**OM-RI-09 0163.00-SUP.docx**

**SCREEN AND RECOAT WOOD ATHLETIC FLOORING**

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| **SECTION USAGE MATRIX** |
| C | NA | Seminary and Small Institute Standard Plan (CHURCH EDUCATION SYSTEM) - New Project |
| SM | NA | Standard MEETINGHOUSE and PHASED MEETINGHOUSE Standard Plan - New Project |
|  R | SUP | OM/RI (REPLACEMENT & IMPROVEMENT) for Existing Meetinghouse / Seminary and Institute Project |
| CM | NA | Meetinghouse and Phased Meetinghouse Standard Plan with S&I MODULE ADDITION - New Project |
| SI | NA | S&I MODULE Addition to Existing Meetinghouse Building |
| MO | NA | MISSION OFFICE MODULE Addition to Existing Meetinghouse Building |
| UM | NA | URBAN MEETINGHOUSE for Custom Meetinghouse - New or Addition Project |
| FM | NA | Small Maintenance Project specification for FACILITY MANAGER |
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| **MODIFICATION LOG** |
| DATE | SOURCE | DESCRIPTION |
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| 30 Apr 15 | Daryl Flamm | Added Ventilation requirements. General Upgrade. |
| 07 Nov 14 | Gail Olsen | Updated Finishing coat requirements. |
| 16 Aug 14 | Daryl Flamm | Added additional low VOC finishes. Changed Procedural Notes. General Upgrade. |
| 31 Mar 14 | Daryl Flamm | Water Based finish cross inker additive not allowed to be used. |
| 30 Apr 13 | Daryl Flamm | Approved Product update. General Update. |
| 12 Oct 09 | Daryl Flamm | Ventilation requirements and Procedural Note added. |
| 30 Oct 08 | Daryl Flamm | Modified Section for refinishing wood floors and separated into two Sections. |

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| PROCEDURAL NOTES |
| COORDINATION |
| DESIGN INFORMATION AND BACKGROUNDGENERAL:1. Wood Floor Finishes:
	1. General:
		1. Average water based finish cost is about 10 percent higher (cost of the finish can be double but reduced labor time offset some of the product costs).
		2. Oil finishes typically require 24 - 48 hours between coats while water finishes require 2 - 4 hours between coats.
		3. Odor reduction may be accomplished by using low VOC oil or water based finish.
		4. Use low VOC products if there are members highly sensitive to wood finish refinishing odors.
	2. Oil Modified Finish:
		1. Standard Oil Modified finishes are preferred by the church and should be used on all new floor installations.
		2. Where local jurisdictions require, use Oil Modified or Water Based low VOC finishes.
		3. Low VOC generally will reduce lingering odors.
	3. Water Based Finish:
		1. Water Based finishes provides good abrasive durability, but appears hazy or dull sooner than oil finishes.
		2. Water Based finishes may be used to meet local code requirements and/or reduce VOC emissions and odors.
2. Test Floor:
	1. Observations of test floor which included 7 different finishes resulted in following conclusions:
		1. Water based finishes were noticeably hazy within first 30 days.
		2. Cleaning after 120 days using walk behind scrubber brought oil finishes back to near original shine without buffing.
		3. Water finishes required double buffing (alternate directions) using abrasive pads in order to restore shine to slightly less than new appearance. Cost and effort is high while improvement is low.
		4. High gloss shine over life between coating cycles of water based finishes is expected to be less visually appealing in typical meetinghouse application or excessive maintenance including frequent buffing could be required if reduced shine is not acceptable.
		5. Floors that have been finished with oil based products can be switched to water base with proper application. Church does not recommend switching between finish types more than one time.
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SECTION 09 0163

SCREEN AND RECOAT WOOD ATHLETIC FLOORING

1. GENERAL
	* + 1. SUMMARY
				1. Includes But Not Limited To:

Prepare and refinish existing wood floors to have natural finish, including painting of games lines, as described in Contract Documents.

* + - 1. ADMINISTRATIVE REQUIREMENTS
				1. Sequencing:

Owner’s Representative Responsibility:

Schedule floor finish and notify of use restrictions before applying floor finish.

Installer’s Responsibility:

Apply screen and recoat wood flooring.

Owner’s Representative Responsibility:

Ventilate building after applying floor finish.

Keep floor free of traffic and no social or athletic activities for one (1) week.

* + - * 1. Scheduling:

Owner’s Representative Responsibility:

Schedule refinishing during moderate outdoor climate conditions:

In hot, humid climates, schedule refinishing during dryer or low humidity months.

