

**DRAFT SPECIFICATION
FOR
FINISHES AND REMOVERS, FLOOR**

(This specification is released for procurement purposes until revised or rescinded.)

SCOPE

This specification is not intended to include all varieties of the commodity, or which may be commercially available, but is intended to cover only those used by state agencies, public schools, and certain non-state agencies.

I. INTENDED USE

The products for Categories A and B, defined herein, are to be used to protect and enhance the appearance of resilient impermeable floors. The types of floors defined as resilient impermeable are: vinyl, vinyl-asbestos, asphalt, linoleum, and rubber only.

The products for Category C, defined herein are to be suitable for wood floors, specifically but not limited to varsity gym floors.

II. CLASSIFICATION

CATEGORY A: FLOOR FINISH OR POLISH

TYPE 1 – Water emulsion metal interlocking acrylic polymer floor finish.

TYPE 2 - Certified Compliant to the Green Seal Environmental Standard, GS-40, water emulsion wax and acrylic polymer floor finish.

CATEGORY B: FLOOR FINISH REMOVER (STRIPPER)

TYPE 1 - Remover for water emulsion metal interlocking acrylic polymer floor finish without ammonia

TYPE 2 - Certified Compliant to the Green Seal Environmental Standard, GS-40, and remover for water emulsion wax and acrylic polymer floor finish without ammonia.

CATEGORY C: GYM WOOD FLOOR VARNISH

TYPE 1 - Varnish, maximum 450 grams per liter VOC, air cured polyurethane type.

TYPE 2 – Varnish, maximum 350 grams per liter VOC, air cured polyurethane type.

TYPE 3 – Finish, maximum 350 grams per liter VOC, water based systems.

A. PRODUCT DESCRIPTION

The following describes the types of floor finish, floor finish remover and gym wood floor varnish requested. Floor finishes allow buffing or burnishing on a routine basis to renew the applied polish to a gloss consistent with the original application. Floor finishes do not require a sealer.

B. MINIMUM REQUIREMENTS

CATEGORY A: FLOOR FINISH OR POLISH

1. Floor finish shall offer long lasting surface protection along with a high gloss shine.
2. Floor finish shall have a proven record of performance that finish lasted for at least three years in heavily trafficked areas without stripping. The original application of polish may be top-scrubbed with a single recoat of the top layer of finish applied on an annual basis.
3. Finish shall be a free flowing liquid, when applied with a mop or soft wool applicator, shall spread evenly without excessive drag, have good leveling qualities, and adhere to the floor.
4. The 60 degrees specular gloss measurement shall be greater than 70 gloss units, as defined in ASTM D-1455 when initially applied as recommended.
5. Finish shall have no objectionable odor.
6. Finish shall be highly resistant to black heel marks and yellowing, and show minimum effects of water spotting with no removal of polish film, minimum whitening, minimum color change, or other change in appearance.
7. Finish shall be easy to clean using a suitable cleaner, with no damage to the finish or the gloss after cleaning.
8. Finish shall be readily removed when using a suitable remover (stripper) per the manufacturer's instructions.
9. Finish shall provide anti-slip properties as defined in ASTM D-2047. Vendor shall provide a verification of the acceptable anti-slip properties of the floor finish by providing the UL Listing File No. or a test report from another laboratory certified by the manufacturer.
10. Finish shall not contain over 7% by weight of volatile organic compounds (VOC).
11. The floor finish shall provide a pH within the range of 7.5 to 9.5 as determined by the method of ASTM E70 as received, without dilution.
12. Finish shall blend easily to satisfactorily "patch in" to repair worn areas and traffic lanes to further extend the life of the surface and prolong the periods between refinishing operations.
13. Drying time (not curing time) shall not exceed 60 minutes.
14. Percentage of non-volatile matter (total solids) shall range from 15% to 33% as determined by the method of ASTM D-2834, using the baking time of four (4) hours for the water emulsion as requested.
15. Coverage area shall be a minimum of 2,000 square feet per gallon in accordance with the manufacturer's published literature or product label.
16. Type 1 finishes contain metal interlocking acrylic polymer solids for deposit to the floor surface and are not applicable for certification to the GS-40, Green Seal Environmental Standard, if specified in the Invitation For Bids.
17. Type 2 finishes contain wax or acrylic polymer solids for deposit to the floor surface, and shall be certified compliant to the GS-40, Green Seal Environmental Standard for Industrial and Institutional Floor-Care Products. Type 2 finishes are not to contain metal interlocking polymer solids.

