



SECTION 09 93 00
HARDWOOD FLOOR ADHESIVES, FINISHING AND MAINTENANCE

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PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Hardwood floor adhesives, finishing and maintenance of the following types:
 - 1. Adhesives.
 - 2. Stains.
 - 3. Waterborne finishes
 - 4. Retarder for waterborne finishes.
 - 5. Waterborne sanding sealers.
 - 6. Oil-modified finishes and sealers.
 - 7. Penetrating oil finishes.
 - 8. Floor care and maintenance products.
 - 9. Flooring recoat system.

1.2 RELATED SECTIONS

- A. Section 09 64 00 - Wood Flooring.

1.3 REFERENCES

- A. ASTM International (ASTM):
 - 1. ASTM D2047 - Standard Test Method for Static Coefficient of Friction of Polish-Coated Flooring Surfaces as Measured by the James Machine.
 - 2. ASTM E492 - Standard Test Method for Laboratory Measurement of Impact Sound Transmission Through Floor-Ceiling Assemblies Using the Tapping Machine.
 - 3. ASTM F1869 - Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride.
 - 4. ASTM F2170 - Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using in situ Probes.

1.4 SUBMITTALS

- A. Submit under provisions of Section 01 30 00 - Administrative Requirements.
- B. 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.
- C. Selection Samples: For each finish product specified, two complete sets of color chips

representing manufacturer's full range of available colors and patterns.

- D. Verification Samples: For each finish product specified, two samples, minimum size 6 inches (150 mm) square, representing actual product, color, and patterns.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: Trained in application of the manufacturer's floor products.
- B. 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.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging until ready for installation.
- B. Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.

1.7 PROJECT CONDITIONS

- A. 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 limits.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: Bona US; 24 Inverness Place East Suite 100; Englewood, CO 80112; ASD Toll Free Tel: (800) 872-5515. Tel: (303) 371-1411. Fax: (303) 307-5029. Email: Frank.Coppolino@bona.com; Web: <https://www.bona.com>
- B. Substitutions: Not permitted.
- C. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00.

2.2 ADHESIVES

- A. Wood Flooring Adhesives:
 - 1. Product: Bona R851 as manufactured by Bona US.
 - a. Ingredients: Calcium carbonate, silane modified prepolymer, plasticizers, amorphous silica.
 - b. Base: Silane modified-prepolymer.
 - c. Color: Cream.
 - d. Viscosity: 64 Pa.s at a shear rate of 5/1sec (cone-plate rheometer).
 - e. Density: 12.5 to 13.4 lbs per gal.
 - f. VOC Content: Zero.
 - g. Max Shear Strength: 340 psi (at final cure; lap shear test, 1 mm gap).
 - h. Max Elongation: 180 to 220 percent.
 - i. Odor: Non-offending.
 - j. Flash Point: Greater than 212 degrees F (100 degrees C); Pensky-Martens.
 - k. Moisture protection up to 18 lbs (8.16 kg) or 95 percent relative humidity, 6

- percent Tramex or 5 percent CM.
 - l. Sound Reduction Rating: 71 dB per ASTM E492 IIC; 6 inch (152 mm) concrete slab with ceiling.
 - m. Open Time: 60 minutes at 70 degrees F and 50 percent RH (Dependent of temperature and humidity).
 - n. Certification: GREENGUARD Gold Certified for indoor air quality.
 - o. California Proposition 65 Compliant.
 - p. LEED: Complies with USGBC LEED low-VOC requirements.
- 2. Product: Bona R859 as manufactured by Bona US.
 - a. Ingredients: Calcium carbonate, silane modified prepolymer, plasticizers, amorphous silica.
 - b. Base: Silane modified-prepolymer.
 - c. Color: Cream.
 - d. Viscosity: 130 plus or minus 10 Pas at a shear rate of 5 sec⁻¹.
 - e. Density: 13.4 lbs per gal.
 - f. VOC Content: Zero.
 - g. Max Shear Strength: 335 psi (2.31 MPa) at final cure; lap shear test, 1 mm gap.
 - h. Max Elongation: 250 percent.
 - i. Odor: Non-offending.
 - j. Flash Point: Greater than 212 degrees F (100 degrees C); Pensky-Martens.
 - k. Moisture protection up to 18 lbs (8.16 kg) or 95 percent relative humidity, 6 percent Tramex or 5 percent CM.
 - l. Sound Reduction Rating: 70 dB per ASTM E492 IIC; 6 inch (152 mm) concrete slab with ceiling.
 - m. Open Time: 60 minutes at 70 degrees F and 50 percent RH (Dependent of temperature and humidity).
 - n. Certification: GREENGUARD Gold Certified for indoor air quality.
 - o. LEED: Complies with USGBC LEED low-VOC requirements.
- 3. Product: Bona R850T as manufactured by Bona US.
 - a. Ingredients: Calcium carbonate, silane modified prepolymer, plasticizers, amorphous silica.
 - b. Base: Silane modified-prepolymer.
 - c. Color: Cream.
 - d. Density: 13.4 lbs per gal.
 - e. VOC Content: Zero.
 - f. Maximum Shear Strength: 335 psi (at final cure; lap shear test, 1 mm gap).
 - g. Maximum Elongation: 250 percent.
 - h. Odor: Non-offending.
 - i. Flash Point: Greater than 212 degrees F (100 degrees C); Pensky-Martens.
 - j. Certification: GREENGUARD Gold Certified for indoor air quality.
 - k. LEED: Complies with USGBC LEED low-VOC requirements.
- 4. Product: Bona R880 as manufactured by Bona US.
 - a. Ingredients: Silane-modified pre-polymer.
 - b. Color: Cream.
 - c. Viscosity: Firm texture.
 - d. Density: 11.7 lbs per gal (1402 grams per Liter).
 - e. VOC Content: 0 g/L in tube.
 - f. Odor: Negligible.
 - g. Stability: 1-year from date of manufacture in unopened, original packaging.
 - h. Packaging: 10.4 fl. oz. (310 mL) plastic caulk-style tubes.
 - i. Initial Set Up: Open time of 10 minutes (5 minutes when misted with water).
 - j. Final Strength: 12 hours.
 - k. Coverage: 30 lineal feet (9.14 lineal m) per tube with a 1/4 inch (6 mm) bead.
 - l. Certification: GREENGUARD Gold Certified for indoor air quality.
 - m. LEED: Complies with USGBC LEED low-VOC requirements.

- B. Primer/Moisture Barrier:
 - 1. Bona R540 as manufactured by Bona US.
 - a. Ingredients: Polyurethane.
 - b. Base: Polyisocyanate Prepolymer.
 - c. Color: Transparent brown.
 - d. Viscosity: Thin.
 - e. Density: 9.51 lbs per gal (1139.5 grams per Liter).
 - f. VOC Content: Zero.
 - g. Odor: Solvent.
 - h. Flash Point: Greater than 410 degrees F (210 degrees C).