Schedule application of floor finish for Monday or Tuesday to allow maximum curing time before re-opening Cultural Center.

* + - 1. SUBMITTALS
				1. Action Submittals:

Product Data:

Provide product literature or cut sheet on components of floor finish system and striping paint.

* + - * 1. Closeout Submittals:

Include following in Operations And Maintenance Manual specified in Section 01 7800:

Operations and Maintenance Data:

Manufacturer's literature or cut sheets on components of floor finish system and striping paint.

* + - 1. FIELD CONDITIONS
				1. Ambient Conditions:

Owner’s Representative’s Responsibilities:

General:

Maintain conditions inside building at levels normal to occupancy of building.

Maintain these conditions from time flooring material is delivered to site until one (1) week after application of finish.

Conditions include normal levels of humidity, heating, and air conditioning.

1. PRODUCTS
	* + 1. SYSTEM
				1. Material:

Sealer. As recommended by Top Coat Manufacturer:

Top Coats:

Description:

High gloss, high solids, oil-modified urethane or water based finishes.

INFORMATION: Floor finishes specified in this specification are non-toxic as per MSDS. While the wood floor finish cures, higher VOC products odors may affect some members more than others. If this is the situation for this project, consider using only Water Based products. Also restrict weekly activities in the building such as Family History if held in building.

Oil Modified Urethane:

Category Four Approved Products. See Section 01 6200 for definitions of Categories:

Standard finish:

1. Polyurethane 450 or Polyurethane 500 by Diversey Care, Fort Mill, SC [www.diversey.com/en/solutions/floor-care/wood-care](http://www.diversey.com/en/solutions/floor-care/wood-care)
2. 450 Gym Finish or Gold Medalist 40 Gym Finish by Hillyard Industries, St. Joseph, MO [www.hillyard.com](http://www.hillyard.com).

Oil Modified Low VOC one coat products (for Sustainable Design Requirements and/or low odor) Finish:

1. Polyurethane 275 One Coat Finish by Diversey Care, Fort Mill, SC [www.diversey.com/en/solutions/floor-care/wood-care](http://www.diversey.com/en/solutions/floor-care/wood-care)
2. 275 Gym Finish by Hillyard Industries, St. Joseph, MO [www.hillyard.com](http://www.hillyard.com).

Water Based (for Sustainable Design Requirements and/or low odor) Finish:

Category Four Approved Products. See Section 01 6200 for definitions of Categories:

Ultra Low Odor Waterbased Finish (Waterborne Finish Crosslinker additive is not allowed to be used) by Diversey Care, Fort Mill, SC

[www.diversey.com/en/solutions/floor-care/wood-care](http://www.diversey.com/en/solutions/floor-care/wood-care)

1907 / Basecoat Gym Finish by Hillyard Industries, St. Joseph, MO [www.hillyard.com](http://www.hillyard.com).

ICON Finish with Star Sealer (when needed) by Hillyard Industries, St. Joseph, MO [www.hillyard.com](http://www.hillyard.com).

Game Lines:

INFORMATION: No changes in game line colors are acceptable without prior written approval of Facility Manager.

Approved Colors:

Basketball: Black.

Volleyball: White, Grey, or Blue.

Pickleball: Blue

Paint Manufacturer as recommended by Floor Finish Manufacturer.

1. EXECUTION

EDIT REQUIRED: Select ONE of following two Options.

OPTION ONE: Include following paragraph if applicators are to be identified by Architect before bidding.

OPTION TWO: Delete following paragraph if bidding is open to any applicator.

* + - 1. APPLICATORS
				1. Category Four Approved Applicators. See Section 01 6200 for definition of Categories:

<Insert Acceptable Applicators>.

<Insert Acceptable Applicators>.

<Insert Acceptable Applicators>.

* + - 1. EXAMINATION
				1. Verification Of Conditions:

Verify ventilation requirements as specified in Field Conditions in Part 1 of this specification have been maintained before proceeding with applying wood floor finish.

* + - 1. PERFORMANCE
				1. Recoat using Oil Modified Finishes:

Wet Screening Method:

Make sure floor is free of debris.

Screen with 100 or 150 grit screen bak per Manufacturer’s recommendations (maximum 250 sq ft (23.2 sq m) per side). Palm sand where needed.

Remove slurry from floor and rinse.

Allow to dry as recommended by Finish Manufacturer.

Tack entire floor as recommended by Finish Manufacturer until clean.

Apply first coat finish as recommended by Finish Manufacturer.

Follow dry time instructions as recommended by Finish Manufacturer (typically twelve (12) to eighteen (18) hours).