CATEGORY B: FLOOR FINISH REMOVER (STRIPPER)

1. The compound shall be a homogeneous free flowing liquid readily soluble in water. Upon application at 60 degrees F, it shall form a uniform layer or sheet of liquid without beading or puddling.
2. The compound shall be suitable of dilution with hard or soft water to completely remove all old polymer emulsion finishes from the floor after standing for ten (10) minutes followed by scrubbing with a floor machine.
3. The remover shall be suitable for use with conventional or automatic machine stripping methods.
4. Floor finish remover shall have a proven record of performance that finish stripper turned old floor finish white within 10 minutes with the old finish becoming totally liquified with mechanical action. After the mechanical action, 100% of floor finish shall be readily removed with a water vacuum squeegee.
5. The remover shall rinse completely from the floor with hot or cold water with the floor drying free of white residue.

6. The surfaces of linoleum, vinyl, vinyl-asbestos, rubber, and asphalt tile shall not show softening, swelling, blistering, cracking, pitting, solvent action or color change after the polish has been removed from standing on the tiles with the remover applied for four hours at room temperature (22-25 degrees C).
7. Floor finish stripper shall not deteriorate the floor surface or the adhesive securing the tile floor in place.
8. The compound shall have no objectionable odor nor shall it develop an objectionable odor in water solutions, in use, or when stored in the original container.
9. The floor finish remover shall contain a maximum of 12% non-aerosol volatile organic compounds (VOC) content by weight when diluted for the removal of heavy finish buildup and a maximum of 3% non-aerosol VOC content by weight when diluted for the removal of light to medium finish buildup using the recommended dilution as specified by the manufacturer, for whichever condition is required for the identical product.
10. The floor finish shall provide a maximum pH of 12.5 as determined by the method of ASTM E70 as received, without dilution.
11. Type 1 remover shall remove all water emulsion metal interlocking polymer floor finish without ammonia. Type 1 finish removers do not include products covered as Type 2 finish removers.
12. Type 2 removers shall remove all wax and polymer finishes without ammonia and shall be certified compliant to the GS-40, Green Seal Environmental Standard for Industrial and Institutional Floor-Care Products. Type 2 finish removers may not be recommended for the removal of metal interlocking polymer finishes.

CATEGORY C: GYM WOOD FLOOR VARNISH

1. The finish shall be Type 1 and Type 2, air cured polyurethane or Type 3, water based system to produce a high gloss, light color and have durable wearing capabilities. Shall not require a penetrating sealer.
2. It shall be free flowing and spread uniformly without forming bubbles when applied with a soft wool pad.
3. It shall dry tack free within 12 hours and dry hard in 24 hours.
4. Under normal usage the finish shall demonstrate no signs of rubber burns and shall not powder, flake or peel.
5. After curing the finish shall show no tendency to yellow.
6. Types 1 or 2, air cured polyurethane varnish shall cover a minimum of 400 square feet per gallon as indicated in the published product literature or on the product label.
7. Type 3, water soluble based varnish systems shall cover a minimum of 600 square feet per gallon as indicated in the published product literature or on the product label.
8. The specular gloss shall be greater than 70 units when initially applied as recommended to the floor, as defined in ASTM D-255.
9. Percentage of non-volatile matter (total solids) shall range from 40% to 65% as determined by the method of ASTM D-2834, using the baking time of sixteen (16) hours for the solvent-based finish.
10. Percentage of non-volatile matter (total solids) shall range from 20% to 35% as determined by the method of ASTM D-2834, using the baking time of four (4) hours for the water based finish.
11. The finish must provide anti-slip properties as defined in ASTM D-2047 and carry an Underwriters Laboratories Listing for these characteristics or test data to demonstrate it complies with the ASTM requirements.
12. Type 1 varnish shall contain a range of 450 to 351 grams per liter volatile organic compounds (VOC's).
13. Type 2 and type 3 varnishes shall have a maximum of 350 grams per liter VOC's.
14. Type 3 water based systems may be ready to use or a two part system with a cross linking catalyst if specified in the Invitation For Bids.
15. Type 3 water based systems may be clear or have an amber cast if specified in the Invitation For Bids.
16. Type 1 and type 2 varnishes shall be certified by the Maple Flooring Manufacturers Association, (MFMA) for the category of Group 3, Surface Finishes.
17. Type 3 water-based systems shall be certified by the Maple Flooring Manufacturers Association, (MFMA) for the category of Group 5, Water-Based Finishes.

III. GENERAL REQUIREMENTS

A. INFORMATION AND DESCRIPTIVE LITERATURE

The bidder must provide the identification of the manufacturer, brand, and stock number of each line item submitted.

Technical data, published descriptive literature, complete specifications, and test data shall be submitted as requested in the Invitation For Bids.

All information and test data requested are to be furnished upon request. Reference to literature and test data previously supplied will not comply with these requirements.