2.3 STAINS

- A. Fast Drying Stain:
 - 1. Product: Bona DriFast Stain as manufactured by Bona US.
 - a. Ingredients: White: Oil-modified resins, mineral spirits (solvent), Titanium Dioxide, fillers. Refer to drawings and finish schedule.
 - b. Ingredients: Wood tones: Oil-modified resins, mineral spirits (solvent), pigments, driers.
 - 1) Color: Natural.
 - 2) Color: Golden Oak.
 - 3) Color: Nutmeg.
 - 4) Color: Early American.
 - 5) Color: Provincial.
 - 6) Color: Special Walnut.
 - 7) Color: Rosewood.
 - 8) Color: Red Mahogany.
 - 9) Color: Jaco bean.
 - 10) Color: Graphite
 - 11) Color: Medium Brown.
 - 12) Color: Antique Brown.
 - 13) Color: Puritan Pine.
 - 14) Color: Cherry.
 - 15) Color: Sedona Red.
 - 16) Color: Spice Brown.
 - 17) Color: Grey.
 - 18) Color: Ebony.
 - 19) Color: Bark.
 - 20) Color: Cocoa.
 - 21) Color: Driftwood.
 - 22) Color: Birch.
 - 23) Color: Aged Pewter.
 - 24) Color: Twig.
 - 25) Color: Sand Dune.
 - 26) Color: Pastel White (Not recommended on white oak due to excessive color variation).
 - 27) Color: Refer to drawings and finish schedule.
 - c. Solids: 35 to 47 percent.
 - d. Density:
 - 1) Wood Tones: 7.2 to 7.5 lbs per gal (0.86 to 0.90 s.g.).
 - 2) White: 8.7 to 9.0 lbs/gallon (1.04 to 1.8 s.g.).
 - e. US Regulatory VOC: 550 g/L.
 - f. Odor: Mild solvent.
 - g. Stability: 2-year shelf life in unopened container.
 - h. Flashpoint: 116.6 degrees F (47 degrees C).
 - i. Clarity: Semi-transparent (dry).

- j. Drying Time: Under ideal conditions of 60 to 80 degrees F (16 to 27 degrees C) with 35 to 75 percent relative humidity.
 - 1) Wood Tones: 2 hours.
 - 2) White: 6 hours minimum.
 - 3) Ebony, Spice Brown, Bark and Cocoa: 12 to 18 hours.

2.4 WATERBORNE FINISHES

A. Waterborne Finishes:

- 1. Product: Bona Traffic HD as manufactured by Bona US.
 - a. Ingredients: Water, Polymeric resins, and amorphous silica.
 - b. Color: Milky white (wet).
 - c. Clarity: Clear and colorless when dry.
 - d. pH: 7.9.
 - e. Solids: 34 percent (with hardener).
 - f. Density: 8.70 lbs per gal (1.04 s.g.).
 - g. US Regulatory VOC Compliant: less than 150 g/L (with hardener).
 - h. Coefficient of Friction: Greater than or equal to 0.5.
 - i. Gloss Level (60 degrees):
 - 1) Commercial Extra Matte: 7 to 10 percent.
 - 2) Commercial Satin: 15 to 20 percent.
 - 3) Commercial Semi-Gloss: 40 to 45 percent.
 - j. Odor: Very slight non-offensive odor.
 - k. Stability: 1-year shelf life in unopened container.
 - l. Cure Time: 100 percent after 3 days
 - m. Certification: GREENGUARD Certified Gold for indoor air quality.

B. Commercial Anti-Slip Satin Finish:

- 1. Product: Bona Traffic Anti-Slip Satin as manufactured by Bona US.
 - a. Ingredients: Water, polymeric resin, dipropylene glycol monomethyl ether, and amorphous silica.
 - b. Color: Milky white (wet).
 - c. Clarity: Clear and colorless when dry.
 - d. pH: 7.5 to 7.9.
 - e. Solids: 34 percent (with hardener).
 - f. Density: 8.70 lbs per gal (1.04 s.g.).
 - g. US Regulatory VOC Compliant: 230 g/L.
 - h. Coefficient of Friction: Greater than 0.8.
 - i. Gloss Level (60 degrees): Approximately 25 percent.
 - j. Odor: Non-offending, slight ammonia.
 - k. Stability: 1-year shelf life in unopened container.
 - l. Cure Time: 100 percent after 7 days
 - m. Certification: GREENGUARD Certified for indoor air quality.
 - n. LEED: Complies with USGBC LEED low-VOC requirements.
 - o. Meets ADA recommendation for accessible routes and ramps according to ASTM D2047.
 - p. Meets German industrial norm DIN 51 130 with a slip resistance rating of R10.

C. Commercial and Residential Hardwood Floor Finish:

- 1. Product: Bona Traffic Naturale as manufactured by Bona US.
 - a. Ingredients: Water, polymeric resin, dipropylene glycol monomethyl ether, silica derivate, and amorphous silica.
 - b. Color: Milky white (wet).
 - c. Clarity: Clear and colorless when dry.
 - d. pH: 8.1.
 - e. Solids: 33 percent (with hardener).

- f. Density: 8.66 lbs per gal (1.04 s.g.).
 - g. US Regulatory VOC Compliant: 230 g/L.
 - h. Coefficient of Friction: 0.7.
 - i. Gloss Level:
 - 1) Commercial Matte (60 degrees): 4 to 6 percent.
 - 2) Commercial Matte (85 degrees): 4 to 7 percent.
 - j. Odor: Non-offending.
 - k. Stability: 1-year shelf life in unopened container.
 - l. Drying Time: 2-3 hours.
 - m. Cure Time: 100 percent after 7 days.
 - n. Certification: GREENGUARD Certified for indoor air quality.
 - o. LEED: Complies with USGBC LEED low-VOC requirements.
2. Product: Bona Traffic as manufactured by Bona US.
- a. Ingredients: Water, polymeric resins, dipropylene glycol monomethyl ether, and amorphous silica.
 - b. Color: Milky white (wet).
 - c. Clarity: Clear and colorless when dry.
 - d. pH: 7.9.
 - e. Solids: 34 percent (with hardener).
 - f. Density: 8.70 lbs per gal (1.04 s.g.).
 - g. US Regulatory VOC Compliant: 230 g/L (with hardener).
 - h. Coefficient of Friction: 0.5.
 - i. Gloss Level (60 degrees): Refer to drawings and finish schedule.
 - 1) Commercial Satin: 15 to 20 percent.
 - 2) Commercial Semi-Gloss: 40 to 45 percent.
 - 3) Commercial Gloss: 65 to 70 percent.
 - j. Odor: Non-offending, slight ammonia.
 - k. Stability: 1-year shelf life in unopened container.
 - l. Cure Time: 100 percent after 7 days.
 - m. Certification: GREENGUARD Certified for indoor air quality.
 - n. LEED: Complies with USGBC LEED low-VOC requirements.
 - o. Classified EC1R for very low emissions and indoor air pollution.
 - p. Friction approved to both EN 14904:2006 and DIN 18032:2.
 - q. Meets oNORM C 2354 Category C (Very Heavy Wear).
3. Product: Bona Mega as manufactured by Bona US.
- a. Ingredients: Water, polymeric resins, propylene-based glycol ethers, silica derivate, and surfactants.
 - b. Color: Milky white (wet).
 - c. Clarity: Clear when dry.
 - d. pH: 7.9.
 - e. Solids: 32.5 percent.
 - f. Density: 8.75 lbs per gal (1.05 s.g.).
 - g. US Regulatory VOC: 200 g/L.
 - h. Gloss Level (60 degrees): Refer to drawings and finish schedule.
 - 1) Gloss: Greater than 90 percent.
 - 2) Semi-Gloss: 45 to 50 percent.
 - 3) Satin: 25 to 30 percent.
 - 4) Extra Matte: 8 to 10 percent.
 - i. Odor: Non-offending.
 - j. Stability: 1-year shelf life in unopened container.
 - k. Cure Time: 100 percent after 7 days.
 - l. Certification: GREENGUARD Certified for indoor air quality.
 - m. LEED: Complies with USGBC LEED low-VOC requirements.
4. Product: Bona Mega Clear HD as manufactured by Bona US.
- a. Ingredients: Water, polymers, diethylene glycol monoethyl ether.
 - b. Color: Milky white (wet).

