

SECTION 07460

FIBER REINFORCED HYBRID SIDING

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\*\* NOTE TO SPECIFIER \*\* Resysta; Hybrid Decking, Siding and Wall Cladding.

This section is based on the products of Resysta, which is located at:

4035 Cheyenne Ct.

Chino, CA 91710

Phone: 909-393-2888

Fax: 909-393-2831

Email: \_\_\_\_\_\_.

Web: www.resystausa.com

[[Click Here](https://www.arcat.com/arcatcos/cos48/arc48068.html)] for additional information.

Resysta - The future material.

The material Resysta Already today, Resysta meets tomorrow’s technical and ecological demands. Owing to the high durability and sustainability Resysta offers, completely new applications are possible. The fiber reinforced hybrid material is produced of approximately 60 percent rice husks, approximately 22 percent common salt and approximately 18 percent mineral oil, which makes it both environmentally friendly as well as extremely weather resistant against sun, rain, snow or salt water. At the same time, Resysta requires minimal care and offers the look and feel of wood. Water resistant surfaces with the look of wood are Resysta’s future. Wait and see!

1. GENERAL
	1. SECTION INCLUDES

\*\* NOTE TO SPECIFIER \*\* Delete items below not required for project.

* + 1. Fiber reinforced hybrid siding of the following types:
			1. Siding 4 inches (102 mm) Profile.
			2. Siding 6 inches (152 mm) Profile.
	1. RELATED SECTIONS

\*\* NOTE TO SPECIFIER \*\* Delete any sections below not relevant to this project; add others as required.

* + 1. Section 06160 – Sheathing.
		2. Section 07600 – Flashing and Sheet Metal.
	1. REFERENCES

\*\* NOTE TO SPECIFIER \*\* Delete references from the list below that are not actually required by the text of the edited section.

* + 1. ASTM International (ASTM):
			1. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
			2. ASTM D1037 - Standard Test Methods for Evaluating Properties of Wood-Base Fiber and Particle Panel Materials.
			3. ASTM D2395 - Standard Test Methods for Density and Specific Gravity (Relative Density) of Wood and Wood-Based Materials.
			4. ASTM D3345 - Standard Test Method for Laboratory Evaluation of Solid Wood for Resistance to Termites.
		2. International Organization for Standardization (ISO):
			1. ISO 178 - Plastics -- Determination of Flexural Properties.
			2. ISO 527 - Plastics -- Determination of Tensile Properties -- Part 1: General Principles.
	1. SUBMITTALS
		1. Submit under provisions of Section 01300.
		2. Product Data:
			1. Manufacturer's data sheets on each product to be used.
			2. Preparation instructions and recommendations.
			3. Storage and handling requirements and recommendations.
			4. Typical installation methods.

\*\* NOTE TO SPECIFIER \*\* Delete selection samples if colors have already been selected.

* + 1. Selection Samples: For each finish product specified, two complete sets of color chips representing manufacturer's full range of available colors and patterns.
		2. Verification Samples: For each finish product specified, two samples, minimum size 6 inches (150 mm) square representing actual product, color, and patterns.
		3. Shop Drawings: Include details of materials, construction and finish. Include relationship with adjacent construction.
	1. QUALITY ASSURANCE
		1. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with a minimum five years documented experience.
		2. Installer Qualifications: Company specializing in performing Work of this section with minimum two years documented experience with projects of similar scope and complexity.
		3. Source Limitations: Provide each type of product from a single manufacturing source to ensure uniformity.

\*\* NOTE TO SPECIFIER \*\* Include mock-up if the project size or quality warrant the expense. The following is one example of how a mock-up on might be specified. When deciding on the extent of the mock-up, consider all the major different types of work on the project. Delete if not required.

