Doorbond 200

PHYSICAL PROPERTIES

Typical viscosity (cps): 5700 - 8500

Appearance: Off-white colored

Weight solids (%): 49.0 - 53.0

Designed for flush and architectural doors Rated for 90 minute fire doors One-component

pH: 2.7 - 3.5

Formulated with bleed-through protection

Specific gravity: 1.10 Weight pounds per gallon: 9.18 **Suggested minimum use temperature:** 45°F/7°C

• Water and heat-resistant

KEY PRODUCT FEATURES

PERFORMANCE PROPERTIES

- UBC 7-2 part 1 (1997), NFPA 252 (1999) and UL 10C (1998), for a 90 minute rating. Report # 3073188 dated 4/1/2005 – 90 minute pilot scale vertical fire test conducted on Franklin International Doorbond 200 adhesive in a Georgia Pacific mineral core door with HPL skin.
- Approved Marshfield Door systems 90 minute door construction, wood veneer, HPL with or without cross band base on test #3093107-001 and IR scans.
- WDMA TM-6 Type 1 and Type 2
- California's South Coast Air Quality Management Districts Rule 1168

Doorbond 200 is a fast setting, one-component polyvinyl acetate emulsion adhesive. It is designed for hot or cold press manufacture of flush and architectural doors. Doorbond 200 produces a water and heat resistant bond on various rail, stile and skin substrates

has been formulated to prevent bleed-through under normal operating conditions.

Chemical family description: Polyvinyl acetate emulsion adhesive

including: wood, hardboard, MDF, particleboard and high pressure laminates. This product

- ANSI/HPVA HP-1-2004 Type 2
- SpecDIRECT listed as pre-certified on Georgia Pacific and Marshfield Cores no fire certification testing necessary before use: <u>www.intertek-etlsemko.com</u>
- Meets CARB requirements on various substrates. ASTM D-5582 desiccator testing available upon request.
- Passes CDPH/EHLB/Standard Method Version 1.2, 2017 for VOC emissions
- 175.105 FDA Compliant

APPLICATION GUIDELINES

Moisture content: Six to eight percent is the recommended moisture content for the gluing stock. High moisture content will dramatically increase the clamp time needed. Panel shrinkage may occur resulting in stress cracks or end-joint delamination.

Stock preparation: The preparation of the stock to be glued is extremely important. Joints cut from rip saws should be free of saw marks. They should also be straight and square. Moulded or jointed stock should be free of knife marks. Glazed or burnished joints will prevent adhesive penetration and should be guarded against.

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Gluing stock should be uniform in thickness. Variation in thickness should not exceed \pm 0.005 inches/0.12 mm. Sanding to thickness should be performed using higher than 50 grit abrasives. When possible, glue joints should be prepared and glued the same day.

Spread: Generally, 35-50 pounds of adhesive per 1,000 square feet or 170-250 grams per square meter of glue line is adequate. Verify adequate glue coverage by monitoring for squeeze out along the glue line once the panels are under pressure. A Web-based spread calculator can be found at www.franklinadhesivesandpolymers.com.

Pressure: Pressure is dependent upon the species or material to be glued and joint preparation. Direct contact of the gluing surfaces is required to obtain maximum strength. The use of a compressometer will aid in accurately measuring the amount of pressure being applied to the gluing area. Suggested clamp locations for various wood densities are eight to fifteen inches (20-38 cm) apart and two inches (five cm) from the end of the panel to evenly distribute pressure along the entire length of the glue line. A Web-based pressure calculator can be found at <u>www.franklinadhesivesandpolymers.com</u>.

Recommended clamping pressures:							
Species	Clamping pressure	Example					
Low density wood species	100-150 psi or 7-10 kg/cm ²	Pine, Poplar					
Medium density species	125-175 psi or 9-13 kg/cm ²	Rubberwood, Cherry					
High density species	175-250 psi or 13-18 kg/cm ²	Oak, Maple					

Assembly time: The assembly time is influenced by many factors some of which include glue spread, moisture content of the stock, porosity of the stock, environmental conditions and adhesive choice. Assembly times of five to ten minutes are approximate. It is desirable to see a bead of adhesive squeeze out around the perimeter of the bottom panel of the stack.

At 70°F and 50% relative humidity, approximately 6 wet mils: Open Assembly Time – 5 minutes Total Assembly Time – 15 minutes

Press/ clamp time: Press times are dependent on the adhesive used, gluing stock type, moisture content of the stock, and environmental conditions. Press times can range from a minimum press time of 30 minutes to greater than two hours. Shorter times are required under ideal conditions when using soft wood species at moisture content slightly less than eight to ten percent and factory temperatures of 68 degrees Fahrenheit/ 20 degrees Celsius. Longer press times will be required for higher density species, higher moisture contents and colder factory temperatures. It is recommended that optimum press times be determined in actual plant conditions recognizing that seasonal changes may lead to variable requirements.

Machining/ post process conditioning: After the minimum clamping time period, the panel will develop enough handling strength and can be removed and stacked out of the press. Twenty-four hours of cure is recommended before further machining. Three or four days may be required to eliminate sunken joints caused by residual moisture in the glue line.

Minimum use temperature: Curing temperatures should be higher than the minimum use temperature of the adhesive. This includes the temperature of the stock to be glued as well as the air and adhesive temperatures. If the temperatures are below the minimum use temperatures you will see a white, chalky appearance of the glueline. These bonds are usually weak.

Hot press time: Press time is dependent on the adhesive used, gluing stock type, moisture content of the stock and environmental conditions. This hot press schedule is provided as a recommended starting point. In plant testing is recommended especially for temperatures and substrate thicknesses beyond this chart.

Distanceto		160	170	180	190	200	210	220	230	240	250
	1/32"	1' 31"	1' 25"	1' 19"	1' 14"	1' 09"	1' 05"	1' 01"	0' 57"	0' 53"	0' 50"
	1/16"	1' 53"	1' 46"	1' 39"	1' 33"	1' 27"	1' 21"	1' 16"	1' 11"	1' 07"	1' 02"
	3/32"	2' 22"	2' 13"	2' 04"	1' 56"	1' 49"	1' 42"	1' 35"	1' 29"	1' 24"	1' 18"
	1/8"	2' 58"	2' 46"	2' 36"	2' 26"	2' 16"	2' 08"	1' 59"	1' 52"	1' 45"	1' 38"
	5/32"	3' 42"	3' 28"	3' 15"	3' 02"	2' 51"	2' 40"	2' 29"	2' 20"	2'11"	2' 03"
	3/16"	4' 38"	4' 20"	4' 03"	3' 48"	3' 33"	3' 20"	3' 07"	2' 55"	2' 44"	2' 33"
	7/32"	5' 47"	5' 25"	5' 05"	4' 45"	4' 27"	4' 10"	3' 54"	3' 39"	3' 25"	3' 12"
	1/4"	7' 15"	6' 47"	6' 21"	5' 57"	5' 34"	5' 13"	4' 53"	4' 34"	4' 17"	4' 00"

Platen Temperature °F

Clean-up: For easy removal of adhesive from equipment, clean up while it is still wet with warm water (this includes the glue roller and pans). For dried glue, steam and or hot water are the most effective. Using glue release agents on equipment will also allow for easier clean up.

STORAGE AND HANDLING

Shelf life: Best if used within six months of date of manufacture. Mix before use for best results. Product is freeze thaw stable but may need to be mixed prior to use.

For additional questions, Franklin's technical service team is available at 1.800.877.4583. 24/7 technical service is available online at <u>www.franklinadhesivesandpolymers.com</u>.

IMPORTANT NOTICE TO CUSTOMER:

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