SECTION 06191

CONSTRUCTION ADHESIVES

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\*\* NOTE TO SPECIFIER \*\* Franklin International Inc. - Titebond; construction adhesives.
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This section is based on the products of Franklin International Inc. - Titebond, which is located at:
2020 Bruck St.
Columbus, OH 43207
Toll Free Tel: 800-877-4583
Tel: 614-443-0241
Fax: 614-445-1813
Email: [request info (BeeMiller@franklininternational.com )](http://admin.arcat.com/users.pl?action=UserEmail&company=Franklin+International+Inc.+-+Titebond&coid=32625&rep=&fax=614-445-1813&message=RE:%20Spec%20Question%20(06191fii):%20%20&mf=)
Web: [www.titebond.com](http://www.titebond.com)
 [ [Click Here](http://www.arcat.com/arcatcos/cos32/arc32625.html) ] for additional information.
For more than 75 years, Franklin International has been the industry leader in bonding wood and wood products. Our history of innovation started in 1935 with Liquid Hide Glue, a ready-to-use formula that revolutionized the woodworking industry. Since that time, we have continued to earn our reputation as a company with a strong commitment to solving problems, and doing it first. From wood glues to construction adhesives to caulks and sealants, the Titebond brand sets the standard for product excellence.
Our history as a leader in construction adhesives began back in the early 1970s with the introduction of Titebond Construction Adhesive, one of the first adhesives to pass the American Plywood Association's AFG-01 specification. Since the 80's Titebond has been dedicated to leading the industry with environmentally superior adhesives. Titebond was the first to develop a solvent-free construction adhesive line and the first to have a water based adhesive pass AFG-01, in 1989. In addition, our environmental offering has expanded to include urethanes and other VOC-compliant products. Today, GREENchoice™ Adhesives represent Titebond's commitment to sustainability.
In addition Titebond offers the PROvantage line of construction adhesives which are a proprietary, advanced solvent technology, providing superior performance while complying with all Federal and State VOC regulations. They offer key benefits of conventional solvent-based adhesives, yet are more environmentally responsible by creating less air pollution and relying less on crude oil derivatives. All Titebond PROvantage adhesives are 100% compliant for sale and use in all U.S. states. Titebond...The Professional's Choice!

1. GENERAL
	1. SECTION INCLUDES

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

* + 1. Fiber reinforced plastic panel adhesives.
		2. Specialty adhesives.
		3. Construction adhesives.
	1. RELATED SECTIONS

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

* + 1. Section 07920 - Joint Sealants: For trowel and gun grade mastics primarily used for construction joint sealing.
		2. Section 09602 - Flooring Adhesives: For adhesives for flooring.
	1. REFERENCES

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

* + 1. American Plywood Association AFG-01 - Performance Specifications for Adhesives Used for Field-Gluing Plywood to Wood Framing.
		2. ASTM International (ASTM):
			1. ASTM C 557 - Standard Specification for Adhesives for Fastening Gypsum Wallboard to Wood Framing.
			2. ASTM D 1779 - Standard Specification for Adhesive for Acoustical Materials.
			3. ASTM D 3498 - Standard Specification for Adhesives for Field-Gluing Plywood to Lumber Framing for Floor Systems.
			4. ASTM E 72 - Standard Test Methods of Conducting Strength Tests of Panels for Building Construction.
		3. Canadian Food Inspection Agency (CFIA):
		4. CAN/CGSB-71.25 - Adhesives, for Bonding Drywall to Wood Framing and Metal Studs.
		5. GreenSeal GS-36 Specifications - Standard for Adhesives For Commercial Use.
		6. USGBC - Leadership in Energy and Environmental Design (LEED):
		7. South Coast Air Quality Management District (SCAQMD) Rule #1168 - Adhesive and Sealant Applications.
		8. California Environmental Protection Agency Air Resource Board (CARB):
		9. United States Food and Drug Administration (FDA):
	1. SUBMITTALS
		1. Submit under provisions of Section 01300.
		2. Product Data: Manufacturer's data sheets on each product to be used, including:
			1. Preparation instructions and recommendations.
			2. Storage and handling requirements and recommendations.
			3. Installation methods.
	2. QUALITY ASSURANCE
		1. Manufacturer Qualifications: Firm specializing in manufacture of construction adhesives, with minimum 10 years experience.

