GUIDE SPECIFICATIONS FOR

norament 825

BY nora systems, Inc.

This document is coordinated with the resilient tile and resilient sheet products in the nora systems, Inc. product literature, including the Product Catalog, and is available from nora systems, Inc. on www.norarubber.com.

SECTION 09650

RESILIENT FLOORING

PART 1 - GENERAL

A. The work of this Section includes:
   1. Rubber tile flooring.
   2. Rubber sheet flooring.
   3. Rubber wall base.
   4. Rubber stairtreads and accessories.
   5. Subfloor preparation.

B. Related Sections: Other Specification Sections which directly relate to the work of this Section include, but are not limited to, the following:

   1. Section 03300 - Cast-In-Place Concrete; concrete substrate; slab surface tolerances; vapor retarder for applications on or below grade; 83/90 degree riser and tread edge angle for stairtread and nosings.
   2. Section 06100 - Rough Carpentry; plywood substrate; surface tolerances.
   3. Section 10270 - Access Flooring; resilient floor covering for access panels.

C. References (Industry Standards)

   1. American Society for Testing and Materials (ASTM)

A.	ASTM D 2047	Standard Test Method for Static Coefficient of Friction of Polish-Coated Floor Surfaces as Measured by the James Machine
B.	ASTM D 3389	Standard Test Method for Coated Fabrics Abrasion Resistance (Rotary Platform, Double-Head Abrader)
C.	ASTM E 84	Standard Test Method for Surface Burning Characteristics of Building Materials
D.	ASTM E 648	Standard Test Method for Critical Radiant Flux of Floor Covering Systems Using a Radiant Heat Energy Source
E.	ASTM E 662	Standard Test Method for Specific Optical Density of Smoke Generated by Solid Materials
F.	ASTM F 150	Standard Test Method for Electrical Resistance of Conductive and Static Dissipative Resilient Flooring
G.	ASTM F 710	Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring
H.	ASTM F 1344	Standard Specification for Rubber Floor Tile
I.	ASTM F 1859	Standard Specification for Rubber Sheet Floor Covering Without Backing
J.	ASTM F 1860	Standard Specification for Rubber Sheet Floor Covering With Backing
K.	ASTM F 1861	Standard Specification for Resilient Wall Base
M.	ASTM F 2169	Standard Specification for Resilient Stair Treads
N.	ASTM F 2170	Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using *in situ* Probes
O.	ASTM F 2420	Standard Test Method for Determining Relative Humidity on the Surface of Concrete Floor Slabs Using Relative Humidity Probe Measurement and Insulated Hood

P. FTM 4046 101 Static Decay
Q. ESD S7.1 100 Resistive Characterization of Flooring Materials
R. ESD STM 97.2 Floor Materials and Footwear - Voltage Measurement on a Person

2. National Fire Protection Association (NFPA)

A. NFPA 253 Test Method for Critical Radiant Flux of Floor Covering Systems Using a Radiant Energy Source
B. NFPA 258 Test Method for Specific Density of Smoke Generated by Solid Materials

1.02 SUBMITTALS

A. Product Data: Submit manufacturer's product data, installation guide, and maintenance guide for each material proposed for use (available on www.norarubber.com).

B. Samples: Submit two 7.5 cm by 7.5 cm (3 inch by 3 inch) verification samples of each type of product specified in color selected for use.

C. MSDS (Material Safety Data Sheets) are available for adhesives, heat weld rod, cold weld and cleaning agents.

1.03 QUALITY ASSURANCE

A. Manufacturer: Provide resilient flooring manufactured by a firm with a minimum of 10 years experience with resilient flooring of types equivalent to those specified. Manufacturers proposed for use, which are not named in this Section, shall submit evidence of ability to meet performance requirements specified not less than 10 days prior to bid date.

1. Color Matching: Provide resilient flooring products, including wall base and accessories, from one manufacturer to ensure color matching.
2. Manufacturer capable of providing field service representation.

B. Installer Qualifications: Installer shall be **nora®** approved or INSTALL (International Standards & Training Alliance) resilient certified for the requirements of the project.

1.04 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials in labeled packages. Store and handle in strict compliance with manufacturer's recommendations. Protect from damage due to weather, excessive temperatures, and construction operations.

