MARMOLEUM® COCOA

1. PRODUCT NAME / MANUFACTURER

1.1 Product:
Marmoleum® linoleum sheet resilient floor covering

1.2 Manufacturer:
Forbo Flooring Systems
Humboldt Industrial Park
Hazleton, PA 18202
www.forboflooringna.com
Phone: +800 842 7839
Fax: +570 459 0771

1.3 Product Description:
Construction: Marmoleum® is a homogeneous floor covering made from natural ingredients including linseed oil, rosin binders, wood flour, limestone and dry pigments which are mixed and then calendared onto a natural jute backing. Cocoa shells are added, providing a new surface texture that is both natural and contemporary in feel.
Topshield2™ is a high performance finish. Its double UV cured double layer technology delivers extraordinary performance and clear and vibrant colors that remain over time.
Topshield2™ creates a ‘ready to use’ Marmoleum® that requires no initial maintenance or polymer application. The surface can be repaired or refreshed in cases of accidents or after years of intensive use.

1.4 Physical Characteristics: (dimensions are approximate)
Gauge--------------------- 1/10" (2.5 mm)
Backing------------------- Jute
Width-------------------- 79" (2 meters)
Length------------------- 105' (32 meters)
Roll Size---------------- 77 yards² (64 meters²)

2. PRODUCT PERFORMANCE AND TECHNICAL DATA

2.1 Reference Specification:
Meets or exceeds all technical requirements as set forth in ASTM F 2034 Standard Specification for Linoleum Sheet Flooring, Type I

2.2 Environmental:
100% USDA Certified BioBased Product.
Compliant with CHPS 01350 requirements for VOC emissions and indoor air quality.
See Forbo’s LEED® v4 sheet for additional information.

2.3 Flexibility
Marmoleum will not crack or break when bent around a 10 mm diameter cylinder.

2.4 Static Load Limit:
Residual compression of 0.002" with 250 pounds per square inch when tested in accordance with ASTM F 970-17, Standard Test Method for Static Load Limit.

2.5 Slip Resistance:
Meets or exceeds the industry recommendation of >0.5 for flat surfaces when tested in accordance with ASTM D 2047, Standard Test Method for Static Coefficient of Friction.

2.6 Castor Resistance:
Suitable for office chairs with castors when tested in accordance with EN 425, Castor Chair Test.

2.7 Impact Sound Reduction:
6db when tested in accordance with ASTM E 662, Impact Sound Insulation Test.

2.8 Resistance to Bacteria:
Provides a self-sanitizing quality in the form of a bactericidal effect. Independent testing has shown that a sterile zone around the material inhibits the growth of organisms such as staphylococcus aureus, Clostridium difficile, and Klebsiella pneumonia (CRE).

2.9 Anti-Static Properties:
Naturally anti-static. This property makes cleaning easier because dirt and dust does not cling to the surface as it may with other materials.

2.10 Fire Testing:
Class 1 when tested in accordance with ASTM E 648/NFPA 253, Standard Test Method for Critical Radiant Flux.
Meets 450 or less when tested in accordance with ASTM E 662/NFPA 258, Standard Test Method for Smoke Density.