\*\* NOTE TO SPECIFIER \*\* Include a mock-up if the project size and/or quality warrant taking such a precaution. The following is one example of how a mock-up on a large project might be specified. When deciding on the extent of the mock-up, consider all the major different types of work on the project.

* + 1. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.
			1. Finish areas designated by Architect.
			2. Do not proceed with remaining work until workmanship, color, and sheen are approved by Architect.
			3. Refinish mock-up area as required to produce acceptable work.
	1. DELIVERY, STORAGE, AND HANDLING
		1. Store products in manufacturer's unopened packaging until ready for installation.
	2. 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.
1. PRODUCTS
	1. MANUFACTURERS
		1. Acceptable Manufacturer: Franklin International Inc. - Titebond, which is located at: 2020 Bruck St.; Columbus, OH 43207; Toll Free Tel: 800-877-4583; Tel: 614-443-0241; Fax: 614-445-1813; Email: [request info (BeeMiller@franklininternational.com )](http://admin.arcat.com/users.pl?action=UserEmail&company=Franklin+International+Inc.+-+Titebond&coid=32625&rep=&fax=614-445-1813&message=RE:%20Spec%20Question%20(06191fii):%20%20&mf=); Web: [www.titebond.com](http://www.titebond.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. FIBER REINFORCED PLASTIC PANEL ADHESIVES
		1. Fast Grab FRP Adhesive (Proprietary emulsion polymer low viscosity mastic):

\*\* NOTE TO SPECIFIER \*\* Titebond® GREENchoice™ Fast Grab FRP Adhesive is a high-quality, VOC-compliant, adhesive specifically formulated for the installation of FRP (fiber-reinforced plastic) panels. Its fast grab and bonding power greatly reduce the need for extended bracing. GREENchoice Fast Grab FRP is environmentally superior and contains no ozone-depleting chemicals. Unlike solvent-based adhesives, it is nonflammable, emits no harmful fumes and cleans up with water.

* + - 1. Product: Titebond GREENchoice Fast Grab FRP Adhesive as manufactured by Franklin International Inc.
				1. Meets GreenSeal GS-36, LEED, SCAQMD, CARB and NAHB Green Building standards.
				2. Canadian Food Inspection Agency (CFIA): Approved for indirect food contact.
				3. Environmentally safe - VOC-compliant.
				4. Solids: 67 percent.
				5. Achieves NFPA Class A fire rating.
				6. Quick grab - Minimal bracing.
				7. No offensive odor.
				8. Bond FRP to porous building materials.
		1. Advanced Polymer Panel Adhesive (100 percent solids low viscosity polyether mastic):

\*\* NOTE TO SPECIFIER \*\* Titebond® GREENchoice™ Advanced Polymer Panel Adhesive is a high performance, professional strength advanced polymer adhesive specifically formulated to be used for most types of paneling installations. It has fast grab, a rapid cure rate, trowels easily, is moisture, mold and mildew resistant, and contains no water.

* + - 1. Product: Titebond GREENchoice Advanced Polymer Panel Adhesive as manufactured by Franklin International Inc.
				1. Meets GreenSeal GS-36, LEED, SCAQMD, CARB and NAHB Green Building standards.
				2. Environmentally safe - VOC-compliant.
				3. Solids: 100 percent.
				4. Calculated VOC: 0 g/L (20 g/L during cure).
				5. Achieves NFPA Class A fire rating.
				6. No offensive odor.
				7. Bonds non-porous surfaces.
				8. Moisture, mold and mildew resistant.
		1. Solvent Based FRP Panel Adhesive:

\*\* NOTE TO SPECIFIER \*\* Titebond® Solvent-Based FRP Adhesive is a versatile, high-quality adhesive designed for the installation of plywood, tileboard, FRP, pre-finished hardboard, gypsum wallboard and other paneling materials. It exceeds the ASTM C557 specification. Titebond® Solvent-Based FRP Adhesive provides excellent water-resistance and remains permanently flexible. It is easy to trowel and offers a 30-minute working time to allow precise placement of the working materials.

