Specifier Note: This Guide Specification has been created to assist in preparing a Project/Master Specification. In accordance with CSI/CSC (Construction Specifications Institute/Construction Specifications Canada)'s MasterFormat®, this Guide Specification can be used with most Project/Master Specification formats, following simple editing.

*Specifier Note: **The enclosed requirements are intended for indoor installations over concrete** (or in some cases over wood). If the provisions described herein are adopted for installations over other types of substrates or for installations outdoors, Mondo's Limited Material Warranty will be null and void and the Specifier will be held liable.*

Specifier Note: This Guide Specification describes the prefabricated resilient rubber flooring product to be installed. The number and title of the section may be changed, if the Specifier deems necessary, but in any circumstance it will belong to the general CSI/CSC Section 09 65 00: Resilient Flooring.

SECTION 09 65 16.33
Rubber Sheet Flooring
and/or
SECTION 09 65 19.33
Rubber Tile Flooring

1 PART 1 – GENERAL

1.1 SUMMARY

1.1.1 Products Supplied

A. Prefabricated resilient rubber flooring ("Rubber Flooring").
B. Accessories required for installation, maintenance and repair.

1.1.2 Related Requirements

Specifier Note: The following CSI/CSC sections serve as a guide to what is essential information needed to determine the acceptability of the site conditions required for the installation of Rubber Flooring. When necessary, the Specifier may include other sections.

A. Section 02 25 00 – Existing Material Assessment
B. Section 03 05 00 – Common Work Results for Concrete
C. Section 06 05 00 – Common Work Results for Wood, Plastics, and Composites
D. Section 07 05 00 – Common Work Results for Thermal and Moisture Protection
E. Section 07 10 00 – Dampproofing and Waterproofing

1.2 REFERENCES

1.2.1 German Committee for Health-Related Evaluation of Building Products (AgBB)

A. AgBB. Evaluation of volatile organic compounds (VOC) and semi-volatile organic compounds (SVOC) from building products.

1.2.2 ASTM International (ASTM)

A. ASTM D412: Standard Test Methods for Vulcanized Rubber and Thermoplastic Elastomers—Tension.
B. ASTM D2047: Standard Test Method for Static Coefficient of Friction of Polish-Coated Floor Surfaces as measured by the James Machine.
C. ASTM D2240: Standard Test Method for Rubber Property (Durometer Hardness).
D. ASTM D3389: Standard Test Method for Coated Fabrics Abrasion Resistance (Rotary Platform Abrader).
E. ASTM D6866: Standard Test Methods for Determining the Biobased Content of Solid, Liquid, and Gaseous Samples Using Radiocarbon Analysis.
F. ASTM E648: Standard Test Method for Critical Radiant Flux of Floor Covering Systems Using a Radiant Heat Energy Source.
G. ASTM E662: Standard Test Method for Specific Optical Density of Smoke Generated by Solid Materials.
H. ASTM E1643: Standard Practice for Selection, Design, Installation, and Inspection of Water Vapor Retarders Used in Contact with Earth or Granular Fill Under Concrete Slabs.
I. ASTM E1745: Standard Specification for Water Vapor Retarders Used in Contact with Soil or Granular Fill under Concrete Slabs.
J. ASTM E2179: Standard Test Method for Laboratory Measurement of the Effectiveness of Floor Coverings in Reducing Impact Sound Transmission Through Concrete Floors.
K. ASTM F386: Standard Test Method for Thickness of Resilient Flooring Materials Having Flat Surfaces.
L. ASTM F410: Standard Test Method for Wear Layer Thickness of Resilient Floor Coverings by Optical Measurement.
M. ASTM F710: Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring.
N. ASTM F925: Standard Test Method for Resistance to Chemicals of Resilient Flooring.
O. ASTM F970: Standard Test Method for Static Load Limit.
P. ASTM F1344: Standard Specification for Rubber Floor Tile.
Q. ASTM F1514: Standard Test method for Measuring Heat Stability of Resilient Flooring by Color Change.
R. ASTM F1515: Standard Test Method for Measuring Light Stability of Resilient Flooring by Color Change.
S. ASTM F1859: Standard Specification for Rubber Sheet Floor Covering Without Backing.
T. ASTM F1869: Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride.
U. ASTM F2055: Standard Test Method for Size and Squareness of Resilient Floor Tile by Dial Gage Method.
V. ASTM F2170: Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using in situ Probes.
W. ASTM F2199: Standard Test Method for Determining Dimensional Stability of Resilient Floor Tile after Exposure to Heat.
X. ASTM F3010: Standard Practice for Two-Component Resin Based Membrane-Forming Moisture Mitigation Systems for Use Under Resilient Floor Coverings.
Y. ASTM F3311: Standard Practice for Mat Bond Evaluation of Performance and Compatibility for Resilient Flooring System Components Prior to Installation.
Z. ASTM G21: Standard Practice for Determining Resistance of Synthetic Polymeric Materials to Fungi.

