

Jewel Stone Plus

Decorative Overlay System

MANUFACTURER'S SPECIFICATION 09 62 83

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Part 1 – GENERAL

1.1 RELATED SECTIONS

- .1 Specification 06 10 00 – Rough Carpentry
- .2 Specification 07 24 00 – Exterior Insulation and Finish Systems
- .3 Specification 09 70 00 – Sealants

1.2 SYSTEM DESCRIPTION

- .1 Jewel Stone Plus is a polymer modified cement overlay system for interior and exterior wood subflooring and can also be used as the finish coat layer overtop of DuROCK EIFS.
- .2 Jewel Stone Plus applied on horizontal surfaces is limited for use in pedestrian traffic locations.

SPEC NOTE	.1. <i>The structural integrity of substrates supporting Jewel Stone Plus shall be reviewed prior to application, specifically giving attention to any prior surface treatment that could affect the adhesion of the Jewel Stone.</i>
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1.3 DESIGN REQUIREMENTS

- .1 Building Substrates (shall be engineered by others where required):
 - .1 Substrates for Jewel Stone Plus shall be:
 - a. Plywood subflooring with metal lath. An impermeable membrane should be installed between the lath and the plywood on exterior wood decks that are able to dry from below.
 - b. DuROCK EIFS.
 - .2 Substrates supporting Jewel Stone Plus must be structurally sound and continuously supported. All substrates shall be clean, dry, and free of any deleterious material that would affect the adhesion, such as wax, oil, paint, dust and dirt.

SPEC NOTE	.2. <i>Existing cracks and/or cracks that may later form in the substrate can extend through the Jewel Stone Plus. DuROCK does not warrant against cracking due to the level of strain that substrate movement can impose upon Jewel Stone Plus.</i>
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- .2 Maximum substrate deflection shall be not more than L/360.

SPEC NOTE	.3. <i>The deflection ratio of L/360 is the ratio by which a wall may be designed to move, e.g., if a floor is 3 m wide, it may deflect up to 3/360 = 8.3 mm.</i>
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- .3 Control and expansion joints shall be designed by others.
 - .1 Control and expansion joints shall be designed by others, as specified in section 07 90 00.

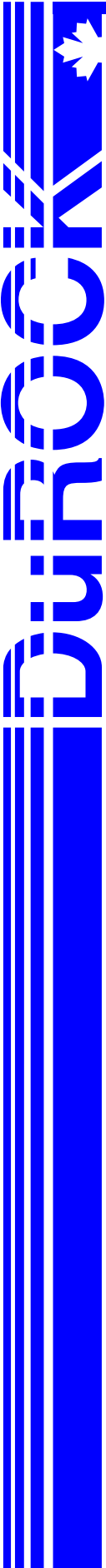
SPEC NOTE	.4. <i>Location and size of control and expansion joints are the responsibility of the designer. Expansion joints should be designed four times greater than the anticipated range of joint movement.</i>
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1.4 SUBMITTALS

- .1 Upon request, the Jewel Stone Plus applicator will provide mock-up(s) 600 x 600 mm (24 x 24 inches), providing representation of the texture and colour.
- .2 This mock-up may form part of the completed work, or may be applied on a suitable substrate for transport, such as 6 mm (¼ inch) cement board.

1.5 QUALITY ASSURANCE

- .1 Manufacturer shall have not less than 10 years experience producing decorative overlay products.
- .2 The applicator shall be knowledgeable and experienced in Jewel Stone Plus installation and shall install the products according to DuROCK's requirements.



**SPEC
NOTE**

5. *Inspection of the work in this section shall be conducted by a qualified 3rd party.*

1.6 DELIVERY, STORAGE & HANDLING

- .1 All materials and components shall be:
 - .1 Supplied by DuROCK Alfacing International Limited or its appointed distributors in the original, unopened packaging with labels clearly identifying each component.
 - .2 Inspected upon delivery, and any defective materials and/or components are not to be used.
 - .3 Stored off the ground, under protective cover, away from direct sunlight and kept dry.
- .2 All water-based materials, supplied in plastic pails, are to be kept above 4°C (40°F) and below 40°C (104°F).
- .3 All dry-bagged materials shall be kept dry and protected from high humidity and moisture.