B. Deliver materials sufficiently in advance of installation to condition materials to room temperature prior to installation.

1.05 PROJECT CONDITIONS

A. Maintain a temperature of 68 degrees F (20 degrees C) plus or minus 5 degrees F (3 degrees C) in spaces to receive resilient flooring. Specified temperature shall be maintained at least 48 hours before, during, and 72 hours after installation.

1.06 WARRANTY

A. Provide manufacturer's standard one-year warranty against defects in manufacturing and workmanship of resilient flooring products. Provide manufacturer's standard limited wear warranty/conductivity warranty as specified under each product as applicable.

1.07 EXTRA MATERIALS

A. Furnish full size units equal to 2 percent of quantity of resilient flooring installed as extra materials. Properly label and package extra materials. Deliver to Owner's designated storage area.

PART 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURER

A. Provide resilient flooring by **nora systems, Inc.**, 94 Glenn Street, Lawrence, MA 01843; telephone: 800-332-NORA, or 978-689-0530; fax: 978-975-0110.

B. The manufacturer shall have the Quality Management System approved by Lloyd's Register Quality Assurance to the Quality Management System Standard ISO 9001:2000.

2.02 RESILIENT TILE FLOORING

B. Rubber Tile for Commercial Traffic:

1.	Product Name:	**norament 825 round, Article 1902**, raised round pastilles, 3.2 mm (0.13 inches) overall thickness, 0.5 mm (0.02 inches) raised pattern thickness, 50 cm by 50 cm (19.68 inches by 19.68 inches) tile size. Compound # 825. **nora** rubber content approximately 37%.
1.	Product Name:	**norament 825 hammered surface, Article 1910**, 2.7 mm (0.11 inches) overall thickness, 50 cm by 50 cm (19.68 inches by 19.68 inches) tile size. Compound # 825. **nora** rubber content approximately 37%.
2.	Material:	**nora** rubber with abundant natural fillers and environmentally compatible color pigments.
3.	Back of Tile:	Smooth, double-sanded back.
4.	Limited Wear Warranty:	10 years.
5.	Standard:	ASTM F 1344, for solid color homogeneous tiles and for through-mottled tiles as applicable.
6.	Abrasion Resistance:	Taber abrasion test, ASTM D 3389, H-18 wheel, 500 gram load, 1000 cycles, gram weight loss not greater than .70.
7.	Hardness:	ASTM D 2240, Shore A, not less than 85.
8.	Slip Resistance:	Static coefficient of friction (James Test): ASTM D 2047, equal to or greater than 0.5.
9.	Asbestos-Free:	Products shall contain no asbestos.
10.	Flammability:	ASTM E 648; NFPA 253; NBSIR 75 950 result to be not less than 0.45 watts per square centimeter, Class 1.
11.	Smoke Density:	ASTM E 662, NFPA 258, NBS smoke density, less than 450.
12.	Burn Resistance:	Cigarette and solder burn resistance.
13.	Halogen-Free:	Products shall contain no halogens.
14.	PVC-Free:	Products shall contain no poly-vinyl-chloride.
15.	IAQ:	Product shall meet GreenGuard requirements.
16.	ISO 14001:	Manufacturer shall be ISO 14001 Environmental Management Systems Certified
17.	Color:	As selected.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Verify that spaces to receive resilient flooring are suitable for installation. Do not proceed with work until unsatisfactory conditions are corrected. Comply with manufacturer's recommendations including the following:

1. Substrates shall be dry and clean.

2. Substrates shall be free of depressions, raised areas, or other defects which would telegraph through installed flooring.
3. Temperature of resilient flooring and substrate shall be within specified tolerances.
4. Moisture condition and adhesive bond tests shall be performed as specified.

B. For applications on concrete, verify curing, hardening, or breaking compounds have not been used. If there are any, do not proceed until compounds have been removed as specified.

C. For applications on concrete slab on grade or below grade, verify vapor retarder below slab was installed. If no vapor retarder was installed, do not proceed with work unless an effective fully warranted surface moisture mitigation system is

applied first.

D. Test for moisture as detailed in ASTM F 2170. Relative humidity shall not exceed 75%. Do not proceed with work until results of moisture condition tests are acceptable.