- c. Clarity: Clear when dry.
 - d. pH: 7.9.
 - e. Solids: 30 percent.
 - f. Density: 8.75 lbs per gal (1.05 s.g.).
 - g. US Regulatory VOC: 250 g/L.
 - h. Gloss Level (60 degrees): Refer to drawings and finish schedule.
 - 1) Gloss: Greater than 85 percent.
 - 2) Semi-Gloss: 45 to 55 percent.
 - 3) Satin: 25 to 35 percent.
 - i. Odor: Non-offending.
 - j. Stability: 1-year shelf life in unopened container.
 - k. Cure time: 100 percent after 7 days.
 - l. Certification: GREENGUARD Certified for indoor air quality.
 - m. LEED: Complies with USGBC LEED low-VOC requirements.
5. Product: Bona Mega ONE as manufactured by Bona US.
- a. Ingredients: Water, polymeric resins(s), propylene glycol, and silica derivate.
 - b. Color: Milky white (wet).
 - c. pH: 7.5.
 - d. Solids: 32 percent.
 - e. Density: 8.76 lbs per gal.
 - f. VOC: 275 g/L.
 - g. Gloss Level:
 - 1) Semi-gloss: 40 to 45 percent.
 - 2) Satin: 20 to 25 percent.
 - 3) Extra-Matte: 7 to 9 percent.
 - h. Odor: Low.
 - i. Application Characteristics:
 - 1) Clarity: Clear when dry.
 - 2) Leveling: Excellent.
 - 3) Defoaming: Excellent.
 - 4) Drying Time: 2-3 hours.
 - 5) Coverage: 500 to 600 sq ft per gal (12.27 to 14.72 sq m per L)
 - 6) Percent Cured After 24 Hours: 75 percent.
 - 7) Maximum Cure: 100 percent after 5 days.

D. Residential Waterborne Wood Floor Finish:

- 1. Product: Bona Domo as manufactured by Bona US.
 - a. Color: Milky white (wet).
 - b. pH: 7.6 to 8.0.
 - c. Solids: 28 percent.
 - d. Density: 8.70 lbs per gal (1.04 grams per ml).
 - e. US Regulatory VOC: 275 g/L
 - f. Gloss Level: Satin-Matte 18 percent
 - g. Gloss Level: Semi-Gloss 40 percent
 - h. Odor: Non-offending.
 - i. Stability: 1-year shelf life in unopened container.
 - j. Application Characteristics:
 - 1) Clarity: Clear and colorless when dry.
 - 2) Leveling: Excellent.
 - 3) Defoaming: Excellent.
 - 4) Drying Time: 2-3 hours.
 - 5) Coverage: 500 to 600 sq ft per gal.
 - 6) Percent Cured After 24 Hours: 70 percent.
 - 7) Maximum Cure: 100 percent after 1 week.
- 2. Product: Bona Protecteur as manufactured by Bona US.
 - a. Ingredients: Water, polymeric resins, dipropylene glycol monomethyl ether,

- dipropylene glycol n-butyl ether, and amorphous silica.
- b. Color: Milky white (wet).
- c. pH: 7.5 to 7.9.
- d. Solids: 30 percent.
- e. Density: 8.70 lbs per gal (1.04 s.g.)
- f. VOC: 220 g/L.
- g. Gloss Level (60 degrees):
 - 1) Gloss: Greater than 85 percent.
 - 2) Semi-Gloss: 45 to 50 percent.
 - 3) Satin: 25 to 30 percent.
- h. Odor: Non-offending.
- i. Application Characteristics:
 - 1) Clarity: Clear and colorless when dry.
 - 2) Leveling: Excellent.
 - 3) Defoaming: Excellent.
 - 4) Drying Time: 2 to 3 hours.
 - 5) Coverage: 500 to 600 sq ft per gal (12.27 to 14.72 sq m per L)
 - 6) Percent Cured After 24 Hours: 70 percent.
 - 7) Maximum Cure: 100 percent after 1 week.

2.5 RETARDER FOR WATERBORNE FINISHES

- A. Product: Bona Retarder as manufactured by Bona US.
 - 1. Ingredients: Water and diethylene glycol monoethyl ether.
 - 2. Color: Clear.
 - 3. Density: 8.33 lbs per gal (1.0 s.g.).
 - 4. US Regulatory VOC: Less than 275 g/l when used with a Bona Waterborne Finish.
 - 5. Odor: Non-offending.
 - 6. Stability: 1-year shelf life in unopened container.

2.6 WATERBORNE SANDING SEALERS

- A. Waterborne Amber Sanding Sealer:
 - 1. Product: Bona Amberseal as manufactured by Bona US.
 - a. Ingredients: Water, polymeric resin, silica derivate, diethylene glycol monoethyl ether, and propylene glycol.
 - b. Color: Amber (wet).
 - c. Clarity: Clear when dry.
 - d. pH: 7.3 to 7.7.
 - e. Solids: 30 to 31.5 percent.
 - f. Density: 8.68 lbs per gal (1.04 s.g.).
 - g. US Regulatory VOC: 250 g/L.
 - h. Odor: Non-offending.
 - i. Stability: 1-year shelf life in unopened container.
 - j. Certification: GREENGUARD Certified for indoor air quality.
 - k. LEED: Complies with USGBC LEED low-VOC requirements.
- B. Waterborne Intense Sanding Sealer:
 - 1. Product: Bona IntenseSeal as manufactured by Bona US.
 - a. Ingredients: Water, polymeric resin, silica derivate, diethylene glycol monoethyl ether, and propylene glycol
 - b. Color: Milky white (wet).
 - c. Clarity: Clear when dry.
 - d. pH: 7.5 to 7.9.
 - e. Solids: 31 to 32 percent.
 - f. Density: 8.66 lbs per gal (1.04 s.g.).
 - g. US Regulatory VOC: 250 g/L.