1.2.3 The Blue Angel

A. Blue Angel. DE-UZ 120: Elastic Floor Coverings. German environmental label. Products with the Blue Angel ecolabel meet a list of criteria considering environmental and health-related aspects.

1.2.4 State of California (CA)

A. Emission testing method for California Specification 01350. CDPH v1.2-2017: Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers.

1.2.5 Cradle to Cradle (C2C)

A. Cradle to Cradle Certified® is the global standard for products that are safe, circular and responsibly made. It assesses safety, circularity and responsibility of materials and products across five categories of sustainability performance.

1.2.6 Grenelle Environment Forum

A. Decree № 2011-321. French decree on labeling requirement for construction materials, wall and floor coverings, and paint and varnishes, as it pertains to their emissions of volatile pollutants. A classification rating of A+ indicates a product with very low emissions.

1.2.7 GREENGUARD Environmental Institute (GEI)

A. GREENGUARD Certification. Certified products have been screened for more than 15,000 VOCs known to pollute indoor air.
B. GREENGUARD Gold. The most stringent standard includes health-based criteria for additional chemicals (limiting emissions of more than 360 VOCs) and requires lower TVOC emissions to ensure that products are acceptable for use in environments such as schools and healthcare facilities.

1.2.8 International Organization for Standardization (ISO)

A. ISO 9001: Quality management systems – Requirements.
B. ISO 14001: Environmental management systems – Requirements with guidance for use.
C. ISO 14064-1: Greenhouse gases. Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals.
D. ISO 14064-3: Greenhouse gases. Part 3: Specification with guidance for the verification and validation of greenhouse gas statements.
E. ISO 16000-9: Indoor air - Part 9: Determination of the emission of volatile organic compounds from building products and furnishing - Emission test chamber method.
F. ISO 50001: Energy management systems.

1.2.9 Building Foundation Information RTS

A. M1 Finnish Classification focuses on emissions from building materials and furniture into the indoor air, setting limit values for emissions of volatile organic compounds (VOC), formaldehyde, and ammonia as well as the acceptability of odour. Criteria are set for the longer-term emissions that are more relevant to indoor air quality. M1 Classification label on the product indicates that the product is low-emitting, and its use supports good indoor air. The M1 Classification label is a type I ecolabel.

1.3 SUBMITTALS

Specifier Note: The following are typical submittals. When necessary, the Specifier may include other submittals. Technical and warranty information is available for download at www.mondocontractflooring.com or may be requested from the Technical Department at Mondo America, Inc. (technical@mondousa.com).

1.3.1 Action Submittals

A. Provide a sample, 6 inches x 6 inches, for verification of such characteristics as color and surface texture, for each specified Manufactured Product.
B. If heat welding of seams (sheets) has been specified, provide a sample of the welding thread for verification of color, for each specified Manufactured Product.

C. General Contractor to provide all required shop drawings for the project, illustrating layouts, details, dimensions, and other pertinent data useful to the Flooring Contractor.

1.3.2 Informational Submittals

A. Provide the Manufacturer's current printed technical data sheet (TDS) and guide specification for all Products Supplied.
B. Provide the Manufacturer's current printed substrate surface preparation guidelines.
C. Provide the Manufacturer's current printed installation guidelines for all Products Supplied.

1.3.3 Sustainable Design Submittals *(When Required)*

A. Provide proof of compliance with CDPH v1.2-2017 for low-emitting products by submitting a copy of the Manufactured Product's indoor air quality (IAQ) certification: GREENGUARD Gold certification.
B. Provide a copy of the Manufactured Product's Cradle to Cradle Certified® Silver certification.
C. Provide a copy of the Manufactured Product's third-party verified biobased content.
D. Provide a copy of the Manufactured Product's EPD (Product-Specific Type III Environmental Product Declaration).