* + - 1. Product: Titebond Solvent Based FRP Adhesive as manufactured by Franklin International Inc.
				1. Type: Synthetic elastomeric polymer and resins, light viscosity mastic.
				2. Exceeds ASTM C557.
				3. Solids: 80 percent.
				4. Non-reactive VOC: 247 g/L.
	1. SPECIALTY ADHESIVES
		1. Acoustical Ceiling Tile Adhesive (Polymer emulsion medium viscosity mastic):

\*\* NOTE TO SPECIFIER \*\* Titebond® GREENchoice™ Acoustical Ceiling Tile Adhesive is designed for the safe and easy installation of acoustical ceiling tiles. Its fast, strong grab holds materials firmly in place and eliminates sagging. It offers excellent adhesion to common surfaces such as drywall, plaster and paint.

* + - 1. Product: Titebond GREENchoice Acoustical Ceiling Tile Adhesive as manufactured by Franklin International Inc.
				1. Not recommended for use on tiles larger than 12 inches by 12 inches (305 mm by 305 mm).
				2. Solids: 70 percent.
				3. Calculated VOC: 3.0 g/L.
				4. Passes ASTM D-1779.
				5. NPFA Class A fire rating when tested in accordance with ASTM E-84.
		1. Cove Base Adhesive: (Medium viscosity mastic).

\*\* NOTE TO SPECIFIER \*\* Titebond® GREENchoice™ Professional Cove Base Adhesive is designed for the quick and easy installation of rubber and vinyl cove bases. Its fast, strong grab holds materials firmly in place and eliminates sagging. It offers excellent adhesion to drywall, plaster, paint, wallpaper, paneling and ceramic tile.

* + - 1. Product: Titebond GREENchoice Professional Cove Base Adhesive as manufactured by Franklin International Inc.
				1. Impact-resistant.
				2. Eliminates sagging.
				3. Non-reactive VOC: 28 g/L.
				4. Solids: 77 percent.
	1. CONSTRUCTION ADHESIVES
		1. Construction Adhesive:

\*\* NOTE TO SPECIFIER \*\* GREENchoice Heavy Duty Construction Adhesive offers superior interior and exterior strength. Its all-purpose versatility is ideal for all common building materials. It provides a strong grab, fills gaps and irregularities and will remain permanently flexible.

* + - 1. Product: Titebond GREENchoice Heavy Duty Construction Adhesive as manufactured by Franklin International Inc.
				1. Type: Blend of polymer emulsions medium-viscosity mastic.
				2. Solids 75 percent.
				3. Exceeds the requirements of the APA's AFG-01 specification and ASTM C557.
				4. Waterproof.
				5. Non-reactive VOC: 6.6 g/L

\*\* NOTE TO SPECIFIER \*\* Titebond® Trowelable Multi-Purpose Construction Adhesive is a versatile, high-quality adhesive designed for the installation of plywood, tileboard, FRP, pre-finished hardboard, Gypsum wallboard and other wall-paneling materials. It also offers excellent strength on masonry, ceramics, foamboard and most rigid plastics. Not designed for continuous submersion. Do not adhere one non porous material to another as this will slow or prevent drying.

* + - 1. Product: Titebond Trowelable Multi-Purpose Construction Adhesive as manufactured by Franklin International Inc.
				1. Type: Synthetic elastomeric polymer and resins Light viscosity mastic.
				2. Solids: 80 percent.
				3. Calculated VOC: 247 g/L.