- h. Odor: Non-offending.
 - i. Stability: 1-year shelf life in unopened container.
 - j. Certification: GREENGUARD Certified for indoor air quality.
 - k. LEED: Complies with USGBC LEED low-VOC requirements.
 - l. Leveling: Excellent.
 - m. Defoaming: Excellent.
 - n. Drying Time: Approximately 2-3 hours (high humidity and/or low temperature conditions will extend the drying time).
 - o. Maximum Cure: 100 percent after 1 week.
- C. Waterborne Sanding Sealer, Clear Appearance:
1. Product: ClassicSeal as manufactured by Bona US.
 - a. Ingredients: Water, acrylic resin, dipropylene glycol monomethyl ether, defoamers.
 - b. Color: Milky white (wet).
 - c. Clarity: Clear when dry.
 - d. pH: 7.8.
 - e. Solids: 36 percent.
 - f. Density: 8.70 lbs per gal (1.04 s.g.).
 - g. US Regulatory VOC: 100 g/L.
 - h. Gloss Level: N/A.
 - i. Odor: Non-offending.
 - j. Clarity: Clear when dry.
 - k. Leveling: Excellent.
 - l. Defoaming: Excellent.
 - m. Drying Time: Approximately 2-3 hours (high humidity and/or low temperature conditions will extend the drying time).
 - n. Stability: 1-year shelf life in unopened container.
 - o. Certification: GREENGUARD Certified for indoor air quality.
 - p. LEED: Complies with USGBC LEED low-VOC requirements.
- D. Waterborne Sanding Sealer. Whitewash Appearance:
1. Product: NordicSeal as manufactured by Bona US.
 - a. Ingredients: Water, polymeric resin, silica derivate, diethylene glycol monoethyl ether, and propylene glycol.
 - b. Color: Milky white (wet).
 - c. Clarity: Clear when dry.
 - d. pH: 8.0.
 - e. Solids: 30 percent.
 - f. Density: 8.70 lbs per gal (1.04 s.g.).
 - g. US Regulatory VOC: 250 g/L.
 - h. Gloss Level: N/A.
 - i. Odor: Non-offending.
 - j. Stability: 1-year shelf life in unopened container.
 - k. Certification: GREENGUARD Certified for indoor air quality.
 - l. LEED: Complies with USGBC LEED low-VOC requirements.
 2. Product: NaturalSeal as manufactured by Bona US.
 - a. Ingredients: Water, polymeric resin, silica derivate, diethylene glycol monoethyl ether, and propylene glycol.
 - b. Color: Milky white (wet).
 - c. Clarity: Unfinished wood look. Clear when dry.
 - d. pH: 8.0.
 - e. Solids: 30 percent.
 - f. Density: 8.70 lbs per gal (1.04 s.g.).
 - g. US Regulatory VOC: 250 g/L.
 - h. Gloss Level: N/A.

- i. Odor: Non-offending.
- j. Stability: 1-year shelf life in unopened container.
- k. Certification: GREENGUARD Certified for indoor air quality.
- l. LEED: Complies with USGBC LEED low-VOC requirements.

E. Wood Floor Filler:

- 1. Product: Bona Pacific Filler as manufactured by Bona US.
 - a. Ingredients: Inorganic fillers, water, binders, pigments.
 - b. Colors: Red Oak.
 - c. Colors: White Oak.
 - d. Colors: Ash-Maple-Pine.
 - e. Colors: Brazilian Cherry.
 - f. Colors: American Cherry.
 - g. Colors: Walnut.
 - h. Colors: Refer to drawings and finish schedule.
 - i. Tinting: Use Universal Color tints to match custom or exotic woods. Refer to drawings and finish schedule.
 - j. Odor: Mild latex odor.
 - k. Solids: 65 to 75 percent.
 - l. Density: 13.3 lbs per gal (1.60 s.g.).
 - m. US Regulatory VOC: 100 g/L.
 - n. Certification: GREENGUARD Certified for indoor air quality.
 - o. LEED: Complies with USGBC LEED low-VOC requirements.

2.7 OIL-MODIFIED FINISHES AND SEALERS

A. Wood Floor Finish:

- 1. Product: Woodline Polyurethane as manufactured by Bona US.
 - a. Ingredients: Oil-modified polyurethane resin, mineral spirits (solvent), alkyd resin, driers.
 - b. Gloss Level (60 Degrees):
 - 1) Gloss: Greater than 90 percent.
 - 2) Semi-Gloss: 55 percent.
 - 3) Satin: 25 percent.
 - c. Color: Amber.
 - d. Clarity:
 - 1) Gloss: Clear
 - 2) Semi-Gloss: Slightly opaque.
 - 3) Satin: Slightly opaque,
 - e. Solids: 45 to 48 percent.
 - f. Density: 7.34 lbs lbs per gal (0.88 s.g.).
 - g. US Regulatory VOC: 510 g/L.
 - h. Odor: Mineral spirits.
 - i. Stability: 2-year shelf life in unopened container.
 - j. Cure Time: 100 percent cured after 14 days.
 - k. Flash Point:
 - 1) Gloss: 110 degrees F (43 degree C).
 - 2) Satin and Semi-Gloss: 103 degrees F (39 degrees C).
- 2. Product: Bona Poly as manufactured by Bona US.
 - a. Ingredients: Oil-modified polyurethane resin, mineral spirits (solvent), driers.
 - b. Gloss Level (60 Degrees):
 - 1) Gloss: Greater than 90 percent.
 - 2) Semi-Gloss: 55 percent.
 - 3) Satin: 25 percent.
 - c. Color: Amber.
 - d. Clarity:

- 1) Gloss: Clear
- 2) Semi-Gloss: Slightly opaque.
- 3) Satin: Slightly opaque,
- e. Solids: 45 to 48 percent.
- f. Density: 7.34 lbs per gal (.88 s.g.)
- g. US Regulatory VOC: 480 g/L.
- h. Odor: Mineral spirits.
- i. Stability: 2-year shelf life in unopened container
- j. Cure time: 100 percent cured after 14 days
- k. Flash Point: 113 degrees F (45 degrees C).

B. Quick-Dry Sealer:

- 1. Product: Bona DriFast Sealer as manufactured by Bona US.
 - a. Ingredients: Mineral spirits (solvent), urethane resins, silica, driers.
 - b. Color Wet: Amber. Color Dry: Light amber.
 - c. Clarity: Clear.
 - d. Solids: 37 percent.
 - e. Density: 7.21 lbs per gal (0.866 s.g.).
 - f. US Regulatory VOC: 550 g/L.
 - g. Odor: Mineral spirits.
 - h. Stability: 2-year shelf life in unopened container.
 - i. Flash Point: 115 degrees F (46 degrees C).
 - j. Leveling: Excellent.
 - k. Defoaming: Excellent/complete.
 - l. Drying Time: 1-1/2 to 2 hours.

2.8 PENETRATING OIL FINISHES

A. Premium Commercial Penetrating Hardwood Floor Finish:

- 1. Product: Bona Craft Oil 2K as manufactured by Bona US.
 - a. Ingredients: Pigments, oil-modified polyurethane resin, vegetable oil, petroleum distillates, and driers.
 - b. Color: Neutral.
 - c. Color: Charcoal.
 - d. Color: Frost.
 - e. Color: Ash.
 - f. Color: Clay.
 - g. Color: Air.
 - h. Color: Pebble.
 - i. Color: Sand.
 - j. Clarity: Transparent color.
 - k. Solids: 96 to 98 percent (depending on color).
 - l. US Regulatory VOC Compliant: 25 g/L (0.21 pounds per gallon).
 - m. Dilution: Do not dilute.
 - n. Odor: Non-offensive odor.
 - o. Drying Time: Light use: 12 to 24 hours (8 hours Neutral/12 hours colors).
 - p. Cure Rate, 24 Hours: 70 percent. Cure Rate, 5 Days: 100 percent.
 - q. Stability: 2-year shelf life in unopened container.
 - r. Cure Time: 100 percent cured after 7 days.
 - s. Certification: GREENGUARD Certified for indoor air quality.
- 2. Product: Bona Craft Oil 2K Care as manufactured by Bona US.
- 3. Product: Bona Craft Oil 2K Mix Bottle Kit as manufactured by Bona US.
- 4. Product: Bona Craft Oil 2K Soap.
 - a. Ingredients: Water, soap, natural waxes, tetrasodium EDTA.
 - b. Applicators: Bona Microfiber Cleaning Pad and mop, 175 rpm buffer and white polishing pad or the Bona PowerScrubber.

- c. Shelf Life: 2 years in unopened container.