* + 1. Mock-Up: Construct a mock-up with actual materials in sufficient time for Architect’s review and to not delay construction progress. Locate mock-up as acceptable to Architect and provide temporary foundations and support.
			1. Intent of mock-up is to demonstrate quality of workmanship and visual appearance.
			2. If mock-up is not acceptable, rebuild mock-up until satisfactory results are achieved.
			3. Retain mock-up during construction as a standard for comparison with completed work.
			4. Do not alter or remove mock-up until work is completed or removal is authorized.
	1. PRE-INSTALLATION CONFERENCE
		1. Convene a conference approximately two weeks before scheduled commencement of the Work. Attendees shall include Architect, Contractor and trades involved. Agenda shall include schedule, responsibilities, critical path items and approvals.
	2. DELIVERY, STORAGE, AND HANDLING
		1. Store and handle in strict compliance with manufacturer's written instructions and recommendations.
		2. Protect from damage due to weather, excessive temperature, and construction operations.
	3. PROJECT CONDITIONS
		1. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's recommended limits.
	4. SEQUENCING
		1. Ensure that products of this section are supplied to affected trades in time to prevent interruption of construction progress.
	5. WARRANTY
		1. Manufacturer's Warranty: Provide manufacturer's standard limited warranty.
			1. Resysta North America, Inc. (Resysta), warrants to named property owner of the building or property who is the original purchaser of Resysta products the Resysta product was installed at the time of the installation, (the “Original Owner”) that these products will be free from defects in materials and manufacturing workmanship for 25 years (residential) or 15 years (commercial) as stated below. Resysta warrants the products shall be free from defects in workmanship and materials that (1) occur as a direct result of the manufacturing process, (2) occur during the warranty period and (3) have structural damage or fungal decay.
1. PRODUCTS
	1. MANUFACTURERS
		1. Acceptable Manufacturer: Resysta which is located at: 4035 Cheyenne Ct.; Chino, CA 91710; ASD Phone: 909-393-2888; Fax: 909-393-2831; Email: \_\_\_\_\_\_; Web: www.resystausa.com.

\*\* NOTE TO SPECIFIER \*\* Delete one of the following two paragraphs; coordinate with requirements of Division 1 section on product options and substitutions.

* + 1. Substitutions: Not permitted.
		2. Requests for substitutions will be considered in accordance with provisions of Section 01600.
	1. PERFORMANCE AND DESIGN REQUIREMENTS
		1. Code Compliance:
			1. 2015 International Building Code (IBC).
			2. 2015 International Residential Code (IRC).
			3. 2017 Florida Building Code (FBC) including HVHZ.
			4. Siding complies with Section 2605.2 of the IBC and FBC for use as an exterior plastic veneer.
			5. Exterior wall covering on buildings of type VB construction (IBC, FBC) and all construction types under the IRC.
		2. Standards Compliance:
			1. Code Compliance Research Report (CCRR)-0272 as prepared by Intertek issued 5-30-2018.

\*\* NOTE TO SPECIFIER \*\* For many years siding has been the most traditional form of decorating and waterproofing building walls. Currently the building industry offers several options for this product, but still the most popular remain wood and plastic.

Although visually there are many positive aspects of using siding, every one of them has its disadvantages. Installation of widely preferred wooden siding is followed by costly maintenance that needs to be performed every 4 to 9 years and the plastic siding presents a high environmental cost related to difficulty of responsible disposal.

Therefore fully recyclable Resysta siding is a perfect solution. With the natural look and feel of wood followed by the minimal maintenance requirements it won over the architects, homeowners and contractors all over the USA.

* 1. PRODUCT TYPES
		1. Basis of Design: Siding as manufactured and supplied by Resysta.
			1. Construction: Mono extruded, rigid plastic composite siding consisting of polyvinyl chloride and organic hull fillers. Simulated wood grain pattern.

\*\* NOTE TO SPECIFIER \*\* Delete siding profile not required.