1.7 SITE CONDITIONS

- .1 Surface and ambient conditions for application of wet-state-materials must be kept above 4°C (40°F) for at least:
 - .1 72 hours after the application of the Jewel Stone Plus base and finish coats, and
 - .2 24 hours after the application of sealers.
- .2 Application of product where the surface or ambient temperature is below 15°C (59°F) requires temporary enclosure and supplemental heating.
- .3 Wet-state-materials shall not be applied in direct sunlight in temperatures exceeding 30°C (86°F) without protective cover.
 - .1 Jewel Stone Binders shall be kept below 30°C (86°F) in hot weather applications.
 - .2 If required, use cold packs surrounding the pails to keep the temperature of binder as low as possible in hot weather applications.
- .4 All work shall be protected from rain, snow, hail, and wind exceeding 25 km/hr (15 mph) for not less than 24 hours after wet material application.
- .5 Do not apply materials in weather conditions that will cause adverse affects to performance.

1.8 WARRANTY

- .1 Jewel Stone Plus is eligible for a limited manufacturer's warranty starting from the date of substantial completion. The [Owner] [Contractor] [Designer] must make a formal application at the end of the project to receive such a warranty.
- .2 DuROCK's warranty is effective when materials are paid for in full, and the workmanship complies with this specification.

Part 2 – MATERIALS**2.1 GENERAL**

- .1 DuROCK Alfacing International Limited, or its appointed distributors, shall supply all the materials and components for the Jewel Stone Plus.
- .2 Substitution of materials or components shall void the manufacturer's warranty.

2.2 MATERIALS

- .1 General:
 - .1 Water shall be potable.
- .2 Base Coat:
 - .1 DuROCK Jewel Stone Plus – a two-component product whereby the dry mix of aggregates and cement is mixed with the wet mix of Plus Binder.
 - a. DuROCK Jewel Stone Plus (Dry Mix) – Portland cement mixed with a blend of silica aggregates, minerals and colour, available in a base white colour.
 - b. DuROCK Jewel Stone Plus Binder (Wet Mix) – a water-based acrylic dispersion.
- .3 Reinforcing Mesh:
 - .1 Metal lath, control joints, and casing beads shall be galvanized self-furring lath steel, diamond mesh (expanded) compliant with ASTM C 847, nominal weight 1.36 kg/m² (2.5 lb/yd²) or 1.85 kg/m² (3.4 lb/yd²).
 - a. Corrosion resistant [nails] [staples] [screws] shall be [stainless steel] [hot-dipped galvanized] with 11.1 mm (⁷/₁₆ inch) minimum [diameter] heads.
 - b. Control joints and casing beads shall be nominal profile of [6.4 mm (¹/₄ inch)].
- .4 Finish Coat:

- .1 Jewel Stone Plus, as per the base coat above, a mix of Jewel Stone Plus with Plus Binder.
- .2 DuROCK Jewel Stone Regular – a two-component product whereby the dry mix of aggregates and cement is mixed with the wet mix of Pure Cement Binder.
 - a. DuROCK Jewel Stone Regular (Dry Mix) – Portland cement mixed with a blend of silica aggregates, minerals and colour, available in a base white colour or standard colour. Refer to the current Jewel Stone colour chart available from DuROCK.
 - b. DuROCK Jewel Stone Pure Cement Binder (Wet Mix) – a water-based acrylic dispersion.
- .5 Jewel Stone Colour Packs, Sealers and Anti-Slip Aggregates:
 - .1 DuROCK Jewel Stone Regular (Dry Mix) – 3 kg Colour Packs – Portland cement mixed with a blend of silica aggregates, minerals and colour, available in a series of standard colours. Refer to the current Jewel Stone colour chart available from DuROCK.
 - .2 Jewel Stone Sealers:
 - a. DuROCK Clear Sealer 96 – a water-based acrylic dispersion, recommended as a two coat sealer for vertical surfaces and as a primer for urethane sealers.
 - b. DuROCK Durathane – an acrylic-urethane dispersion, interior or exterior, recommended for low VOC emission and light pedestrian traffic.
 - c. DuROCK Duraguard – a water-based urethane dispersion, recommended for interior or exterior, low VOC emission, light pedestrian traffic and a matte finish.
 - i) This sealer can be used as an additional top coat for Durathane and Epoxy.
 - d. DuROCK Epoxy – a two component chemical cured epoxy, 100% solids, recommended heavy pedestrian traffic, used for interior applications only.
 - e. DuROCK Xylene Acrylic – xylene solvent-borne acrylic penetrating sealer, available with separate primer and top coat, used for exterior applications only. Note the following:
 - i) The xylene solvent carrier is highly flammable. Proper care for storage and application to prevent ignition of fire is required.
 - ii) Application of Xylene Acrylic sealer shall only be outdoors, in well ventilated areas.
 - .3 Jewel Stone Anti-Slip Resin – resin aggregate, applied as part of the sealer top coat.