2.9 FLOOR CARE AND MAINTENANCE PRODUCTS

A. Deep Clean System:

1. Product: Bona Deep Clean Solution as manufactured by Bona US.
 - a. Ingredients: Water, Ethoxylated alcohol, Diethylene glycol n-butyl ether, and Phenoxyethanol.
 - b. Color: Aquamarine.
 - c. pH: 7.0 to 8.0.
 - d. Solids: 1 percent.
 - e. Density: 8.35 lbs per gal (1.0 s.g.)
 - f. VOC: Less than 1 percent.
 - g. Odor: Slight solvent.
 - h. Certification: GREENGUARD Gold children and Schools Certified for indoor air quality.
 - i. LEED: Complies with USGBC LEED low-VOC requirements.
2. Product: Bona Deep Clean Polish remover as manufactured by Bona US.
 - a. Ingredients: Water, diethylene glycol monobutyl ether, phenoxyethanol, dipropylene glycol n-butyl ether, and nonionic surfactant.
 - b. Color: Tan (wet).
 - c. pH: 10 to 11.
 - d. Solids: 2.0 to 3.0.
 - e. Density: 8.4 lbs per gal (1.01 kg per L).
 - f. VOC: Less than 3 percent.
 - g. Odor: Non-Offending. Slight solvent odor.
 - h. Application Characteristics:
 - 1) Drying Time: N/A.
 - 2) Coverage: 700 to 800 sq ft per gal (17.18 to 19.63 sq m per L)
 - 3) Application Tools: Bona Microfiber applicator pad, Bona PowerScrubber, brown scrubbing pad.
3. Product: Bona Deep Clean Polish as manufactured by Bona US.
 - a. Ingredients: Water, polymers, diethylene glycol monoethyl ether, and surfactants.
 - b. Color: Milky white (wet).
 - c. pH: 8.0 to 9.0.
 - d. Solids: 10 percent; high gloss. 13 percent; low gloss.
 - e. Density: 8.39 lbs per gal (1.01 s.g.)
 - f. VOC: Less than 1 percent.
 - g. Gloss Level (60 degrees):
 - 1) High Gloss: Greater than 80.
 - 2) Low Gloss: 30 to 40.
 - h. Odor: Non-offending.
 - i. Application Characteristics:
 - 1) Clarity: Clear when dry.
 - 2) Leveling: Excellent.
 - 3) Defoaming: Excellent.
 - 4) Drying Time: 1 hour.
 - 5) Coverage: 2,000 sq ft per gal (49 sq m per L).
 - 6) Cure Time: 90 percent after 24 hours. 100 Percent after 72 hours.

B. Wood Floors:

1. Product: Bona Pro Series Hardwood Cleaner as manufactured by Bona US.
 - a. Ingredients: Water, glycol ether solvents, non-ionic and anionic surfactants.
 - b. Color: Light purple (wet).
 - c. pH: 7.0 to 8.0.

- d. Solids: Less than 1 percent.
 - e. Density: 8.34 lbs per gal (1.0 s.g.).
 - f. VOC: Less than 1 percent.
 - g. Odor: Non-Offending.
 - h. Certification: GREENGUARD GOLD for indoor air quality.
 - i. LEED: Complies with USGBC LEED low-VOC requirements.
2. Product: Bona Pro Series Floor Cleaner Concentrate as manufactured by Bona US.
- a. Ingredients: Water, anionic and nonionic surfactants, and glycol ether solvents.
 - b. Color: Brilliant purple solution (wet).
 - c. pH: 7.0 to 8.0.
 - d. Solids: 2 percent.
 - e. Density: 8.39 lbs per gal (1.01 s.g.).
 - f. VOC: Less than 3 percent.
 - g. Odor: Non-Offending.
 - h. Certification: GREENGUARD GOLD Certified for indoor air quality.
 - i. LEED: Complies with USGBC LEED low-VOC requirements.
- C. Natural Oil Floor Cleaner:
1. Product: Bona Professional Series Natural Oil Floor Cleaner.
- a. Ingredients - Water, glycol ether solvents, anionic and nonionic surfactants.
 - b. Color: Beige (wet).
 - c. pH: 6.0 to 8.0.
 - d. Solids: Less than 1 percent.
 - e. Density: 8.34 lbs per gal (1.0 s.g.).
 - f. VOC: Less than 1 percent.
 - g. Odor: Non-Offending.
 - h. Stability: 1-year shelf life in an unopened container.
 - i. Nonflammable.
 - j. Non-toxic.
 - k. GREENGUARD Gold children and Schools Certified.
 - l. Biodegradable.
- D. Laminate, Ceramic Tile, Vinyl, Sealed Stone Floor Cleaner:
1. Product: Bona Pro Series Stone, Tile and Laminate Floor Cleaner as manufactured by Bona US.
- a. Ingredients: Water, glycol ether solvents, non-ionic and anionic surfactants.
 - b. Color: Light Green (wet).
 - c. pH: 7.0 to 8.0.
 - d. Solids: Less than 1 percent.
 - e. Density: 8.34 lbs per gal (1.0 s.g.).
 - f. VOC: Less than 1 percent.
 - g. Odor: Non-Offending.
 - h. Certification: GREENGUARD GOLD Certified for indoor air quality.
 - i. LEED: Complies with USGBC LEED low-VOC requirements.

2.10 FLOORING RECOAT SYSTEM

- A. Recoat System Remover:
1. Product: Bona Remover as manufactured by Bona US.
- a. Ingredients: Water, ethoxylated alcohol, diethylene glycol ether, phenoxyethanol, and dipropylene glycol n-butyl ether.
 - b. Color: Beige.
 - c. pH: 10 to 11.
 - d. Solids: 18 percent.
 - e. Density: 9.5 lbs per gal (1.1 s.g.).
 - f. VOC: 3 percent.

- g. Odor: Slight solvent.
- B. Recoat System Cleaner:
1. Product: Bona Rinse as manufactured by Bona US.
 - a. Ingredients: Water, ethoxylated alcohol, diethylene glycol ether, phenoxyethanol, and dipropylene glycol n-butyl ether.
 - b. Color: Green.
 - c. pH: 7.0 to 8.0.
 - d. Solids: 0.7 percent.
 - e. Density: 8.3 lbs per gal (1.0 s.g.).
 - f. VOC: 3 percent.
 - g. Odor: Slight solvent.
 - h. GREENGUARD indoor air quality Certified.
 - i. LEED: Complies with USGBC LEED low-VOC requirements.
- C. Prep System and Recoat Optimizer:
1. Product: Bona Prep as manufactured by Bona US.
 - a. Ingredients: Surfactants, Dipropylene glycol monomethyl ether, ethylene glycol monobutyl ether, water, other proprietary ingredients.
 - b. Color: Amber (wet).
 - c. Clarity: Negligible residue (dry).
 - d. pH: 7.0 to 8.0.
 - e. Solids: Less than 1 percent.
 - f. Density: 8.32 lbs per gal (1.0 s.g.).
 - g. VOC: Less than 2 percent.
 - h. Odor: Light antiseptic.
 - i. LEED: Complies with USGBC LEED low-VOC requirements.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.
- C. Building climate control system shall be functioning with a temperature of 65 to 80 degrees F (18.3 to 26.7 degrees C) and maximum relative humidity of 70 percent for 72 hours before flooring is installed, during installation, and for 72 hours after installation. Acclimate flooring according to manufacturer's instructions.
 1. Acclimate Bona R540 Moisture Barrier Sealer and Bona R851 or R859 Adhesive to the room temperature of installation; usually overnight.