\*\* NOTE TO SPECIFIER \*\* GREENchoice Premium Polyurethane Construction Adhesive is an advanced urethane formula for interior and exterior projects. It is the highest performing product of its kind, offering unmatched strength and durability even when bonding two non-porous materials. It offers a fast set-up time as well as a smooth bead for effortless extrusion - even in near-freezing temperatures.

* + - 1. Product: Titebond GREENchoice Premium Polyurethane Construction Adhesive as manufactured by Franklin International Inc.
				1. Type: Polyurethane mastic.
				2. Meets ASTM D3498.
				3. Meets ASTM C557.
				4. Complies with APA AFG-01.
				5. Solids 98 percent.
				6. Calculated VOC: 20 g/L.
				7. Bonds two non-porous materials.
				8. Waterproof.
				9. Safe for silver backed mirrors bonded to porous and non-porous surfaces along with mechanical fasteners.

\*\* NOTE TO SPECIFIER \*\* Titebond® PROvantage™ PRO Heavy Duty Adhesive is a premium-grade formula designed for more demanding construction and repair projects. It is ideal for bonding most common materials including wood, metal, brick, marble, ceramic tile, concrete, drywall and wet, frozen and treated lumber.

* + - 1. Product: Titebond PROvantage PRO Heavy Duty Adhesive as manufactured by Franklin International Inc.
				1. Passes AFG-01.
				2. Meets ASTM D3498.
				3. Meets ASTM C557.
				4. Solids: 66 percent.
				5. Non-reactive VOC 49 g/L.
				6. Waterproof.

\*\* NOTE TO SPECIFIER \*\* Titebond® Heavy Duty Construction Adhesive is a versatile adhesive that exceeds the APA's AFG-01 specification. It is designed for a wide range of construction applications including wet, frozen and treated lumber. It is also ideal for metal, brick, concrete, ceramics and most large panel-type substrates.

* + - 1. Product: Titebond Heavy Duty Construction Adhesive as manufactured by Franklin International Inc.
				1. Type: Synthetic elastomeric polymer Medium-viscosity mastic.
				2. Exceeds the performance requirements of the APA's AFG-01, ASTM D3498 and ASTM C557 specifications.
				3. Solids 65 percent.
				4. Calculated VOC (less exempt solvent) 303 g/L.
				5. Safe for silver backed mirrors bonded to porous surfaces along with mechanical fasteners.

\*\* NOTE TO SPECIFIER \*\* Titebond Interior/Exterior Construction Adhesive is a versatile adhesive ideal for wood, paneling, drywall, ceramic tile, metal, foamboard and tub surrounds. It is also effective for installing foam insulation and panels to most building materials. Titebond Interior/Exterior provides excellent water-resistance and works extremely well in colder temperatures. It also offers a 10-minute working time to allow precise placement of materials. It exceeds the ASTM C557 specification.

* + - 1. Product: Titebond Interior/Exterior Construction Adhesive as manufactured by Franklin International Inc.
				1. Type: Synthetic elastomeric polymer Medium-viscosity mastic.
				2. Exceeds ASTM C557.
				3. Application: Wood, paneling, foamboard, tub surrounds, metal.
				4. Highly water-resistant.
				5. Solids: 74 percent.
				6. Calculated VOC 310 g/L.
		1. Drywall Adhesive:

\*\* NOTE TO SPECIFIER \*\* Titebond® GREENchoice™ Professional Drywall Adhesive is specifically designed for installing drywall and paneling to most common building materials. It offers excellent adhesion, reduces nail pops and provides a "no sag" installation.

* + - 1. Product: Titebond GREENchoice Professional Drywall Adhesive as manufactured by Franklin International Inc.
				1. Type: Polymer emulsion medium viscosity mastic.
				2. Exceeds ASTM C557.
				3. Tested in accordance with ASTM E72 for racking and shearing.
				4. Solids: 74 percent.
				5. Non-reactive VOC: 3.0 g/L.