2.11 Chemical Resistance: (Exposure Time: One Hour)*

<table>
<thead>
<tr>
<th>Test</th>
<th>Standard</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diluted Acids – Sulfuric</td>
<td>Nitric, Hydrochloric, Acetic</td>
<td>No Change</td>
</tr>
<tr>
<td>Lactic, Citric--------------</td>
<td></td>
<td>No Change</td>
</tr>
<tr>
<td>Isopropyl Alcohol (70%)</td>
<td></td>
<td>No Change</td>
</tr>
<tr>
<td>Sodium Hydroxide (5%)</td>
<td></td>
<td>Softening</td>
</tr>
<tr>
<td>Ammonia (5%), Acetone</td>
<td>Possible Softening/Staining</td>
<td></td>
</tr>
<tr>
<td>Soda Solution, Soap Solution (Slightly Alkaline)</td>
<td>No Change</td>
<td></td>
</tr>
<tr>
<td>Gasoline, Kerosene, White Spirit</td>
<td></td>
<td>No Change</td>
</tr>
<tr>
<td>Benzene, Toluene, Methyl Alcohol, Ethyl Acetate</td>
<td>No Change</td>
<td></td>
</tr>
<tr>
<td>Methyl Ethyl Ketone, Ether, Phenol (5%)</td>
<td></td>
<td>No Change</td>
</tr>
<tr>
<td>Mineral Oil, Olive Oil, Vegetable Oil, Animal Fat</td>
<td>No Change</td>
<td></td>
</tr>
<tr>
<td>Blood, Urine, Excrement</td>
<td></td>
<td>No Change</td>
</tr>
<tr>
<td>Formaldehyde, Hydrogen Peroxide</td>
<td></td>
<td>No Change</td>
</tr>
<tr>
<td>Hot Chili Paste, Iodine, Betadine, Hair Dye</td>
<td>No Change</td>
<td></td>
</tr>
<tr>
<td>Shoe Polish, Lipstick</td>
<td></td>
<td>Staining</td>
</tr>
<tr>
<td>Silver Nitrate--------------</td>
<td>Staining/Possible Softening</td>
<td></td>
</tr>
<tr>
<td>Butyric, Salt Water</td>
<td></td>
<td>No Change</td>
</tr>
<tr>
<td>Hot Alcohol</td>
<td></td>
<td>No Change</td>
</tr>
<tr>
<td>Methylene Blue--------------</td>
<td></td>
<td>Staining</td>
</tr>
<tr>
<td>Gel-Based Hand Sanitizer, Bleach</td>
<td></td>
<td>No Change</td>
</tr>
</tbody>
</table>

2.12 Cigarette Resistance:
Resists cigarette burns. Burning cigarettes will leave only a brown mark, which can be rubbed out using steel wool or a scouring pad.

Forbo Flooring Systems
Forbo Austria
Forbo Asia Pte Ltd.
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100% Recyclable Packaging
Indoor Environmental Quality
Low-Emitting Materials (Adhesives comply with SCAQMD Rule #1168)

forbo
creating better environments
3. INSTALLATION

3.1 Adhesive:
Use Forbo L 885, Forbo Sustain 885m, Forbo Sustain 1195 or Sustain 1299 adhesive.
Use a 1/16" x 1/16" x 1/16" square notch trowel.
Spread Rate: Approximately 125 square feet/gallon.

3.2 Heat Welding:
Heat welding is not necessary for all installations, however it is optional. For seamless, hygienic watertight installation requirements, use Forbo Marmoweld welding rod.
Welding rod dimensions: 4 mm; 165 linear feet per spool.

3.3 Flash Coving (OPTIONAL):
Flash cove up walls to the desired height. Use Forbo L 885 adhesive, Forbo Sustain 885m adhesive or Forbo Sustain 1195 adhesive.

3.4 Installation Guidelines:
Refer to Forbo Flooring’s Installation Guide for complete installation guidelines.

4. AVAILABILITY AND COST

Available through authorized Forbo Flooring suppliers throughout North America. Contact Forbo Flooring or an authorized supplier for cost information.

5. WARRANTY

Limited 30-year warranty. For complete details, contact Forbo Flooring.

6. CARE AND CLEANING

After installation is completed, allow a minimum of 5 days for the adhesive to properly bond and cure before conducting wet cleaning procedures. See Forbo Flooring’s Floor Care Guide for additional information.

7. SUPPORT SERVICES

Submittal samples for verification and approval are available upon request from Forbo Flooring. Samples shall be submitted in compliance with the requirements of the Contract Documents. Please fax all sample requests to +570 450 0229 or visit our website at www.forboflooringna.com. Accepted and approved samples shall constitute the standard materials that represent materials installed in the project.

For current installation and floor care guidelines, guide specifications, and other technical information, visit our website at www.forboflooringna.com.