Abraid using maroon pads (maximum 250 sq ft (23.2 sq m) per side).

Tack entire floor until clean.

Apply top coat finish. Coverage per gallon (liter) shall be at rate and number of coats recommended by Finish Manufacture (Typically two (2) coats unless using 275 VOC high solids high performance products).

Dry Screening Method:

Make sure floor is free of debris.

Seal off ducting system to keep dust from entering system during screening process.

Screen with 150 grit screens per Manufacturer’s recommendations (maximum 250 sq ft (23.2 sq m) per side). Palm sand where needed.

Remove dust using vacuum system.

Allow adequate time for air-born dust to settle.

Tack entire floor as recommended by Finish Manufacturer until clean.

Apply first coat finish as recommended by Finish Manufacturer.

Follow dry time instructions as recommended by Finish Manufacturer (typically twelve (12) to eighteen (18) hours).

Abraid using maroon pads (maximum 250 sq ft (23.2 sq m) per side).

Tack entire floor until clean.

Apply top coat finish. Coverage per gallon (liter) shall be at rate and number of coats recommended by Finish Manufacture (Typically two (2) coats unless using 275 VOC high solids high performance products).

* + - * 1. Recoat using Water Base Finishes:

Make sure floor is free of debris.

Wet Screen with 3M SPP pads per Manufacturers recommendations (maximum 250 sq ft (23.2 sq m) per side):

Installer Option: 180 grit screens can be used prior to 3M SPP pads if extra abrasion is needed.

Remove slurry from floor.

Damp mop with clear water to remove residue.

Allow to dry for about one (1) hour.

Tack entire floor until clean with Manufacturer's recommended tacking agent.

EDIT REQUIRED: Include following paragraph for longer finish life if desired by Owner.

To provide longer time between recoat as required by Owner:

Apply additional partial finish coat located inside key or 3 point line to build up finish before applying full first coat over partial coated area.

Allow dry time.

Apply first full coat finish as recommended by Finish Manufacturer.

Follow dry time instructions as recommended by Finish Manufacturer (typically two (2) to four (4) hours).

Apply top coat finish. Coverage per gallon (liter) shall be at rate and number of coats recommended by Finish Manufacturer (Typically two (2) coats unless using Icon high solids, high performance products). Icon can be used as a single coat product after the initial transition which requires Star sealer as a transition bridge coat.

* + - * 1. Ventilation Requirements:

Owner’s Representative’s Responsibilities:

Condition at end of tack free drying time (typically four (4) hours after finish application), as determined by Finish Manufacturer’s application instructions. Set Cultural Center’s programmable thermostats to continuous occupied mode:

Outside Air dampers should be fully open to facilitate complete outside air exchange unless outside humidity exceeds fifty (50) percent to help evacuate odors from building (higher humidity affects wood finish curing time).

If more ventilation is necessary, set programmable thermostats for other zones in same manner.

Maintain these settings for seventy two (72) to ninety six (96) hours after final top, if possible.

Church buildings without isolated HVAC systems, cross ventilation may be used instead of opening air dampers as specified above (cross ventilation is not preferred in buildings with isolated HVAC systems because odors may linger longer in whole building with cross ventilation):

Use fan to move air from Cultural Hall to outside of building.

Provide building security (someone should be present to provide security).

EDIT REQUIRED: Add any additional requirements, such as removing and cleaning metal base, work required for thresholds, etc.

* + - * 1. <Insert Additional Requirements>.
			1. PROTECTION
				1. Owner’s Representative’s Responsibilities:

Keep floor free of traffic for seventy two (72) hours minimum after application of final coat and allow no social or athletic activities for one (1) week.

END OF SECTION

**ATTACHMENTS**

**OWNER’S REPRESENTATIVE RESPONSIBILITES**

1. Schedule refinishing during moderate outdoor climate conditions.
	1. In hot, humid climates, schedule refinishing during winter months.
	2. Schedule application of floor finish for Monday or Tuesday to allow maximum curing time before re-opening Cultural Center.
2. Damper Instruction – Need Info
	1. Air dampers to be open for full outside air exchange used to ventilate area.
3. At end of drying time, as determined by Finish Manufacturer’s application instructions, set Cultural Center’s programmable thermostats to continuous occupied mode.
	1. If more ventilation is necessary, set programmable thermostats for other zones to continuous occupied mode.
	2. Maintain these settings until Saturday afternoon, if possible.
4. Open Cultural Center and exterior doors during the day during the week, if someone can be present to provide security for the building.