\*\* NOTE TO SPECIFIER \*\* Titebond® Drywall Adhesive is specifically designed for applying drywall to wood, hardboard, gypsum wallboard, cold-rolled steel and aluminum. Its strong initial tack allows the panels to be positioned quickly without slipping. Do not use on polystyrene foam or rigid plastics such as A.B.S. or high-impact polystyrene. Do not use on vinyl-coated drywall. Use Titebond Interior/Exterior Construction Adhesive for bonding polystyrene or rigid plastics. Do not adhere one non-porous material to another since this will slow or prevent drying.

* + - 1. Product: Titebond Professional Drywall Adhesive as manufactured by Franklin International Inc.
				1. Type: Synthetic elastomeric polymer Thixotropic medium viscosity mastic.
				2. Exceeds ASTM C557.
				3. Exceeds CAN/CGSB-71.25.
				4. Calculated VOC: 365 g/L.
				5. Solids: 74 percent.

\*\* NOTE TO SPECIFIER \*\* Titebond® PROvantage™; Professional Drywall Adhesive is a high-performance, VOC-compliant formula specifically designed for installing drywall and paneling to most common building materials, including wood and metal. It offers excellent adhesion, reduces nail pops and provides a "no sag" installation.

* + - 1. Product: Titebond PROvantage; Professional Drywall Adhesive as manufactured by Franklin International Inc.
				1. Type: Proprietary synthetic polymer Thixotropic medium viscosity mastic.
				2. Exceeds the requirements of ASTM C557 and has been tested in accordance with ASTM E72 for racking and shearing.
				3. Solids: 67 percent.
				4. Non-reactive VOC: 49 g/L.
		1. Repair Adhesive:

\*\* NOTE TO SPECIFIER \*\* GREENchoice Projects & Repair Construction Adhesive is an interior adhesive designed for general repair and installation projects. The versatile formula has a long working time for precise placement.

* + - 1. Product: Titebond GREENchoice Projects & Repair Adhesive as manufactured by Franklin International Inc.
				1. Type: Blend of polymer emulsions medium viscosity mastic.
				2. Exceeds ASTM C557.
				3. Exceeds CAN/CGSB 71.25M.
				4. Solids: 75 percent.
				5. Non-reactive VOC: 6.6 g/L.
		1. Subfloor Adhesive:

\*\* NOTE TO SPECIFIER \*\* GREENchoice Weatherproof Subfloor Adhesive is a professional-strength formula designed for subfloor installations and plywood use. It provides a permanent bond that remains flexible, reduces nailing and helps eliminate squeaky floors.

* + - 1. Product: Titebond GREENchoice Weatherproof Subfloor Adhesive as manufactured by Franklin International Inc.
				1. Exceeds ASTM C557.
				2. Solids: 69 percent.
				3. Non-reactive VOC: 27 g/L.
				4. Complies with APA AFG-01.

\*\* NOTE TO SPECIFIER \*\* Titebond® All Weather Subfloor Adhesive is the ideal choice for subfloor installations. It is designed for particleboard, OSB, engineered lumber and wet, frozen and treated lumber. It offers a strong initial tack, provides superior strength and remains permanently flexible.

* + - 1. Product: Titebond All Weather Subfloor Adhesive as manufactured by Franklin International Inc.
				1. Type: Synthetic elastomeric polymer Medium-viscosity mastic.
				2. Exceeds APA's AFG-01.
				3. Exceeds ASTM D3498.
				4. Exceeds ASTM C557.
				5. Solids: 67 percent.
				6. Calculated VOC: 389 g/L.

\*\* NOTE TO SPECIFIER \*\* Titebond® PROvantage™ Weatherproof Subfloor Adhesive is a high-performance, VOC-compliant formula ideal for subfloor installations and general plywood use. It offers a strong initial tack and excellent bond strength for particleboard, OSB, engineered lumber and wet, frozen and treated lumber.