3.2 PREPARATION

- A. Protection: Protect adjacent finish surface to prevent damage during sanding and finish system application.
- B. Substrate: Must be clean, smooth, dry, free of loose material and structurally sound, with the surface slightly textured for best adhesion (similar to a light broom finished concrete).
 1. Remove adhesive residue, paint, concrete curing compounds or other contaminants that may affect adhesive bond. Abrasive blasting, shot blasting or scarifying may be necessary to completely remove some of these residues.
 2. Surface cracks, grooves, depressions, control joints or other non-moving joints, and other irregularities must be filled or smoothed with a Portland Cement-based patching and/or leveling compound.

3. Levelness: To 3/16 inch (5 mm) in a 10 ft (3048 mm) span. If the concrete slab is to be leveled, primer/sealer shall be applied to the slab prior to application of the leveling compound.
 4. Slab Temperature: 55 to 95 degree F (12.8 to 35 degrees C).
- C. Other suitable substrates include wood and radiant heat flooring (refer to manufacturer's recommended installation instructions).

3.3 MOISTURE TESTING

- A. Concrete Floors:
1. Concrete Slabs: Conduct moisture testing per ASTM F1869 and/or ASTM F2170.
 2. Primer/Sealer: Two coats prior to installation of hardwood flooring with an adhesive when MVER using ASTM F1869 (Calcium Chloride test) exceeds 12 lbs per 24 hrs per 1000 sq ft (5.86 kg per 24 hrs per 100 sq m) or when using ASTM F2170 (RH probe test) exceeds 85 percent relative humidity.
 3. Moisture Content: Should not exceed 18 lbs per 24 hrs per 1000 sq ft (8.79 kg per 24 hrs per 100 sq m) or 95 percent relative humidity.
 4. When using a Tramex measuring device to identify moisture levels in cementitious based substrates, use the Tramex measuring device to find the highest reading in the area to be installed and then run the concrete moisture testing method at the location of the recorded highest reading.
 5. As a general guideline for floors with no in-floor heating system, if the Tramex is below 4 percent, primer/sealer will not be necessary; if between 4 and 6 percent, primer/sealer is required.
- B. Wood Subfloor:
1. For moisture content and quality of substrates, the guidelines of the wood floor manufacturer shall be followed.
 2. Wood Subfloor Moisture Content: 20 percent maximum.

3.4 SANDING AND PREPARATION OF NEW FLOORS:

- A. Sand and prepare floor using accepted industry association methods.
- B. Vacuum thoroughly.
- C. Stained Floors: Make final cut with 80 to 100 grit paper. Then MultiDisc with 80 to 120 grit paper.
- D. Unstained Floors: Make final cut with 80 to 120 grit paper. Then MultiDisc with 120 to 150 grit paper. This burnishing will reduce the amount of grain raise.
- E. Use a Tampico Brush on a buffer and vacuum thoroughly.
- F. Tack with a dry Bona Microfiber Tacking Pad or cloth to remove dust.
- G. Apply finish system.

3.5 FINISH APPLICATIONS, GENERAL

- A. Comply with instructions and recommendations of floor finish system manufacturer.
- B. Finish System: As scheduled or indicated on the drawings.

3.6 PRIMER AND ADHESIVE APPLICATIONS

- A. Preparation and Priming/Sealing of Subfloors:

1. As Primer: Roll R540 evenly on substrate. Use no greater than 1/4 inch (6.4 mm) nap mohair or other shed resistant roller at coverage rate recommended by manufacturer.
 - a. Avoid puddling or heavy spots.
 - b. Allow to dry to a transparent film.
2. As Moisture Barrier over Cementitious Substrates: Roll R540 evenly on substrate. Use no greater than 1/4 inch (6.4 mm) nap mohair or other shed resistant roller at coverage rate recommended by manufacturer.
 - a. Avoid puddling or heavy spots.
 - b. Allow to dry to a transparent film.
 - c. If necessary, apply second coat within 24 hours, as recommended by manufacturer.
3. As Vapor Retarder for Nail-Down Installations Only:
 - a. Dry Time Using Bona R540: 1 to 2 hours or when dry to the touch.
 - b. Dry Time Using Bona R540 with Bona R850T, R851, or R859 Adhesives:
 - 1) Wood Subfloor Moisture Content: 20 percent maximum. 1 coat required. 1 to 2 hour dry time or when dry to the touch.
 - 2) For Nail-Glue Assist or Full Trowel: 16 hours.
 - c. Higher temperatures and relative humidity may decrease dry times. Lower temperatures and relative humidity may increase dry times.

3.7 ADHESIVE APPLICATIONS

- A. Full Spread Application: Spread adhesive on substrate while holding Bona trowel at 90 degree angle.
 1. Use a smooth semicircular motion.
 2. Do not leave any puddles of adhesive.
 3. Set flooring into adhesive while adhesive is still wet.
 4. Open Time Before Setting Flooring into the Adhesive:
 - a. Bona R851 at 50 percent RH and 70 degrees F (21.1 degrees C): 60 minutes.
 - b. Bona R859 at 50 percent RH and 70 degrees F (21.1 degrees C): 60 minutes.
 5. Higher humidity can decrease open time.
 6. Do not set flooring into adhesive that has skinned over. Remove adhesive and reapply.
 7. Spreading Rate: Per manufacturer's recommendation.
- B. Board Application: Apply adhesive along entire length of board for best results.

3.8 STAIN APPLICATIONS

- A. Shake or still well before applying. Do not thin.
- B. After Surface Preparation: Apply Bona DriFast Stain with brush, cut-in pad, cloth or carpet disc driven by a buffer in the direction of the grain.
 1. Coverage Rate: 800 to 1000 sq ft per gal (19.6 to 24.5 sq m per L).
 2. Penetration Time: Allow 1 to 3 minutes.
 3. Remove excess by hand wiping or buffing with an absorbent, non-abrasive material.
 4. Allow Stain to Dry Thoroughly:
 - a. Wood Tones: 2 hours minimum.
 - b. White: 6 hours minimum
 - c. Ebony, Spice Brown, Bark and Cocoa: 12 to 18 hours
 5. Ideal Drying Conditions: 60 to 80 degrees F (16 to 27 degrees C) with 35 to 75 percent relative humidity.
 - a. High humidity and/or low temperature conditions extend dry time.
 - b. Increased ventilation and airflow reduces dry time.
 6. Sealer or Finish Application: Within 48 hours after stain application. Apply any Bona finish system over thoroughly dried stain.

- C. Immediately after each use, place rags, steel wool, or waste in a sealed, water-filled metal container. Rags, steel, wool or waste soaked with Bona Drifast stain may spontaneously catch fire if improperly discarded.

