates

3.02 PREPARATION

- A. Strip all existing wall coverings back to a clean smooth substrate.
- B. Fill any cracks or irregularities.
- C. All surfaces require a primer.

3.03 INSTALLATION

- A. Primer: Install primer according to manufacturer's instructions
- B. Fabric Installation

1. General
 - a. Install Glass Déco Fabric before installation of bases, cabinets, hardware or items attached to the wall or spaced slightly from the wall surface.
 - b. Do not install Glass Déco Fabric more that ¼ inch below top of resilient base.
 - c. Cover surfaces around any openings in the wall such that the patterns match, above and below, in pattern sequence from roll.
 - d. Do not roll seams.
 - e. Apply Glass Déco Fabric smooth, without wrinkles, gaps or overlaps. Eliminate air pockets and ensure full bond to substrate surface and that edges are abutted tight.
 - f. Remove any excess wet adhesive from seam before proceeding to next Fabric strip. Wipe clean with dry cloth.
 - g. Allow Vitrulan Glass Déco fabric and adhesive to dry thoroughly before coating.
 - h. Apply a bead of paintable sealant in all internal corners and around windows, doorways and any penetrations on the walls like pipes, etc. Allow sealant to dry and develop skin before painting.
2. 'phantasy plus'
 - a. Apply adhesive evenly to the wall with a roller or apply adhesive to the fabric with a pasting machine.
 - b. Hang individual widths exactly edge to edge to match the pattern.
 - c. Trim excess at the ceiling and floor with a sharp knife.
 - d. Press out any bubbles with a wide spatula or rubber roller.
 - e. Horizontal seams are not acceptable unless approved prior.
 - f. Do not seam fabric within: 4 inches of internal corners and 6 inches of external corners
- C. Vitrulan 'plusCoat' 200 Epoxy
 1. Mixing: Part A (resin) and part B (cure) are packaged in pre-measured kits. The mixing ratio is 4 parts A to 1 part B. Stir both components prior to intermixing. Thoroughly mix Part B into Part A using an explosion-proof power drill and Jiffler mixer to disperse pigments. Wait 30 minutes before application.
 2. Application
 - a. The material must be applied within the estimated pot life. A minimum surface temperature of 50°F (10°C) for eight (8) hours after application is recommended to achieve proper film formation. Apply to a wet film thickness of 6-7 mils per coat.
 - 1) Brush or Roller: Apply product in full even coats and maintain a wet edge.
 - 2) Airless Spray: Flush airless lines with water. Equipment must be clean prior to start. Apply a wet coat in even, parallel passes with 50% overlap to avoid bare areas and pinholes and backroll.
 - b. Allow to dry completely before applying 'plusCoat' 400 or 500
- D. Vitrulan 'plusCoat' 400 (Gloss) & 500 (Satin) Polyurethane
 1. Mixing: Stir by hand each component thoroughly then mix the premeasured Part A with the Part B. Mix thoroughly, ensuring Parts A & B are blended together (**do not use a drill**). Then allow the combined parts to "sweat in" for 2 minutes.
 2. Apply One Coat using a roller or sprayer (backroll) specified to a wet film thickness of 4 - 5 mils

3.04 PROTECTION

- A. Protect installed products until completion of project.
- B. Repair or replace damaged products prior to application of the Vitrulan 'plusCoat' 200 and 400 Coatings.

3.05 MAINTENANCE

- A. Use a suitable commercial grade cleaner for the specific surface condition, i.e. kitchen, bathroom.
- B. Vitrulan 'plusCoat' 400 & 500 can withstand harsh cleaners without detrimental effect to the coating.

END OF SECTION