2.3 MIXING

- .1 Jewel Stone products require mixing with a medium duty power-drill (400 – 500 RPM) and stainless steel or corrosion resistant paddle-mixing-blade. Let each mix stand for 5 minutes, then re-mix.
- .2 Stir all pail products to ensure a homogeneous consistency prior to use and or mixing.
- .3 DuROCK Jewel Stone Binders are mixed with the dry components as follows:
 - .1 One bag of DuROCK Jewel Stone Plus (Dry Mix) with 4 L (1 gallon) Jewel Stone Plus Binder, adding the dry to the wet components.
 - a. Up to 1 L (1 quart) of Plus Binder may be added to the mix to adjust the working consistency of the product.
 - b. Do not add water to Jewel Stone Plus.
 - .2 One bag of DuROCK Jewel Stone Regular (Dry Mix) with 2 L (2.1 quarts) Jewel Stone Pure Cement Binder and 2 L (2.1 quarts) water, adding the dry to the wet components.
 - a. Up to 1 L (1 quart) of water and Pure Cement Binder may be added to the mix to adjust the working consistency of the product.
 - b. Do not add more water than Pure Cement Binder to the mix.
- .4 Except where stated in DuROCK technical literature, no product shall be altered by adding foreign substances of any kind. The use of accelerators or other additives is prohibited.
- .5 Discard any material that has become stiff or hard.

Part 3 – EXECUTION

3.1 GENERAL

- .1 Prior to commencing the work, review the substrate and report any deficiencies to the appropriate authority.
- .2 Coordinate the work of this section with other trades and erect barriers to protect wet materials.
- .3 Apply masking and temporary protection to ensure the work of this section does not result in the products staining other components of the building assembly.
- .4 Maintain a minimum ambient and surface temperatures above 4°C (40°F) for at least 72 hours after each application of wet-state material, except sealers which only require 24 hours.
- .5 Only stainless steel application tools shall be used, except where some non-ferrous specialty tools may be required, such as a plastic float.

3.2 SURFACE PREPARATION

- 1 The surface shall be sufficiently prepared for satisfactory adhesion of Jewel Stone Plus;
 - .1 Plywood subflooring is properly fastened to the supporting wood framing.
- 2 Clean the surface by the appropriate method to remove all dust, dirt and surface contamination. Vacuum all dirt and dust prior to commencing application work.

SPEC NOTE	6. <i>The Designer shall provide a scaled diagram for the desired lines, control joints and expansion joints for the Jewel Stone application. This is required to ensure the applicator will have sufficient manpower to apply the finish coat layer up to a suitable termination point. The recommended working area for a reasonable application should not be more than 13.3 m² (144 ft²).</i>
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3.3 BASE COAT

- 1 Jewel Stone Plus applied over plywood subflooring must have the metal lath installed first;
 - 1 Metal lath, control joints and casing beads must be fastened to wood substrates in general conformance with ASTM C 1063. Fasteners shall be spaced 150 x 150 mm (6 x 6 inches) apart.
 - a. Side laps of metal lath shall be tied between supports not more than 229 mm (9 inches) apart when not located over framing members.
 - b. Fasteners shall penetrate the substrate not less than 25 mm (1 in) for plywood subflooring.
 - c. Lath shall be overlapped (nested) not less than 25 mm (1 inch).
 - d. Overlaps shall not be placed within 300 mm (12 inches) of openings, corners, control joints, or termination joints.
 - 2 Apply Jewel Stone Plus base coat (two coats) over the metal lath and fully encapsulate it at a nominal thickness of [6.4 mm (¼ inch)].

SPEC NOTE	7. <i>If required, Jewel Stone Colour Pack material can be applied to the base coat, prior to the finish coat, if a particular base coat colour is required to be revealed through the cutting of grooves or the application of templates or tape-lines for the finish coat application.</i>
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- 2 Jewel Stone Plus base coat shall be cured for at least 12 hours, firm and dry to the touch, before commencing work on the finish coat application.

SPEC NOTE	8. <i>DuROCK recommends that Jewel Stone Plus applied overtop of EIFS should follow the requirements of DuROCK's specifications for the EIFS selected by the Designer, and the Jewel Stone Plus Finish Coat can be applied as per the following sections for Finish Coat, Colouring and Sealers.</i>
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3.4 FINISH COAT & COLOUR RENDERING

- 1 If specified, grout lines can be rendered to enhance the pattern and texture of the Jewel Stone finish coat. Apply fibre-reinforced cellophane or masking tape in the required width and pattern.
 - .1 Masking tape is typically selected for creating grout or mortar lines that are 6.4 to 12.7 (¼ to ½ inch) wide.
 - .2 Prefomed self-adhering templates are an alternate method of creating shape and patterns to the Jewel Stone finish coat. These templates must be well adhered, temporarily, to the base coat during the finish coat application.

SPEC NOTE	9. <i>DuROCK recommends that The Designer specify the finish coat as follows:</i> <ol style="list-style-type: none"> a. <i>Jewel Stone Regular overtop of Jewel Stone Plus base coat over wood subflooring.</i> b. <i>Jewel Stone Plus overtop of DuROCK EIFS.</i>
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- 2 Apply the Jewel Stone [Regular] [Plus] coat at a nominal 3.2 mm (1/8 inch).
 - .1 The nominal thickness for base coat and finish coat (combined) shall be at least
 - a. 9.5 mm (3/8 inch) when applied on wood subflooring with metal lath.
 - b. 4.7 mm (3/16 inch) when applied on DuROCK EIFS base coat.
 - .3 The Jewel Stone finish coat should be textured as required, leaving trowel marks, ridges and voids to create the desired aesthetic effect.
 - .4 Remove templates and/or fibre reinforced tape to expose the base coat.
 - .1 On horizontal areas exposed to pedestrian traffic, if the voids in the finish coat (where the base coat has been exposed by the tape or template) are greater than 12.7 mm (½ inch) deep then mix up Jewel Stone Regular in the desired grout color and apply it with a mason's pointing bag to fill in the recesses with a concave bead of material.
 - .5 If specified, lines can be cut into the finish coat when the initial set has occurred, whereby the finish coat is firm enough to walk on, but still soft enough to carve, i.e., within 3 hours of application. Using carving tools, fines lines and curves can be carved into the Jewel Stone finish. Shaving the surface with a steel trowel, angled on a 45, will remove any unwanted peaks, while polishing the

surface with a flat trowel will create an authentic stone texture. Brush off any cuttings or waste before colouring.

- .6 Once the Jewel Stone finish coat has cured for 24 hours you can utilize the DuROCK Jewel Stone colour packs by sprinkling the tinted powder onto the Jewel Stone surface and washing it into the surface with a wet sponge to create the desired effect. On vertical surfaces, dip a wet sponge into the color pack and wash the wall with color to create desired effect.

SPEC NOTE	10. <i>DuROCK Jewel Stone Regular is the only finish coat available with integral colour. The colour wash technique referenced above is only required where Jewel Stone Plus is being used. Colour washes can also be applied onto integral Jewel Stone Regular, if shading of different colour is desired.</i>
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- .1 Once the different colours have been applied, brush the loose dry colour off the surface as required and allow sufficient curing for application of sealer (this varies depending upon the amount of water used to render the colour onto the surface).

3.5 SEALER & CLEAN UP

- .1 Jewel Stone finish coat shall be cured for at least 24 hours prior to sealer application.
- .2 Apply the specified primer and top coat sealers at the recommend yield, as provided in the DuROCK product data sheets.
- .3 Apply Jewel Stone Anti-Slip Resin for Jewel Stone Plus applications exposed to pedestrian traffic, in particular for areas that may periodically get wet.
 - .1 Apply the non-slip aggregate on horizontal surfaces before the sealer top coat is applied, utilizing 1 kg per 19 L pail (2.2 lbs per 5 gallon pail) of sealer, by either;
 - a. Broadcasting the non-slip resin between the primer and top coat, or
 - b. Thoroughly mix the non-slip resin into the top coat before application.

SPEC NOTE	11. <i>DuROCK requires Anti-Slip Resin shall be applied on horizontal surfaces exposed to pedestrian traffic if the area is likely to be exposed to water. It is optional for surfaces that will not get wet.</i>
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- .4 Except if epoxy has been used, re-sealing is required for Jewel Stone typically on an annual basis (after the winter season for exterior applications) using the same sealer as first applied.
- .5 Clean Up:
 - .1 Remove masking and temporary protection as required.
 - .2 Ensure work of other trades is not adversely affected by the work of this section.
 - .3 Remove all leftover materials and garbage from the jobsite.

End of Specification 09 62 83