* + 1. Siding 4 inches Profile:
			1. Siding Profile: 4 inches (102 mm).
			2. Model: RESCP120412.
			3. Dimensions (W x H x L): 1/2 x 4 x 144 inches (12 x 102 x 3658 mm).
		2. Siding 6 inches Profile:
			1. Siding Profile: 6 inches (152 mm).
			2. Model: RESCP120612.
			3. Dimensions (W x H x L): 1/2 x 6 x 144 inches (12 x 152 x 3658 mm).
		3. System:
			1. Installation shall comply with the CCRR and the manufacturer’s requirements.
			2. Siding shall be installed over steel, aluminum or wood battens over structural wood sheathing; 5/8 inch (16 mm) plywood complying with DOC PS 1, DOC PS 2, or ANSI/APA PRP 210, per IBC 2303.1.5 (FBC 2303.1.4).
			3. Sheathing shall be covered by an approved water resistive barrier complying with 1404.2 of the IBC and FBC, and Section R703.1.1 of the IRC, and provide a means of draining water that enters the assembly to the exterior.
			4. Protection against condensation shall be provided in accordance with Section 1405.3 of the IBC and FBC.
			5. Flashing shall be installed in accordance with Section 1405.4 of the IBC and FBC, and IRC Section R703.8.
		4. Material:
			1. Polyvinyl chloride.
			2. Rice Husks: Approximately 60 percent.
			3. Common Salt: Approximately 22 percent.
			4. Mineral Oil: Approximately 18 percent.
		5. Siding is 100 percent recyclable within the manufacturing process.
		6. Material Characteristics:
			1. Density (ASTM D2395): Approximately 0.844 oz per cu inch (1.46 g per cu cm).
			2. Water Absorption and Humidity (ASTM D1037): Little up to no water absorption (only surface moistening).
			3. Weathering and UV Resistance (QUV Test): With glaze treatment, Resysta surfaces are extremely resistant.
			4. Fire Rating (German/European norm) (EN ISO 11925-2): B2 (E) - Standard flammable (with additional treatment B1 obtainable).
			5. Fire Rating According NFPA (US Norm) (ASTM E84): Class A (flame propagation 25, smoke emission 450).
			6. Fire Rating (British standard) (BS 476 Teil 6 and 7): Class 1.
			7. Duraility Resistance Against Wood Destroying Fungi (basidiomycetes) (DIN V EN V12038): The material has not been affected, highest durability- Class 1.
			8. Emission LGA-tested safety and LGA test passed contamination.
			9. Brinell Hardness (EN 1534): 11762.6 lbs per sq in (81.1 N per sq mm).
			10. Axial Withdrawal Force (of Screws) (EN 320.2011): 1298.7 lbf (5777 N).
			11. Thermal Conductivity (EN 12664): 0.115 btu per hr ft F(0.199 W per m K).
			12. Water Vapor Transmission (DIN EN ISO 12572): 1298.7 lbf (5777 N).
			13. Bending Strength (ISO 178): 6671.7 lbs per sq in (46 N per sq mm).
			14. Bending Modulus (ISO 178): 558395.3 lbs per sq in (3850 N per sq mm).
			15. Tensile Strength (ISO 527): 3161.8 lbs per sq in (21.8 N per sq mm).
			16. Tensile Modulus (ISO 527): 339388.3 lbs per sq in (2340 N per sq mm).
			17. Tensile Modulus (ISO 527): 399388.3 lbs per sq in (2340 N per sq mm).
			18. Shearing Strength (EN 392): 2436.6 lbs per sq in (16.8 N per sq mm).
			19. Durability - Resistance Against Rotting Fungi (CEN/TS 15083-2): No attack by the test fungi, highest durability class 1 (very durable).
			20. Durability Against Mold Fungi and Wood Discoloring Fungi (EN 15534-1): Durability against the wood discoloring fungi (very durable).
			21. Durability Against Subterranean Termites (ASTM D3345): High Durability against subterranean Termites - nearly no weight loss.
			22. Specific Surface and Volume Resistances (DIN IEC 60093) Measuring Voltage 100V Surface Resistance: 8.0 x 10(13) Ohms:
				1. Specific Surface Resistance: 8.1 x10(14) Ohms.
				2. Volume Resistance: 2.2 x 10(13) Ohms.
				3. Specific Volume Resistance: 6.3 x 10(14) Ohms.

\*\* NOTE TO SPECIFIER \*\* Classic or modern – with the proprietary finish, especially formulated for the Resysta surfaces, the decking or facade profiles are perfectly finished and protected against infiltration of dirt caused by wear and environmental influences. With selected color shades the surface finish of your choice can be easily created.

The water based formula is odorless and with minimum maintenance traces of use can be easily removed. Since Resysta material is made mainly of natural fibers, each board has a warm color shade with beautiful grain variations. These distinctions from one plank to another give Resysta material natural wood-like appearance. Therefore we proudly like to say that visually Resysta surfaces are “consistently inconsistent” and no other man made composite product has properties like RESYSTA.