1.3.4 Closeout Submittals

A. Provide the Manufacturer's current printed maintenance guidelines for Manufactured Product.
B. Provide the Manufacturer's registered (numbered) Limited Material Warranty certificate for the Manufactured Product installed. Refer to section 1.7.

1.3.5 Maintenance Material Submittals

A. It is highly recommended to purchase extra stock material from the original dye lot used, for the purpose of facility operations and maintenance (approximately 2% of the total floor surface for each color of Manufactured Product specified).

1.4 QUALITY ASSURANCE

A. Manufacturer must be certified ISO 9001, ISO 14001, and ISO 50001.
B. Manufacturer must have a minimum of fifteen (15) years of experience in manufacturing Rubber Flooring.
C. Rubber Flooring must have undergone a vulcanization process; factory lamination should not be accepted as equivalent.
D. In accordance with ASTM E648, Rubber Flooring must have a critical radiant flux ≥0.45 W/cm^2 (Class 1).
E. In accordance with ASTM E662, Rubber Flooring must have an optical density of smoke ≤450.
F. Flooring Contractor to be recognized and approved by Manufacturer.
G. Flooring Contractor shall be fully acquainted with the existing facility and utilities and shall fully understand the difficulties and restrictions attending the execution of the work under contract. Flooring Contractor is responsible for immediately advising the Owner, in writing, of any restrictions or anticipated difficulty.
H. Installer must be approved by the Flooring Contractor and must have performed installations of the same scale in the last three (3) years.

1.5 DELIVERY, STORAGE AND HANDLING

A. Products Supplied must be delivered in Manufacturer's original, unopened, and undamaged packaging with identification labels intact.

B. Products Supplied must be protected from exposure to harmful weather conditions and must be safely stored on a clean, dry, flat surface. Store rolls of Rubber Flooring upright; store tiles of Rubber Flooring on a flat surface, carefully protecting corners and edges. Do not double-stack pallets.
C. Climate controlled storage is recommended. Storage temperature must not be below 40°F (4°C) and must not exceed 100°F (38°C). Materials must be delivered to site a minimum of 24 hours before work is scheduled to begin, so that they may acclimate.
D. Avoid storing Manufactured Product for extended periods of time or additional material trimming may be required.
E. Products Supplied need not suffer damage during delivery, storage, and handling (i.e. dents/scratches, excessive compression or warping, chipped edges, etc.).

1.6 SITE CONDITIONS

A. The General Contractor or Construction Manager shall be responsible for ensuring that all site conditions meet the requirements of the Manufacturer. Ensure 1.6. Site Conditions, 3.2. Examination, and 3.3 Preparation are suitable prior to proceeding with the Rubber Flooring installation. Refer to the current version of ASTM F710 for additional information.
B. Concrete slabs, on or below grade, must be installed over a permanent effective vapor retarder, respecting current versions of the standard practice ASTM E1643 and the standard specification ASTM E1745. The vapor retarder must be placed directly underneath the concrete slab, above the granular fill, as per Manufacturer's instructions. The vapor retarder must have a perm rating of 0.1 or less and must have a minimum thickness of 10 mil (0.010 in).
C. Sealers and curing compounds shall not be applied to or mixed into the concrete (refer to Section 03 05 00 – Common Work Results for Concrete of Division 3).
D. Installation of the Rubber Flooring to be carried out no sooner than the specified curing time of the concrete (normal density concrete curing time is approximately 28 days for development of design strength, having a minimum 3500 psi or 25 MPa in compressive strength).
E. Concrete substrate must be dry, flat, sufficiently porous, smooth, clean, and free of bond inhibitors (paint, wax, dust, oil or grease, sealer or curing agent, surface hardener, solvent, asphalt, old adhesive residues, etc.). Concrete surfaces that are powdery or scaly are not acceptable. Bond inhibitors are to be mechanically removed (e.g., light to medium shot-blasting for ICRI CSP #3 to #5). Do not use abatement chemicals; these chemicals can be absorbed by the concrete and prevent adhesion. Flooring Contractor must be advised, in writing, of any bond inhibitor having been removed so that removal effectiveness can be verified with a mat bond test. Refer to current published copy of ASTM F3311.
F. Concrete must have a smooth finish, proper density and be highly compacted with a tolerance of 1/8th of an inch in a 10-foot radius (3.2 mm in 3.05 m radius). Floor Flatness (FF) and Floor Levelness (FL) numbers are not recognized.
G. Concrete substrate must be dry and free of moisture-related problems; never install Rubber Flooring where hydrostatic pressure, osmotic blistering, and/or alkali silica reaction conditions exist. Moisture and alkalinity tests must be performed on all concrete substrates, under in-service conditions, prior to installation. Never attempt substrate moisture testing and flooring installation until the jobsite's ambient conditions (ambient temperature and ambient relative humidity) are constant and representative of the building's operating conditions. **WARNING: Failure to provide stable ambient conditions on the jobsite will produce inaccurate moisture testing results, in addition to negatively impacting the adhesive's cure and the flooring system's performance.** Turn on the heating, ventilation, and air-conditioning (HVAC) unit 7 days prior to performing moisture tests, to ensure accurate test results and stable ambient conditions for the installation of the Rubber Flooring. Maintain stable room and substrate temperatures prior to moisture tests and Rubber Flooring installation, during the installation, as well as a minimum of 72 hours after the Rubber Flooring has been completely installed. Recommended ambient temperature range is between 65°F and 86°F (18°C and 30°C), allowing for no more than ±5°F (±3°C) fluctuations. Recommended ambient humidity range is between 35% and 55%. Always ensure that the substrate's