E. Perform adhesive bond test in each major area, minimum 1 per 1,000 square feet, prior to installation. Examine after 72 hours to determine whether bond is solid and no moisture is present. Do not proceed with work until results of bond test are acceptable.

3.02 PREPARATION

A. Comply with ASTM F 710 and manufacturer's installation guide for surface preparation. Remove substances incompatible with resilient flooring adhesive by method acceptable to manufacturer.

1. Concrete floors with steel troweled (slick) finish shall be mechanically roughened (sanded) to ensure suitable profile and to promote a good adhesion bond.
2. Concrete floors with curing, hardening, and breaking compounds shall be abraded with mechanical methods only to remove compounds. Use blastrac, diamond grinding or similar equipment with vacuum attachment.

B. Fill voids, cracks, and depressions with suitable smoothing compounds acceptable to manufacturer. Remove projections and repair other defects to tolerances acceptable to manufacturer.

C. Vacuum subfloors immediately prior to installation to remove loose particles (do not use oil or wax based sweeping compounds). Use only water based compounds that do not leave behind residues which can interfere with adhesion.

3.03 INSTALLATION

A. Install resilient flooring in accordance with manufacturers installation guide. Comply with the following:

1. Do not mix manufacturing batches of a color within the same area.
2. Do not install resilient flooring over building expansion joints.
3. Do not install defective or damaged resilient flooring.
4. Layout resilient flooring to provide equal size at perimeter. Adjust layout as necessary to eliminate resilient flooring which is cut to less than half full width.
5. Lay resilient flooring with arrows in the same direction (excluding borders and some flash coving methods).
6. Install resilient flooring without cracks or voids at seams. Lay seams together without stress.
7. Scribe resilient flooring neatly at perimeter and obstructions.
8. Extend resilient flooring into reveals, closets, and similar openings.
9. Remove excess adhesive immediately.
10. Install reducer strips at exposed edges.

B. Install resilient wall base in accordance with manufacturer's installation guide. Install in longest practical lengths. Tightly adhere to substrate. Fill voids due to seams in substrate materials with a suitable filler material.

C. Install resilient stairtreads and accessories in accordance with manufacturers installation guide. Install reducer strips at exposed edges. Tightly adhere to substrate only where recommended by manufacturer. Fill voids due to seams in substrate materials with a suitable filler material.

D. **noraplan** SEAMLESS FLOORING INSTALLATION (WHEN REQUIRED). Rout seams and heat weld together with coordinated colored heat welding rod or cold weld with coordinated colored cold weld compound in accordance with resilient flooring manufacturer's installation guide.

E. **norament** SEAMLESS FLOORING INSTALLATION (WHEN REQUIRED). Rout seams and weld together with coordinated colored cold weld compound in accordance with resilient flooring manufacturer's installation guides.

F. FLASH COVING OF SHEET GOOD (WHEN REQUIRED). Extend flooring up the wall in a flash-coved method, with resilient flooring manufacturer's recommendations, to a height as indicated. Provide cove stick and suitable capping strip. All vertical

internal and external seams shall be cold welded with coordinated colored cold weld compound. Follow resilient flooring manufacturer's installation guide.

G. SANITARY BASE (WHEN REQUIRED). All seams between sanitary base and flooring, and between sanitary base sections shall be cold welded together with coordinated colored cold weld compound in accordance with resilient flooring manufacturer's installation guide.

3.04 CLEANING AND PROTECTION

A. Touch-up and repair minor damage to eliminate all evidence of repair. Remove and replace work which cannot be satisfactorily repaired.

B. Clean flooring surfaces only after adhesive has fully cured, no sooner than 72 hours after installation, unless agreed with **nora** representative. Clean surfaces using non-abrasive materials and methods recommended by manufacturer's maintenance guide. Remove and replace work that cannot be successfully cleaned.

C. Protect completed work from damage and construction operations and inspect immediately before final acceptance of project.

D. No metal or plastic wheels, the shape of contact surfaces of equipment wheels must be flat, shore hardness "A" of the wheels' material must be ≤ 90. Office chairs/furniture wheels shall be soft type (W according to EN 12529).

END OF SECTION

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