3.9 WATERBORNE FINISH APPLICATIONS

- A. Mixing: Shake or still well before applying. Do not thin.
 - 1. Shake Bona Traffic HD finish (Part A) well for 30 seconds.
 - 2. Add Bona Traffic HD Hardener (Part B) to finish (Part A).
 - a. A 10.38 oz (294.3 grams) bottle of hardener activates 1 gallon (3.78 L) of finish.
 - b. To mix finish amounts of less than one gallon, use a 1:11.33 ratio.
 - 3. Immediately shake mixture vigorously for 30 to 45 seconds.
 - 4. Insert supplied filter into bottle.
 - 5. Let sit for 5 to 10 minutes before applying. BONA Traffic HD. Cannot be re-hardened.
- B. Application:
 - 1. Apply finish going with grain of wood.
 - 2. Feather out each stroke to avoid applicator marks.
 - 3. Use manufacturer's recommended coverage rate of sq ft per gallon (sq m per L).
 - 4. Allow each coat to dry thoroughly. Recommended conditions of 65 to 80 degrees F (18 degrees C to 27 degrees C), and 40 to 60 percent relative humidity.
 - a. Waterborne Finishes: 2 to 3 hours.
 - b. High humidity and/or low temperature conditions extend dry time.
 - c. Increased ventilation and airflow reduces dry time.
 - 5. For Smoothest Results: See "Intercoat Abrasion" subparagraph. At a minimum between coats, vacuum and tack thoroughly with a Bona Microfiber Tacking Pad (dry or slightly dampened with water).
 - 6. Pot Life: The finish/hardener mixture must be used within 4 hours after it is mixed. Product properties are diminished after 4 hours.
 - a. The finish and hardener can be mixed only one time.
 - b. Caution: To avoid pressure build-up, do not tightly recap finish/hardener mixture.
 - 7. Intercoat Abrasion: It is not necessary to abrade between Bona waterborne sealer and finish coats unless more than 48 hours has passed since the previous coat was applied.
 - a. For Smoothest Results: Abrade between coats as necessary. Use multidisc Bona Diamond 180 to 240 grit abrasives with Bona Intermediate Pads.
 - b. Thoroughly clean abraded floor using Bona PowerScrubber or vacuum and tack with Bona Microfiber Tacking Pads (dry or slightly dampened with water).
 - c. When using solvent-based sealers, always, vacuum and tack before finish coats.
 - 8. Curing: Process varies depending on product. Floors may be walked on after 24 hours but remains susceptible to scuffing or marring until completely cured. Do not replace area rugs until the floor has fully cured.

3.10 WATERBORNE SANDING SEALERS APPLICATIONS

- A. Mixing: Shake or still well before applying. Do not thin.
- B. Application:
 - 1. Pour a 6 inch (152 mm) wide line of sealer along starting wall. Go with grain of wood.
 - 2. Using a Pre-Dampened Floor Coater: Draw floor coater forward with grain of wood, moving sealer toward opposite wall. To maintain a wet edge, hold the floor coater at a snowplow angle.
 - 3. At End of Each Run: Turn floor coater and pull it toward you through the puddle. Then pad out the floor coater parallel to the wet edge.
 - 4. Feather out all turns. Do not push too hard or fast to avoid drips flying off floor coater.

5. Recommended Coverage Rate: 400 to 500 sq ft per gal (9.81 to 12.27 sq m per L).
6. Do not spread too thin. Uneven coverage can cause blotchiness or color variance.
7. Certain species may require a second coat to achieve desired appearance.
8. Drying: Allow each sealer coat to dry 2-3 hours. Recommended conditions: 65 to 80 degrees F (18.3 to 26.7 degrees C), 40 to 60 percent relative humidity.
 - a. High humidity and/or low temperature conditions will extend the dry time.
9. For Smoothest Results: See "Intercoat Abrasion" subparagraph. At a minimum between coats, vacuum and tack thoroughly with a Bona MicroFiber Tacking Pad (dry or slightly dampened with water).
10. Intercoat Abrasion: It is not necessary to abrade Bona AmberSeal unless more than 48 hours has passed since the previous coat was applied.
 - a. For Smoothest Results: Abrade Bona AmberSeal using 1 to 2 (stacked) Bona Conditioning Pads and 1 to 2 Bona Diamond 180 to 240 grit abrasives.
 - b. Thoroughly clean abraded floor using Bona Power Scrubber or vacuum and dry tack with Bona Microfiber Tacking Pads (or slightly dampened with water)

3.11 OIL MODIFIED FINISHES AND SEALERS APPLICATIONS

- A. Mixing: Shake or stir well before applying. Do not thin.
- B. Application, Wood Floor:
 1. Apply going with the grain of the wood.
 2. Feather out each stroke to avoid applicator marks.
 3. Recommended Coverage Rate: 500 to 600 sq ft per gal (12.27 to 14.72 sq m per L).
 4. Drying: Allow each coat to dry thoroughly; 8 to 12 hours. Recommended Conditions: 65 to 80 degrees F (18.3 to 26.7 degrees C), 40 to 60 percent relative humidity.
 - a. High humidity and/or low temperatures extend dry time.
 - b. Increased ventilation and airflow reduces dry time.
 5. Recommended Coverage Rate: 500-650 sq ft per gal (12.27 to 15.95 sq m per L).
 6. Drying: Allow each coat to dry thoroughly; 18 to 24 hours. Recommended Conditions: 65 to 80 degrees F (18.3 to 26.7 degrees C), 40 to 60 percent relative humidity.
 - a. High humidity and/or low temperatures extend dry time.
 - b. Increased ventilation and airflow reduces dry time.
 7. Abrade In-Between Coats: 120-grit or finer, screen, conditioning pad, or 180 to 240-grit Diamond abrasive.
 8. Thoroughly vacuum and wipe with a clean, lint-free, water dampened cloth between coats of finish.
 9. If desired, a third coat may be applied. Allow final coat to dry a minimum of 24 hours before use and avoid heavy traffic for 72 hours.
 10. Recoating: Be sure floor is free from wax, polish and oily residues. Follow the Bona Prep system, applying 1 to 2 coats.
 - a. Recoating a Factory Prefinished Floor: Do not use Bona Woodline Poly. Use Bona Naturale or Bona Traffic finishes with the Bona Prep System.
 - b. If Contaminants are Present: Use the full Bona Recoat System to ensure adhesion. Otherwise, follow the Bona Prep process.
 - c. Delamination can occur if the Bona Prep process is not followed and the floor has not been tested for compatibility.
- C. Application, Quick-Dry Sealer:
 1. Pour sealer into paint tray. Wet the 3/16 inch (5 mm) mohair roller.
 2. Apply sealer to a 3 x 3 ft (914 x 914 mm) section of the floor against the grain at a coverage rate of 600 to 700 sq ft per gal (17.72 to 17.18 sq m per L)
 3. Without adding more sealer to roller, re-roll entire 3 x 3 ft (914 x 914 mm) section with the grain of the wood.
 4. Continue process throughout entire floor.
 5. Apply evenly. excessive amounts of sealer may cause floor failure.

6. Drying: Allow sealer to dry thoroughly a minimum of 2 hours. Recommended Conditions: 60 to 80 degrees F (16 to 27 degrees C), 35 to 75 percent relative humidity.
 - a. High humidity and/or low temperature conditions extend dry time.
 - b. Increased ventilation and airflow reduces dry time.
7. Abrade sealer using 120-grit or finer, screen or 1 to 2 (stacked) Bona Conditioning Pads and 1 to 2 Bona Diamond 180 to 240-grit abrasives.
8. Thoroughly vacuum and dry tack with Bona Microfiber Tacking pads (or slightly dampened with water).
9. Apply a Bona finish according to label directions.