surface temperature remains a minimum of 10°F (5°C) above the dew point during the installation, and until 72 hours post-installation.

H. If the installation has been specified over a wood substrate, use exterior grade plywood with at least one good side, such as: APA (Engineered Wood Association) Exterior grade plywood (A-A Exterior, A-B Exterior or A-C Exterior) and CANPLY (Canadian Plywood Association) Exterior certified plywood (Canada: Grade G2S A-A or G1S A-C. USA: G2S A-A, A-B, B-B, or G1S A-C, B-C). There must be proper underfloor ventilation, plywood must be dry and must have a moisture content range of 6 to 12% when measured with a quality wood moisture meter (electronic hygrometer).

I. Installation of Rubber Flooring shall not commence until the building is enclosed and all other trades have completed their work. It is the General Contractor or Construction Manager's responsibility to maintain a secure and clean working area before, during and after the installation of the Rubber Flooring.

J. Wherever Rubber Flooring may be exposed to direct sunlight, preserve the integrity of the flooring system's components by ensuring proper UV protection is in place. Ensure that glass doors, façades, and windows are fitted with low-e glass (low emissivity) that blocks 99% of harmful rays. It is important to mitigate direct sunlight to ensure proper cure: cover all glass with cardboard, blinds, roller shades, curtains, or other suitable material at least 24 hours prior to the installation, for the duration of the installation, and until 72 hours post-installation.

1.7 LIMITED MATERIAL WARRANTY

A. The Rubber Flooring is warranted to be free from manufacturing defects for a period of one (1) year from the date of invoice from Mondo, per the terms and conditions of Mondo's current Limited Material Warranty.

B. For standard applications, the Rubber Flooring is warranted against excessive wear under normal usage for a period of fifteen (15) years from the date of invoice from Mondo, per the terms and conditions of Mondo's current Limited Material Warranty.

C. Refer to current copy of Mondo's Limited Material Warranty for all terms and conditions, which shall be obtained directly from Mondo. In no event shall any warranties provided by any third parties (including distributors, insurance and/or private label providers) be considered as valid.

2 PART 2 – PRODUCTS

2.1 MANUFACTURED PRODUCT

2.1.1 Manufacturer

A. Basis-of-Design: Mondo.

B. Mondo manufacturing location: Artigo S.p.A., 17014 Cairo Montenotte (SV), Loc. Carpeneto – Italia.

2.1.2 Description

Specifier Note: Indicate required color(s) and format(s).

A. Kayar is prefabricated resilient rubber flooring, calendered and vulcanized, with a synthetic rubber base, stabilizing agents and pigmentation, as manufactured by Mondo.

B. Health and The Environment: Kayar is manufactured in a facility that has ISO 9001, ISO 14001, ISO 14064 and ISO 50001 certificates, and 100% of the electric energy used comes from renewable sources: water, wind and solar. Presently, 20% of production cut-offs are diverted from waste and re-injected back into our production process. Tested per ASTM D6866, KAYAR has ≥8% bio-based content. At Mondo, we pride

ourselves on producing premium high-quality rubber flooring products that can be utilized in areas with stringent health and safety controls; we do not use red listed ingredients (2023 LBC Red List CASRN Guide) to manufacture our rubber flooring products, which includes but is not limited to harmful chemicals of concern like bisphenol A (BPA), formaldehyde, halogens, heavy metals, isocyanates, phthalates, polyvinyl chloride (PVC), PFAs and PFCs. Kayar is Cradle to Cradle certified SILVER. A product-specific Type III Environmental Product Declaration (EPD) is available. Kayar complies with CDPH v1.2-2017 (California Specification 01350) and meets the requirements of many IAQ certifications (refer to section 2.1.3 Performance).

C. Thickness: 0.118'' (3 mm).
D. Colors: Provided in standard, solid background colors with randomly dispersed natural coconut husk fibers throughout the wear layer's entire depth.
E. Surface Texture: Smooth.
F. Surface Treatment: Factory applied low-gloss surface treatment MondoShield PRO, cured by ultraviolet (UV) processing.
G. Vulcanized, dual durometer construction. The shore hardness of the top layer (wear layer) will be greater than that of the bottom layer; shore hardness of layers to be recommended by the Manufacturer and to respect limits specified.
H. Formats: Available in sheets that are 6'2" (1.90 m) wide and 32'9" (10 m) long [min. 19'8" (6 m)/max. 59' (18 m)]; available in tiles that are 24" x 24" (61 cm x 61 cm).

2.1.3 Performance

A. Manufactured Product tested following standard specifications ASTM F1344 (rubber tile flooring) and ASTM F1859 (rubber sheets flooring without backing).
B. Performance of the Manufactured Product to conform to the following criteria:

Performance Criterion	**Test Method**	**Requirement***	**Result****
Modulus at 10% Elongation	ASTM D412	≥300 psi	455.64 psi
Static Coefficient of Friction (dry, neolite heel)	ASTM D2047	≥0.50	≥0.95
Durometer Hardness (Shore A)	ASTM D2240	≥85	95
Abrasion Resistance (H18 wheel, 1000 cycles)	ASTM D3389	<1.0 g loss (500 g load)	<0.5 g loss (1000 g load)
Critical Radiant Flux	ASTM E648	≥0.45 W/cm^2 (Class 1)	≥0.45 W/cm^2 (Class 1)
Optical Density of Smoke	ASTM E662	≤450	≤450
Impact Sound Transmission Reduction	ASTM E2179	-	≈11 dB (ΔIIC)
Thickness	ASTM F386	3 mm (±0.15 mm) 0.118" (±0.006")	Compliant
Wear Layer Thickness	ASTM F410	≥1 mm	Compliant
Resistance to Chemicals	ASTM F925	≤Slight Change	Compliant ***
Static Loading (Tested at 250psi)	ASTM F970	≤0.005 in	0.001 in
Static Loading (Tested at 800psi)	ASTM F970	-	0.004 in
Heat Resistance	ASTM F1514	ΔE ≤8.0	Compliant
Light Resistance	ASTM F1515	ΔE ≤8.0	Compliant
Tile Size	ASTM F2055	±0.45 mm	Compliant
Tile Squareness	ASTM F2055	≤0.254 mm	Compliant
Dimensional Stability of Tiles	ASTM F2199	≤0.15%	Compliant
Resistance to Fungi (ATCC9642, ATCC11797, ATCC6205, ATCC9645 & ATCC15233)	ASTM G21	-	No Growth
Indoor Air Quality: CA Specification 01350	CDPH: V1.2-2017	-	Compliant

Performance Criterion	Test Method	Requirement*	Result**
Indoor Air Quality: GREENGUARD Gold	UL 2821/UL 2818	-	Compliant
Indoor Air Quality: GREENGUARD Certification	UL 2821/UL 2818	-	Compliant
Indoor Air Quality: AgBB	ISO 16000-9	-	Compliant
Indoor Air Quality: French Decree № 2011-321	ISO 16000-9	-	Compliant (Class A+)
Indoor Air Quality: M1	ISO 16000-9	-	Compliant
Environmental Label: The Blue Angel	DE-UZ 120	-	Compliant
Multi-Attribute: Cradle to Cradle Certified®	C2C v3.1	-	SILVER

**For each individual test, Manufactured Product is only required to meet any applicable requirement listed in the Requirement column.*
***A result obtained from testing during manufacturing controls and/or third-party verifications may vary between production lots, laboratories, methods and/or equipment, and as such any listed result in the Result column does not constitute representation or warranty as to any particular production lot. Mondo reserves the right to modify product design and/or specifications at any time without notice.*
****For the complete list of chemicals tested, concentrations and contact time, please communicate with Mondo's Technical Department.*

2.1.4 Limitations

A. Kayar is not designed for unglued, partially glued or temporary application; therefore, it must be completely glued down to the substrate's surface with adhesive that has been applied fully to the edge of the material.

2.1.5 Materials

A. Rubber Flooring: Kayar by Mondo, as specified in section 2.1.2 Description.

2.2 ACCESSORIES

Specifier Note: Accessories are to be specified in accordance with the project requirements.

A. Adhesives certified by Manufacturer for wet-lay application: Mondo EP 55 (epoxy) or Mondo MP 1000 (acrylic). Use of Mondo MP 1000 in areas with heavy rolling and static loads is not recommended. Exceptionally, Mondo PU 300 polyurethane may be recommended for specialty installations, under set conditions. For suitability, recommendations, and use, please refer to Manufacturer's current printed adhesive data sheets.
B. If seam welding has been specified for Rubber Flooring sheets, either by heat weld or cold weld, the welding product (welding thread or chemical) is to be supplied/approved by Manufacturer.

3 PART 3 – EXECUTION

3.1 INSTALLERS

A. Refer to section 1.4 of this document for information on installers.

3.2 EXAMINATION

Specifier Note: The following must be ensured prior to Rubber Flooring installation.

A. Prior to Rubber Flooring installation, Flooring Contractor must verify that the substrate is ready to receive Rubber Flooring and that it has been effectively prepared according to Manufacturer's current substrate surface preparation guidelines. Refer to current version of ASTM F710 for additional information.

B. Verify that concrete slabs, on or below grade, are installed over a permanent effective vapor retarder, respecting current versions of the standard practice ASTM E1643 and the standard specification ASTM E1745. The vapor retarder must be placed directly underneath the concrete slab, above the granular fill, as per Manufacturer's instructions. The vapor retarder must have a perm rating of 0.1 or less and must have a minimum thickness of 10 mil (0.010 in).
C. Verify that no concrete sealers or curing compounds have been applied to or mixed into the concrete (refer to Section 03 05 00 – Common Work Results for Concrete of Division 3).
D. Verify that concrete has been allowed a minimum of 28 days of curing time (normal density concrete curing time is approximately 28 days for development of design strength, having a minimum 3500 psi or 25 MPa in compressive strength).
E. Verify that concrete surface is free of bond inhibitors (paint, wax, dust, oil or grease, sealer or curing agent, surface hardener, solvent, asphalt, old adhesive residues, etc.). Concrete surfaces that are powdery or scaly are not acceptable. Bond inhibitors are to be mechanically removed (e.g., light to medium shot-blasting for ICRI CSP #3 to #5). Do not use abatement chemicals; these chemicals can be absorbed by the concrete and prevent adhesion. Always confirm removal effectiveness with a mat bond test. Refer to current copy of ASTM F3311.
F. Verify that concrete has a smooth finish, proper density and is highly compacted with a tolerance of 1/8th of an inch in a 10-foot radius (3.2 mm in a 3.05 m radius). Floor Flatness (FF) and Floor Levelness (FL) numbers are not recognized.
G. Imperfections and irregularities (holes, voids, bumps, cracks, depressions, etc.) must be corrected, and surfaces must be smooth and even before proceeding with the installation. Only use high quality Portland cement based patching and leveling compounds, respecting the manufacturer's instructions for compatibility and use with Rubber Flooring products and accessories.
H. Concrete substrates must not have any hydrostatic and/or moisture problems. Verify concrete moisture and alkalinity. Tests must be performed on all concrete substrates, under in-service conditions, and preferably by third-party. For accurate test results, ensure that the HVAC unit has been operational for 7 days and that the ambient conditions are stable, prior to performing any moisture and alkalinity tests. The concrete's surface pH must be between 7 and 10. Relative humidity of the concrete slab must not exceed the tolerance of the adhesive specified, in accordance with the current version of ASTM F2170 (in situ probes). Moisture vapor emissions from the concrete slab must not exceed the tolerance of the adhesive specified, in accordance with the current version of ASTM F1869 (anhydrous calcium chloride). Where tolerances are exceeded and a moisture mitigation system will be specified, refer to ASTM F3010. Moisture and alkalinity test results must be recorded and copies must be kept for a minimum of 3 years, or for the duration of the Limited Material Warranty period.
I. If the installation has been specified over a wood substrate, confirm use of exterior grade plywood with at least one good side, such as: APA (Engineered Wood Association) Exterior grade plywood (A-A Exterior, A-B Exterior or A-C Exterior) and CANPLY (Canadian Plywood Association) Exterior certified plywood (Canada: Grade G2S A-A or G1S A-C. USA: G2S A-A, A-B, B-B, or G1S A-C, B-C). There must be proper underfloor ventilation, plywood must be dry and must have a moisture content range of 6 to 12% when measured with a quality wood moisture meter (electronic hygrometer).
J. Be sure to maintain stable room and substrate temperatures, prior to moisture tests and Rubber Flooring installation, during the installation, as well as a minimum of 72 hours after the Rubber Flooring has been completely installed. Recommended ambient temperature range is between 65°F and 86°F (18°C and 30°C), allowing for no more than ±5°F (±3°C) fluctuations. Recommended ambient humidity range is between 35% and 55%. Always ensure that the substrate's surface temperature remains a minimum of 10°F (5°C) above the dew point during the installation, and until 72 hours post-installation.
K. Installer to perform bond tests with specified products to confirm suitability and strong adhesion to all substrates, as detailed in ASTM F3311 (mat bond evaluation). Special attention must be paid to any area where a contaminant was removed, to confirm the effectiveness of the removal. Refer to Manufacturer's current printed substrate preparation manual for additional notes on bond tests.
L. Installation of Rubber Flooring shall not commence until the building is enclosed and all other trades have completed their work. It is the General Contractor or Construction Manager's responsibility to ensure that

a secure and clean working area is maintained before, during and after the installation of the Rubber Flooring.

3.3 PREPARATION

Specifier Note: The surface of the concrete (or wood when specified) is to be prepared according to Manufacturer's current printed guidelines; it is recommended that the Specifier review said guidelines. A copy of the Manufacturer's substrate surface preparation guide may be requested from the Technical Department at Mondo America, Inc. (technical@mondousa.com). The guidelines are considered common practice for the preparation and verification of substrates that will be receiving resilient flooring materials, and as such should not be omitted or altered in any case.

A. Prepare the substrate's surface in accordance with Manufacturer's current printed guidelines.

3.4 INSTALLATION

Specifier Note: Select appropriate installation guidelines for Rubber Flooring format required for the project. Products Supplied are to be installed following their current printed guidelines; it is recommended that the Specifier review said guidelines. Copies of all installation manuals for Products Supplied can be obtained from the Technical Department at Mondo America, Inc. (technical@mondousa.com). When necessary, installation procedures may be altered to accommodate special project needs, after the Specifier has consulted the Technical Department at Mondo America, Inc. to ensure suitability.

A. Install Rubber Flooring, following Manufacturer's current printed guidelines for the specified format.
B. Install all accessories, following Manufacturer's current printed guidelines.

3.5 REPAIR

A. Refer to section 1.3.5 Maintenance Material Submittals. Repair material should come from the same original dye lot as initially installed Rubber Flooring.
B. Repairs are to be performed by Flooring Contractor's qualified installers/technicians only.

3.6 CLEANING

A. Always wait a minimum of 72 hours after the Rubber Flooring has been completely installed before performing wet maintenance. Always maintain the Rubber Flooring in accordance with the Manufacturer's current printed guidelines.

3.7 PROTECTION

A. As needed, protect the surface of the Rubber Flooring with 1/8" Masonite, during and after the installation, and prior to final inspection and acknowledged completion of work from the Owner.
B. Preserve the integrity of the installation and protect against direct sunlight/UV exposure. Refer to section 1.6. k).

END OF SECTION