B. ENVIRONMENTAL REQUIREMENTS

All products furnished shall be in compliance with any and all requirements established or set forth by the North Carolina Office Of Water And Air Resources, EPA, OSHA, and any other entity authorized to establish requirements for such products.

C. QUALITY

Each product offered shall be an established production item with a proven performance record. The product shall have been offered to the general public as a shelf-item for a minimum period of three years, or shall have been listed as a catalog item and offered to industrial users as a maintenance product for a minimum period of three years, except for the gym wood floor varnishes.

D. QUALITY ASSURANCE

The State reserves the right to have the bidder submit any product to an independent third party laboratory selected by the state to provide a full test report for a product for which there is a concern that the product formulation or performance are not meeting the guarantees and specifications indicated herein during the life of the contract. The sample to be tested may be sourced from the customer's inventory or sourced from a distributor or vendor from current supply. All cost associated with the product purchase, freight and testing shall be borne by the bidder.

E. GREEN SEAL CERTIFICATION VERIFICATION

Individual product certification to the current edition of the GS-40 Environmental Standard for a specific floor finish or remover shall be verified by the following means: (1) a certificate from "Green Seal" reflecting Green Seal's acceptance of product compliance to the Green Seal Environmental Standard GS-40 (copy of this certificate is required with bid submission), (2) published product literature indicating the Green Seal Certification or (3) publication of the bidded product on the "Green Seal" website: http://www.greenseal.org/findaproduct/floor_care.cfm

F. MAPLE FLOORING MANUFACTURERS ASSOCIATION CERTIFICATION VERIFICATION

Individual product certification to the Maple Flooring Manufacturers Association, (MFMA) to the category of Group 3, Surface Finishes or to the category of Group 5, Water-Based Finishes for the gym wood floor varnish shall be verified by publication of the bidded product on the "Maple Flooring Manufacturers Association" website: <http://www.maplefloor.org/literature/finishlist.htm>

G. DEFINITIONS

Gloss (60 degree specular gloss) - Specular gloss is one of several related appearance attributes that produce the sensation of glossiness. For this reason, specular gloss measurements may not always correlate well with visual rankings of glossiness. It is rated as a ratio of reflected to incident light, multiplied by 1000. Example: A newly applied polish will exhibit readings typically between 60-95 units, whereas a newly stripped floor will exhibit less than 10 units. These readings are measured with a 60 degree gloss meter.

Gloss retention - The ability of an applied polish to retain a gloss under normal wear conditions excluding exposure to water.

Polish - A temporary coating that enhances the appearance of and may protect the substrate to which it is applied.

Resilient impermeable floors - Floor coverings manufactured from vinyl, vinyl-asbestos, rubber, asphalt, and linoleum.

Service life - The time a polish can be subjected to normal use conditions prior to retreatment.

Wax emulsion floor polish - A water based emulsion floor polish containing a predominance of synthetic waxes.

IV. PRODUCT SUBMITTALS

A. PRODUCT QUESTIONNAIRES

A product questionnaire shall be completed for each product bid.

B. MATERIAL SAFETY DATA SHEETS

One MSDS shall be provided for each product bid.

C. PRODUCT LABELS

A product label, as used in the manufacture of each product bid shall be submitted, without alterations of any kind. Photocopies are not acceptable.

D. PREVIOUS PRODUCT INVOICES

A photocopy of an invoice, or other sufficient proof, showing that the product has been shipped to the general public or industry for a minimum period of three (3) years, shall be submitted for each product bid.

E. TEST REPORTS

The UL Listing number or a static coefficient of friction test report shall be submitted for each product bid. All test reports must be certified as truthful and accurate to the current product formulation by signature of an officer of the manufacturer, whether tests are completed by the manufacturer or another testing laboratory.

V. WARRANTY

The contractor warrants to the owner that all products furnished under this specification will be new, of good materials and formulation, and agrees to replace promptly any product, which by reason of defective materials or workmanship shall fail this specification. Such replacement including freight shall be free of any charge to the user or agency.

VI. DELIVERY AND PAYMENT

Delivery and payment for commodities under this specification shall be in accordance with the terms and conditions of the Invitation For Bids. The contractor shall be responsible for any packing, packaging, or protection required to insure delivery in undamaged condition.

VII. ORDERING DATA (For Purchase & Contract Use Only)

Purchasers should exercise any desired option offered herein and should specify the following in the requisition and Invitation For Bids:

1. Title, number, and date of this specification.
2. Classification for the performance category and type. (See Section II).
3. Manufacturer identification, product brand, product designation and stock number of each line item.
4. Percentage of non-volatile matter (total solids) for the Category A, floor finishes.
5. Identify if water based gym wood floor finishes are ready to use or a two part system.
6. Identify if water based gym wood floor finishes provide a clear or amber tint after application.

END OF SPECIFICATIONS