* + - 1. Product: Titebond PROvantage Weatherproof Subfloor Adhesive as manufactured by Franklin International Inc.
				1. Type Proprietary synthetic polymer Thixotropic medium viscosity mastic.
				2. VOC: 50 g/L.
				3. Solids: 67 percent.
				4. Non-reactive VOC: 49 g/L.
				5. Waterproof.
				6. Exceeds APA's AFG-01.
				7. Exceeds ASTM D3498.
				8. Exceeds ASTM C557.
		1. Foamboard Adhesive:

\*\* NOTE TO SPECIFIER \*\* Titebond Panel & Foamboard Adhesive is Designed for bonding foamboard insulation and polystyrene to most porous building materials. It is also ideal for use on paneling, plastics, tub surrounds, wood, fiberglass, drywall, ceramic tile, metal and more. It exceeds the performance requirements of the AFG-01 and ASTM C557specifications.

* + - 1. Product: Titebond Panel & Foamboard Construction Adhesive as manufactured by Franklin International Inc.
				1. Type: Synthetic elastomeric polymer Medium-viscosity mastic.
				2. Exceeds APA's AFG-01.
				3. Exceeds ASTM C557.
				4. Exceeds CAN/CGSB-71.25.
				5. Calculated VOC: 310 g/L.
				6. Solids: 74 percent.
		1. Wood Adhesive:

\*\* NOTE TO SPECIFIER \*\* Titebond® PROvantage™ Interior & Exterior Wood Projects Adhesive is specifically engineered for interior/exterior wood construction and repair projects. This premium grade, waterproof formula offers superior bond strength and cold weather extrusion, down to 0 degrees CF. It is ideal for bonding most common wood-based materials including trim, molding, paneling, plywood, OSB, particleboard and wet, frozen and treated lumber.

* + - 1. Product: Titebond PROvantage Interior & Exterior Wood Projects Adhesive as manufactured by Franklin International Inc.
				1. Type: Proprietary synthetic polymer Thixotropic medium viscosity mastic.
				2. Non-reactive VOC: 49 g/L.
				3. Application: Interior and exterior.
				4. Waterproof.
				5. Exceeds ASTM D 3498.
				6. Exceeds ASTM C 557.
				7. Complies with APA AFG-01.
		1. Landscape Adhesive:

\*\* NOTE TO SPECIFIER \*\* Titebond® PROvantage™ Landscape Adhesive is a waterproof, professional grade construction adhesive that prevents wall shifting or loosening due to seasonal changes. This adhesive bonds most common building materials including brick, stone, concrete, metal, wood, timber and slate.

* + - 1. Product: Titebond PROvantage Landscape Adhesive as manufactured by Franklin International Inc.
				1. Type: Proprietary synthetic polymer Thixotropic medium viscosity mastic.
				2. Exceeds ASTM C557.
				3. Calculated VOC: 7 g/L.
				4. Solids: 67 percent

\*\* NOTE TO SPECIFIER \*\* Titebond Landscape Retaining Wall Adhesive is a professional strength adhesive for use on retaining and landscape decorative wall systems. It is specifically formulated for use with concrete, wood, brick, masonry, pavers and most other common landscaping materials.

* + - 1. Product: Titebond Landscape Retaining Wall Adhesive as manufactured by Franklin International Inc.
				1. Type: Synthetic elastomeric polymer Medium-viscosity mastic.
				2. Calculated VOC (less exempt solvent): 303 g/L.
				3. Solids: 65 percent.
1. EXECUTION
	1. EXAMINATION
		1. Do not begin installation until substrates have been properly prepared.
		2. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.
		3. Surfaces to be bonded should be clean and free of dust, dirt, oil, ice, snow, standing water or any other material(s) that my deter or interfere with adhesion.
	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. Test periodically to ensure bond.
	4. PROTECTION
		1. Protect installed products until completion of project.
		2. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION