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CorrectDeck Engineered Composite Decking and Railing Products

CorrectDeck offers a range of colors and profiles of engineered composite decking, railing, and dimensional lumber for stair and trim components. CorrectDeck composite profiles consist of polypropylene, reclaimed hardwood fiber, UV-inhibited pigment systems and selected process additives. The plastic utilized in CorrectDeck is a combination of virgin polypropylene and narrow spec reclaimed polypropylene. It is compounded with 60% recovered hardwood fiber into a rigid board stock material. CorrectDeck CX products feature an anti-microbial protection to guard against mold & mildew.

CorrectDeck products are manufactured to exacting, reproducible specifications. They exhibit exceptional resistance to corrosive substances, oil and fuels, insects, fungus, salt spray, and other environmental stresses. CorrectDeck products have very low moisture absorption; therefore they will not rot, splinter or crack.

CorrectDeck products are manufactured in many dimensional lumber sizes, shapes, and colors. Planks, posts, rails, balusters, groove and groove ("channeled") are available. CorrectDeck products have excellent weathering resistance. The product requires no waterproofing, painting, staining, or similar maintenance when used in many exterior applications.

We recommend you consult with your CorrectDeck representative, who can be contacted through: Correct Building Products, 8 Morin St, Biddeford, ME 04005; Phone: (877) 332-5877, (207) 284-5600; Fax: (207) 284-1001; Email: specs@correctdeck.com; Website: www.CorrectDeck.com.

Correct Building Products was founded in 1999 by two extrusion industry veterans with the goal of manufacturing technically superior, durable, and sustainable composite building products. CorrectDeck products, including [CorrectDeck](#), [CorrectDeck CX](#), [Dimensional Composite Lumber](#) (DCL) and [RapidRail](#) are made from a patented wood fiber-polypropylene formulation.

The company also manufactures tongue-and-groove composite porch flooring that is sold under the [CorrectPorch](#) brand name. As a two-time winner of the Governor's Waste Reduction Award, we use more than 300 tons of post industrial, reclaimed hardwood sawdust each week at our Biddeford, ME plant, and ship our products worldwide. Correct Building Products, LLC was honored to be named by Inc Magazine in 2005, 2006 & 2007 as one of the USA's fastest growing private companies.

Correct Building Products was the first and is the most experienced manufacturer of polypropylene-based composite decking products, and continues to lead the industry with technical innovation in areas of design, formulation and automation. We are proud of our manufacturing, customer service, sales, and management team and our excellent safety record.

Specifier: The specifier may select CSI MasterFormat 95 or MasterFormat 2004 section numbering as required. **Bold items** in text indicate an option or selection is required; change bold text to normal text and delete Specifier Notes prior to publishing.

[SECTION 06 73 00 – COMPOSITE DECKING]

[SECTION 06151 – COMPOSITE DECKING]

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Exterior decking **[and railing]** work made from wood and polypropylene composite material.

1.2 RELATED SECTIONS

Specifier: Edit paragraphs below to correspond to project. Retain references to sections specifying work that might otherwise be incorporated in work of this Section. For projects of limited scope, delete this Article.

- A. Division 01 Section "Sustainable Design Requirements" for related LEED general requirements.
B. Division 06 Section "Rough Carpentry" for framing, blocking, and other carpentry work associated with composite decking.

1.3 REFERENCES

Specifier: Retain description of references below remaining in section following editing. For projects of limited scope, delete this Article.

- A. ASTM International (ASTM):
1. ASTM D 696 – Test Method for Coefficient of Linear Thermal Expansion of Plastics Between -30 degrees C and 30 degrees C With a Vitreous Silica Dilatometer.
 2. ASTM D 1413 – Test Method for Wood Preservatives by Laboratory Soil-Block Cultures.
 3. ASTM D 1761 – Test Methods for Mechanical Fasteners in Wood.
 4. ASTM D 2394 – Methods for Simulated Service Testing of Wood and Wood-Base Finish Flooring.
 5. ASTM D 2565 – Practice for Xenon Arc Exposure of Plastics Intended for Outdoor Applications.
 6. ASTM D 3273 – Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber.
 7. ASTM D 4060 – Test Method for Abrasion Resistance of Organic Coatings by the Taber Abraser.
 8. ASTM D 4442 – Test Methods for Direct Moisture Content Measurement of Wood and Wood-Base Material.
 9. ASTM D 4812 – Test Method for Unnotched Cantilever Beam Impact Resistance of Plastics
 10. ASTM D 6109 – Test Methods for Flexural Properties of Unreinforced and Reinforced Plastic Lumber.
 11. ASTM D 6111 – Test Method for Bulk Density and Specific Gravity of Plastic Lumber and Shapes by Displacement.
 12. ASTM D 6111 – Test Method for Bulk Density and Specific Gravity of Plastic Lumber and Shapes by Displacement.
 13. ASTM D 6864 – Standard Specification for Color and Appearance Retention of Solid Colored Plastic Siding Products
 14. .
 15. ASTM E 84 – Test Method for Surface Burning Characteristics of Building Materials.

16. ASTM E 228 – Test Method for Linear Thermal Expansion of Solid Materials With a Push-Rod Dilatometer.
- B. American Wood Preservers' Association (AWPA):
 1. AWPA E1 – Standard Method for Laboratory Evaluation to Determine Resistance to Subterranean Termites.
- C. Underwriters Laboratories, Inc. (UL):
 1. UL 723 – Test For Surface Burning Characteristics of Building Materials.
- D. U.S. Green Building Council (USGBC):
 1. LEED Green Building Rating System (LEED).

1.4 PERFORMANCE REQUIREMENTS

Specifier: This Section assumes that a qualified design professional is preparing drawings indicating the size and configuration of deck and railing components. Consult your CorrectDeck representative for CorrectDeck recommendations for sizing and spacing of components.

CorrectDeck components when properly installed in a properly designed deck or railing assembly will meet the following structural performance requirements, which are based upon IBC 2003 requirements. Edit the requirements below as necessary to meet requirements of authorities having jurisdiction.

- A. Structural Performance: Provide exterior decking **[and railing]** components capable of meeting the following minimum design loads when installed in the configuration indicated:
 1. Deck: Uniform Live Load: 125 lbf/sq. ft. (6 kN/sq. m).
 2. Treads of Stairs: Uniform Load: 100 lbf/sq. ft. (4.79 kN/sq. m), and concentrated load: 300 lbf (1.33 kN) on area of 4 sq. in. (25.8 sq. cm), whichever produces the greater stress.
 3. Guard Top Rail Concentrated Load: 200 lbf (0.89 kN) applied at any point in any direction.
 4. Guard Top Rail Uniform Load: 50 lbf/ft. (0.73 kN/m) applied in any direction.
 5. Intermediate Rail and Baluster Concentrated Load: 50 lbf (0.22 kN) applied to 1 sq. ft. (0.093 sq. m) area.

1.5 SUBMITTALS

- A. Product Data: Manufacturer's data sheets, installation instructions, and maintenance recommendations for composite decking materials.
- B. Product Test Reports: Indicating compliance of products with requirements, from a qualified independent testing agency.

Specifier: Retain applicable paragraphs below for projects intended to be LEED-certified. Add additional requirements that apply. Verify credits required and availability of materials from manufacturer(s). Refer to USGBC LEED Reference Guide for detailed information. Credits MR 4.1 and 4.2 are based upon percentage of total project material costs.

CorrectDeck is made from 60 percent recycled hardwood sawdust and 40 percent virgin and recycled polypropylene, and may contribute to LEED Credit MR 4.1/4.2 in combination with other project materials.

- C. **LEED Submittals:**
 1. Credit MR 4.1 **[and 4.2]**: Documentation indicating the percentages of post-consumer and post-industrial recycled content of composite decking materials.
- D. Samples:

1. 4 inches (102 mm) long for each size and type of composite decking **[and railing]** component.
 2. For each type of fastener and hanger.
 3. Selection Samples: For each finish product specified, two complete sets of color chips depicting the manufacturer's full range of available colors and textures.
 4. Verification Samples: For each product selected, two samples depicting the specified color and pattern.
- E. Research/Evaluation Reports: For composite decking **[and railing]**, from model code organization acceptable to authorities having jurisdiction.
- F. Warranty: Submit sample meeting warranty requirements of this Section.

1.6 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Approved manufacturer listed in this section, with minimum **[5]** years experience in manufacture of similar products in use in similar environments.

Specifier: Retain subparagraphs below when degree of control over substituted products must be specified in this Section.

1. Approval of Comparable Products: Submit the following in accordance with project substitution requirements, within time period allowed for substitution review:
 - a. Product data, including certified independent test data indicating compliance with performance requirements in Part 1 and material requirements in Part 2.
 - b. Samples of each type of product specified.
 - c. Project references: Minimum of 5 installations not less than 3 years old, with owner contact information, available for evaluation by Architect.
 - d. Sample warranty.
- B. Source Limitations: Obtain composite decking **[and railings]** through one source from a single approved manufacturer.
- C. Fire-Test-Response Characteristics per ASTM E 84 or UL Standard 723: Flame spread index: 100 or less; Smoke developed index: 450 or less.
- D. Mockup: Build mockup to verify approved materials and demonstrate acceptable workmanship.
 1. Do not proceed with work until mockup has been approved by the Architect.
 2. Approved mockups may be incorporated in finished work.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Protect materials against weather. Store on flat surface with adequate support. Provide for air circulation within and around stacks and under temporary coverings.

1.8 WARRANTY

Specifier: The "special warranty" is a warranty provided by the manufacturer to the building owner. The warranty terms below are available from Correct Building Products, manufacturers of CorrectDeck. Verify that other manufacturers listed or seeking approval furnish warranty meeting requirements. Warranty for commercial construction is 25 years; for residential construction, Correct Building Products offers a limited lifetime warranty. Consult the manufacturer for details.

- A. Special Warranty: Manufacturer's standard form indicating manufacturer's intent to replace composite decking materials that fail within 25 years following Substantial Completion under normal conditions of use and exposure. Failures are defined to include the following:
1. Rot, decay, splitting, checking, splintering, or termite damage.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Basis of Design: Composite decking design is based upon product of the manufacturer below. Provide basis of design product **[, or comparable products approved by Architect prior to bid]**.
1. Correct Building Products, 8 Morin St, Biddeford, ME 04005; Phone: (877) 332-5877, (207) 284-5600; Fax: (207) 284-1001; Email: specs@correctdeck.com; Website: www.CorrectDeck.com.
 2. **[Specifier: Insert additional product manufacturers meeting requirements of Quality Assurance Article above, if required for project.]**

2.2 MATERIALS

Specifier: List of material characteristics below reflect those of CorrectDeck or, where noted, CorrectDeck CX. If allowing comparable products, review product data and test reports to verify compliance, or edit characteristics below for project requirements.

- A. Composite Lumber, General: Wood thermoplastic composite material, UV- and heat-stabilized, consisting of combination of wood fiber and polypropylene, extrusion-molded into sizes and shapes indicated, with the following physical characteristics:
1. Flexural Strength, ASTM D 6109: 4020 lbf/sq. in. (27.58 MPa), minimum.
 2. Tensile Strength, ASTM D 7031: 2700 lbf/sq. in. (18.62 MPa), minimum.
 3. Modulus of Elasticity, ASTM D 6109: 700,000 lbf/sq. in. (5860 MPa), minimum.
 4. Modulus of Rupture, ASTM D 6109: 4000 lbf/sq. in. (37.23 MPa), minimum.
 5. Weatherability Affect on Modulus of Rupture, 2000 hours, ASTM D 2565: 16 percent reduction of baseline MOR.
 6. Density: ASTM D 6111: 6.0 lb/cu. ft. (1.15 g/cu. c), minimum.
 7. Impact Resistance: ASTM D 4812: 1.4 ft-lbf/in. (0.747 J/cm) parallel to length, minimum.
 8. Coefficient of Thermal Expansion, ASTM E 228: 1.5×10^{-5} in/in/deg. F (2.7×10^{-5} mm/mm/deg. C), maximum.
 9. Water Absorption, ASTM D 4442: 0.560, maximum.
 10. Screw Withdrawal, ASTM D 1761: 1416 lbf (6220 N), minimum.
 11. Termite Resistance, AWPA E1: 9.8, minimum
 12. Fungal Resistance, ASTM D 1413: No decay.
 13. Abrasion Resistance, ASTM D 4060: .06 g/1000 cycles.
 14. Flame Spread Index, ASTM E 84: 100 or less (Class III).
 15. Coefficient of Friction, ASTM D 2394: 0.65, minimum, dry.
 16. Coefficient of Friction, ASTM D 2394: 0.75, minimum, wet.

Specifier: Retain two optional paragraphs below when specifying CorrectDeck CX which has enhanced antimicrobial and fade resistance properties.

17. Resistance to Mold Growth, ASTM D 3273, CorrectDeck CX: 10 rating (no mold growth).
18. Fade Resistance, ASTM D 6864, CorrectDeck CX: 1.5 Delta E.

2.3 DECKING

- A. Composite Decking:

Specifier: Second option in subparagraph below describes CorrectDeck's new CorrectDeck CX, which has a fiber-free surface layer of pure polypropylene impregnated an anti-microbial. This co-extruded layer, which cannot delaminate, imparts additional wear and fade resistance to the decking.

1. Basis of Design Product: Correct Building Products, **[CorrectDeck] [CorrectDeck CX]**.
2. Nominal Size: **[5/4 by 6]**

Specifier: First options in two paragraphs below describe CorrectDeck's Channeled Installation, a unique method of fastening that eliminates the countersunk appearance of face fastening while allowing controlled spacing and deck board movement. For conventional fastening, retain second option in two paragraphs below.

CorrectDeck uses hot roller embossing to impart a deep textured wood grain to the product which will not wear off over time.

3. Profile: **[Edge grooved] [Solid]**.
 4. Fastening: **[Concealed fastening clip] [Face fastened]**.
 5. Face Surface: Embossed wood grain textured.
 6. Color: As selected by Architect from manufacturer's full line.
- B. Stair Treads and Risers:
1. Basis of Design Product: Correct Building Products, **[CorrectDeck] [CorrectDeck CX] [and] [CorrectDeck Dimensional Composite Lumber]**.
 2. Size: As indicated.
 3. Profile: Solid.
 4. Fastening: Face fastened with screws.
 5. Color and Texture: As selected by Architect from manufacturer's full line.
- C. Composite Trim: Composite lumber components matching decking, of dimension indicated.

2.4 RAILINGS

Specifier: Select between the CorrectDeck RapidRail prefabricated railing system or the site-fabricated option in the two paragraphs below.

- A. **Railing System, Prefabricated:** Consisting of newel posts, extruded top and bottom rails, and balusters, with pre-engineered connectors and trim accessories.
1. Basis of Design Product: Correct Building Products, CorrectDeck **[RapidRail] [RapidRail CX]**.
 2. Color and Texture: As selected by Architect from manufacturer's full line.
 3. Newel Posts: Nominal 4 by 4.
 - a. Post caps and skirts: As selected by Architect from manufacturer's full line.

Specifier: CorrectDeck's concealed surface mount achieves code-prescribed railing performance when installed in accordance with manufacturer's instructions – without requiring notching of deck boards. Select surface mounting or recessed mounting option below as required for project.

- b. Post anchors: Attach newel posts in manner identical to attachment method recommended by manufacturer and tested to meet requirements of Performance Requirements Article.
 - 1) Surface-mounting: Install posts using manufacturer's surface-mounted, concealed, anchor kit consisting of a screw-attached steel base plate with welded steel upright post accepting attachment of newel post.
 - 2) Recessed-mounting: Install posts using corrosion-resistant 1/2-inch (12-mm) diameter carriage bolts with 5/8-inch (15.9-mm) diameter washers.
4. Railings: 3-1/2 by 2-3/4 inch **(88.9 by 69.8 mm)** extruded profiles, routed to accept balusters where required.

Specifier: Select one of two options below based on railing system type selected. First option is for CorrectDeck CX railing system; second option is for CorrectDeck railings.

5. Balusters: **[1-1/4 by 1-1/4 inch (32 by 32 mm) hollow profile]**.

- B. **Railing System, Site Fabricated:** Composite lumber components matching decking system, consisting of newel posts, rails, and balusters.
1. Basis of Design Product: Correct Building Products, CorrectDeck Dimensional Composite Lumber.
 2. Color and Texture: As selected by Architect from manufacturer's full line.
 3. Newel Posts: Nominal 4 by 4.
 - a. Post caps and skirts: As selected by Architect from manufacturer's full line.
 - b. Post anchors: Attach newel posts in manner identical to attachment method recommended by manufacturer and tested to meet requirements of Performance Requirements Article.
 - 1) Surface-mounting: Install posts using manufacturer's surface-mounted, concealed, anchor kit consisting of a screw-attached steel base plate with welded steel upright post accepting attachment of newel post.
 - 2) Recessed-mounting: Install posts using corrosion-resistant 1/2-inch (12-mm) diameter carriage bolts with 5/8-inch (15.9-mm) diameter washers.
 4. Railings: **[3-1/2 by 2-3/4 inch (88.9 by 69.8 mm) extruded profiles, solid profile] [As indicated]**.
 5. Balusters: **[1-1/4 by 1-1/4 inch (32 by 32 mm) hollow profile] [1-1/2 by 1-3/8 inch (30.5 by 34.9 mm) solid profile] [As indicated]**.

2.5 ACCESSORIES

- A. Fasteners for Decking: Trim head screws, stainless steel, non-magnetic, 304 alloy, sized according to manufacturer's recommendations.
- B. Brackets, Flanges, and Fittings: Manufacturer's recommended stainless steel, non-magnetic, 304 alloy, bolts, nuts, washers, and screws.

2.6 FABRICATION

- A. General: Fabricate railing systems to comply with requirements indicated for design, dimensions, details, finish, and member sizes.
- B. Provide inserts and other anchorage devices for connection railing systems to structure. Fabricate anchorage devices capable of withstanding loading imposed by railing systems. Coordinate anchorage devices with supporting structure.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance.
- B. Proceed with installation of composite decking **[and railings]** upon correction of unsatisfactory conditions.

3.2 INSTALLATION, GENERAL

- A. Install composite decking **[and railings]** in accordance with manufacturer's recommended installation instructions, details, and requirements of authorities having jurisdiction.

1. Install over support members of adequate size and spacing, sloped as recommended. Provide minimum recommended airspace beneath composite decking. Extend decking across minimum of three supports. Center joints on support.
 2. Provide 1/8 inch (3 mm) gap between deck boards for control of drainage and thermal movement. Allow recommended end-to-end gap based upon ambient temperature at time of installation.
- B. Install composite decking **[and railings]** true to line and aligned with adjacent materials. Use secured concealed shims where necessary for alignment. Remove burrs and rough edges.

3.3 DECKING INSTALLATION, CONCEALED FASTENER

- A. Fasten channeled decking using specially profiled fastener configured to fit in side channels of deck boards and accept face fastener to secure decking to supports. Face fasten first and last deck boards.

3.4 DECKING INSTALLATION, FACE-FASTENED

- A. Fasten decking using two fasteners at each support. Locate fasteners minimum 1/2 inch (12 mm) from edge of decking. Pre-drill decking. Countersink screw heads.

3.5 STAIR INSTALLATION

- A. Composite Stair Treads and Risers: Secure composite treads and risers by screwing to carriages. Countersink screw heads. Extend treads over carriages.
1. Install stairs with no more than 3/16-inch (4.7-mm) variation between adjacent treads and risers and with no more than 3/8-inch (9.5-mm) variation between largest and smallest treads and risers within each flight.

3.6 POST AND RAILING INSTALLATION

- A. Install posts and railings as indicated and as recommended by railing manufacturer. Set railings accurately in location, alignment, and elevation, measured from established lines and levels and free from rack. Provide anchorage devices and fasteners where necessary for securing railings to existing construction. Pre-drill holes for fasteners.
- B. Newel Posts: Where required for access to post fasteners, install posts prior to installing decking. Do not notch posts. Secure posts to supports by through-bolting, using post fastening kit supplied by post manufacturer.
- C. Railings, Prefabricated: Center pre-routed railings between posts to provide equal spacing between terminal balusters and posts. Install squash block under center of bottom rail at mid-span. Secure railings to posts with metal angle brackets and screws. Conceal angle bracket vertical leg with end of railing; mortise railing end to provide snug fit over bracket leg to post.
1. Balusters: Fit balusters to mortised railings prior to screwing railings in place.
- D. Railings, Site Fabricated: Secure railings to posts with fasteners and connectors of size and type recommended by manufacturer. Install railings parallel to each other and to stair runs.

Retain paragraph below for site-fabricated railing assemblies. Spacing is pre-determined in RapidRail and RapidRail CX systems.

1. Balusters: Space balusters evenly and in accordance with requirements of authorities having jurisdiction. Fasten balusters to railings.

3.7 CLEANING

- A. Clean surfaces as required, following procedures and employing cleaning materials as recommended by decking manufacturer.

3.8 PROTECTION

- A. Protect installed products from damage by subsequent construction activities, until completion of Project.
- B. Field repair of damaged product finishes is limited to surface scratch repairs only. Use manufacturer's recommended field repair procedures. Replace products that have been structurally damaged by subsequent construction activities.

END OF SECTION

Additional Specifiers Notes for CorrectDeck Composite Decking

Substitution Reviews: When reviewing substitution requests for other products for compliance with this specification, CorrectDeck recommends particular attention to the following issues:

- Flexural strength: CorrectDeck uses a superior polymer formulation that is shown by independent third party testing to be stronger than similar products. This means less concern over sagging between supports over time.
- Fade and abrasion resistance: CorrectDeck offers superior resistance to fading and abrasion, which is enhanced even further with the selection of the optional CorrectDeck CX components.
- Antimicrobial properties: CorrectDeck CX contains integral antimicrobial compounds that will reduce mold and mildew concerns in high moisture environments.
- Ease of installation: CorrectDeck's Fastenator concealed fastening device speeds installation while offering fastener free surfaces with greater aesthetic appeal.
- Warranty terms and conditions: CorrectDeck offers the most warranty protection available in the industry.

Coordination with Drawings: Make sure you coordinate the following:

- Size and configuration of deck framing supports, including required slope of 1/8 inch per foot to ensure adequate water drainage from surface of decking.
- Size and layout of decking, stair, and railing components. Indicate stair and edge condition details.
- Height of railings.
- Fastening details of railings to supporting construction.
- Mounting details for newel posts.