3.12 PENETRATING OIL FINISHES APPLICATIONS

- A. Mixing:
 1. Using a hammer, drive a screwdriver through top and bottom of upper container (Part B) and allow hardener to completely empty into bottom container (Part A).
 2. Remove lid and mix content thoroughly. Do not thin.
 3. To mix smaller amounts of Bona Craft Oil 2K, use a 1:9 ratio.
 4. Bona Craft Oil 2K cannot be rehardened.
 5. Pot Life: Must be used within 6 to 8 hours after mixing.
- B. Application:
 1. Coverage Rate: 0.33 gallons (1.25 Liters) per 600 to 800 sq ft (55.74 to 74.32 sq m) of wood flooring. Rate varies depending on wood species and sanding sequence.
 2. Apply thin coat of mixed Bona Craft Oil 2K to floor using a 175 rpm buffer and a red buffing pad working back and forth with the grain of the wood when possible.
 - a. For areas the buffer cannot reach, use a trowel or a cut-in pad to apply.
 3. Allow oil to penetrate wood surface for 15 to 30 minutes.
 4. Remove excess oil using a buffer and a clean, Bona Cotton Cloth wrapped around a 1 inch (25 mm) white, red or green buffing pad. Change cloth as needed.
 5. Drying: Allow oil to dry thoroughly before use.
 - a. Neutral: 8 hours.
 - b. Colors: 12 hours.
 - c. Recommended Conditions: 65 to 80 degrees F (18.3 to 26.7 degrees C), 40 to 60 percent relative humidity.
 - 1) High humidity and/or low temperature conditions extend dry time.
 - 2) Increased ventilation and airflow reduce dry time.
 6. Cure Time:
 - a. Walkable: 8 to 12 hours but remains susceptible to scuffing or marring until completely cured.
 - b. Ready for light use and furniture placement: 12 to 24 hours
 - c. Full Cure: 5-7 days. Recommended Conditions: 65 to 80 degrees F (18.3 to 26.7 degrees C), 40 to 60 percent relative humidity.
 - 1) Do not replace area rugs until the floor has fully cured.
- C. Top Coating: In situations where an additional layer of protection is desired.
 1. Bona Craft Oil 2k can be top-coated with Bona Traffic HD, Bona Traffic or Bona Traffic Naturale.
 2. Apply Bona Craft Oil 2K and allow to dry per manufacturer's instructions and this specification.
 3. Vacuum and tack the floor with a dry Bona Microfiber Tacking Pad.
 4. Apply 1 to 2 coats of Bona Traffic HD, Bona Traffic or Bona Traffic Naturale per label instructions.
 5. After Fully Cured:
 - a. Deep clean floor using PowerScrubber and Bona Deep Clean Solution.
 - b. Allow adequate time for surface to dry completely.

- c. Apply the same color Craft Oil 2K to the floor per the directions and allow to dry completely (8 hours for Neutral and 12 hours for all other colors).
- d. Vacuum and tack the floor with a dry Bona Microfiber tacking pad.
- e. Apply Bona Traffic HD, Bona Traffic or Bona Traffic Naturale per label instructions.
- f. Be sure floor is free from wax, polish and oily residues.
- g. Adhesion failure can occur if these recoating processes are not followed and the floor has not been tested for compatibility.

3.13 PROTECTION

- A. After application, protect floor finish from damage during subsequent work.
- B. Do not allow foot traffic until floor is sufficiently dried and cured.

3.14 FLOOR CARE

- A. Recoat System:
 1. Before using, read manufacturer's directions and material safety data sheets.
 2. Protect Surrounding Areas: Use blue tape and/or plastic sheeting or towels to prevent possible staining from accidental contact with Bona Remover.
 - a. Spill Event: Immediately wipe up affected area using a clean towel and water.
 3. Bona Remover: Shake 15 to 20 seconds or until all settled product is thoroughly mixed. Pour a 4 inch (102 mm) wide line of remover along the starting wall.
 - a. Saturate the Bona Roller with product from the pour line. Set roller down at back side of puddle and pull roller towards you approximately 4 to 5 ft (1219 to 1524 mm). Push back in the same path beyond your original start point.
 - b. Recommended Coverage Rate: 400 to 500 sq ft per gal (9.81 to 12.27 sq m per L). Do not spread too thin.
 - c. Do not cover more floor than you will be able to abrade and rinse in 20 to 30 minutes; approximately 200 sq ft (18.58 sq m).
 4. Surface Abrasion: Using a 175 rpm rotary buffer, with Bona Recoat Abrasive drive plate, abrade the section of floor coated with Bona Remover. Abrade with grain up and back over the same path. Start the next pass by overlapping the previous pass by 50 percent.
 - a. Hand-abrade corners and sections missed by buffer with 120 grit paper.
 - b. Replace abrasives on drive plate every 5000 to 7000 sq ft (464.5 to 650.3 sq m) of use.
 5. Using the Bona Recoat System Squeegee, move Bona Remover material out from the wall and any areas the Bona PowerScrubber will not reach.
 6. Bona Rinse: Mix at a 4:1 ratio, 4 parts water to one part Bona Rinse. Using Bona PowerScrubber filled with Bona Rinse, remove and clean Bona Remover from floor.
 - a. When running the Bona PowerScrubber move the machine up and back in the same path and overlap subsequent passes by 20 percent.
 - b. Typically, you will only need to dispense Bona Rinse solution on the forward pass. If Bona Remover has dried on the floor, it may be necessary to dispense Bona Rinse solution on both the forward and backward pass.
 - c. Use Bona PowerScrubber red recoat brushes on the Bona PowerScrubber instead of white brushes that come standard.
 - 1) The red brushes are needed to help with abrasion and scrubbing of the floor. They also raise the height of the Bona PowerScrubber, allowing the machine to more effectively vacuum up the thick slurry created during the process.
 7. Repeat prior steps 1 through 6 until entire floor has been treated.
 - a. To guarantee all contaminants have been removed and meet the Bona Recoat System Warranty, it is required that entire floor be prepared a second time following all prior steps. During second pass it is not necessary to hand abrade.

8. Wipe Down Perimeter: Using a clean terry towel or microfiber cloth and warm water, wipe down the perimeter of the floor, approximately 1 inch (25 mm) out from the wall where the Bona PowerScrubber could not reach. It may also be necessary to wipe down all the baseboards and any other areas Bona Remover has come in contact with.
 9. Relocate buffer, Bona recoat abrasive drive plate, applicators and all other equipment besides the Bona PowerScrubber from the floor. Thoroughly clean with water the Bona PowerScrubber brushes, squeegees, power cord and your shoes/work boots of any remaining Bona Remover. Perform a final "Rinse" step on the entire floor using the Bona PowerScrubber and the Bona Rinse. This step will help ensure the floor is clean of any Bona Remover due to footprints or missed areas during the initial rinse steps.
 10. Wet tack the entire floor with water. Prior to finish application feel floor with hand, if floor feels gritty or rough in areas, you have not removed all the Bona Remover.
 11. Repeat steps, subparagraphs 9 and 10.
 12. If the floor has heavy traffic areas or lots of scratches that need to be blended or repaired, wait until floor has been cleaned of contaminants before abrading with a screen or repairing.
 - a. If you do abrade with a screen, be sure to vacuum and tack the floor thoroughly to remove any dust created during the sanding/repair process before applying a coat of Bona Traffic or Bona Traffic HD.
 13. Allow floor to dry and following label instructions apply one coat of Bona Traffic or Bona Traffic HD.
 - a. If a second coat of Bona Traffic is needed, intercoat abrasion is not required.
 - b. If intercoat abrasion is needed, abrade with a 320-grit maroon pad only.
 - c. The Bona Recoat process temporarily weakens the finish system and aggressive abrasion could cause damage to total floor system.
- B. Cleaning: Hardwood, natural oil wood floors, and stone floors.
1. Before using, read all directions and material safety data sheet
 2. For Regular Maintenance of Finished Floors:
 - a. Vacuum, sweep or dust mop.
 - b. Mist.
 - c. Clean. Rinse cleaning pad often to avoid streaking

END OF SECTION