* 1. FINISH

\*\* NOTE TO SPECIFIER \*\* Resysta Color Concept provides unique opportunity to create stunning projects with the variety of over 30 colors. We pride ourselves to offer the only composite product on the market which can be refinished based on customers color preference.

* + 1. System:

\*\* NOTE TO SPECIFIER \*\* Water based stain for the color design of surfaces.

Resysta Stain is a carefully mixed composition of the water-diluted paint system with the high quality pigments. The unique color of the surfaces is achieved by the interaction between the shade of the Resysta substrate and the transparent color hue of the stain. The overall outcome is determined by the amount of pigments applied, therefore some colors appear to be less transparent than the others. Moreover, variations of the shade between boards stained with the same color are also to be expected, which adds to the unique visual properties of the Resysta material.

* + - 1. Stain: FVG-C Transparent Colored Stain. Water-based stain for the color design of surfaces.

\*\* NOTE TO SPECIFIER \*\* Resysta material does not absorb any moisture and doesn’t need to be sealed itself. However to increase the mechanical and chemical resistance and protection against soiling, the Resysta stained surface needs to be sealed with Resysta sealers.

It is highly recommended to purchase pre-finished Resysta material which is offered by most of our distributors. With the use of the industrial UV cured sealer (RSI UV), the maximum hardness and scratch resistance is guaranteed.

Resysta can also be finished on site where the use of the RFS 2K Sealer is necessary.

RCC Resysta 2K Commercial Coat for the DIY Sector

RFS Resysta 2K Sealer for Professional Users.

Delete sealer not required.

* + - 1. Factory Applied Sealer: RSI UV. UV cured.
			2. Field Applied Sealer: RCC Resysta 2K Commercial Coat. Aqueous, transparent 2-component acrylic sealant for indoor and outdoor use.
			3. Field Applied Sealer: RFS 2K Sealer. Aqueous, transparent 2-component polyurethane sealant for indoor and outdoor use.

\*\* NOTE TO SPECIFIER \*\* Delete colors not required. The first six colors listed are standard.

* + - 1. Color: C08, Burma.
			2. Color: C14, Siam.
			3. Color: C23, Aged Teak.
			4. Color: C24, Java.
			5. Color: C42, Cape Cod.
			6. Color: C51, Walnut.
			7. Color: C02, Pale Golden.
			8. Color: C09, Dark Burma.
			9. Color: C15, Dark Siam.
			10. Color: C26, Rust.
			11. Color: C28, Light Taupe.
			12. Color: C29, Dark Taupe.
			13. Color: C45, Mustard Green.
			14. Color: C46, Sage.
			15. Color: C47, Green/Blue.
			16. Color: C49, Lavender.
			17. Color: C52, Terra Cotta.
			18. Color: C53, Dark Grey.
			19. Color: C64, Mahagony.
			20. Color: C71, Palisander.
			21. Color: C73, Yellow Teak.
			22. Color: C77, Concrete Grey.
			23. Color: C3001, Bright Red.
			24. Color: C3011, Red.
			25. Color: C5010, Blue.
			26. Color: C60062, Apple Green.
			27. Color: C6005, Moss Green.
			28. Color: C7016, Anthrazit.
			29. Color: C9005, Black.
			30. Color: C9010, White.
1. EXECUTION
	1. EXAMINATION
		1. Do not begin installation until substrates have been properly constructed and prepared.
		2. If substrate preparation is the responsibility of another installer, notify Architect in writing of unsatisfactory preparation before proceeding.
	2. PREPARATION
		1. Clean surfaces thoroughly prior to installation.
		2. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
	3. INSTALLATION
		1. Install in accordance with manufacturer's instructions approved submittals and in proper relationship with adjacent construction.
	4. FIELD QUALITY CONTROL
		1. Field Inspection: Coordinate field inspection in accordance with appropriate sections in Division 01.

\*\* NOTE TO SPECIFIER \*\* Include if manufacturer provides field quality control with onsite personnel for instruction or supervision of product installation, application, erection or construction. Delete if not required.

* + 1. Manufacturer’s Services: Coordinate manufacturer’s services in accordance with appropriate sections in Division 01.
	1. CLEANING AND PROTECTION
		1. Clean products in accordance with the manufacturer’s recommendations.
		2. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION