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) 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 substrates**. If the provisions described herein are adopted for installations over other types of substrates or for outdoor installations, Mondo's Limited Material Warranty will be null and void and the Specifier will be held liable. Please communicate with the Technical Department at Mondo America, Inc. (technical@mondousa.com) for assistance regarding other types of substrates.*

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 MasterFormat® section 09 65 00: Resilient Flooring.

SECTION 09 65 16.33
Rubber Sheet Flooring
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 MasterFormat® sections serve as a guide to what is essential information needed to determine the acceptability of the site conditions required for installing 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 07 05 00 – Common Work Results for Thermal and Moisture Protection
D. 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 Flooring 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 D6499: Standard Test Method for Immunological Measurement of Antigenic Protein in Hevea Natural Rubber (HNR) and its Products.
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 Plastic 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 F710: Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring.
M. ASTM F925: Standard Test Method for Resistance to Chemicals of Resilient Flooring.
N. ASTM F970: Standard Test Method for Measuring Recovery Properties of Floor Coverings after Static Loading.
O. ASTM F1344: Standard Specification for Rubber Floor Tile.
P. ASTM F1514: Standard Test Method for Measuring Heat Stability of Resilient Flooring by Color Change.
Q. ASTM F1515: Standard Test Method for Measuring Light Stability of Resilient Flooring by Color Change.
R. ASTM F1859: Standard Specification for Rubber Sheet Floor Covering Without Backing.
S. ASTM F1869: Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride.
T. ASTM F2055: Standard Test Method for Size and Squareness of Resilient Floor Tile by Dial Gauge Method.
U. ASTM F2170: Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using in situ Probes.
V. ASTM F2199: Standard Test Method for Determining Dimensional Stability and Curling Properties of Resilient Flooring after Exposure to Heat.
W. ASTM F3010: Standard Practice for Two-Component Resin Based Membrane-Forming Moisture Mitigation Systems for Use Under Resilient Floor Coverings.
X. ASTM F3191: Standard Practice for Field Determination of Substrate Water Absorption (Porosity) for Substrates to Receive Resilient Flooring.
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: Resilient Floor Coverings and Skirting. German environmental label. Products with the Blue Angel ecolabel meet a list of criteria considering environmental and health-related aspects.

1.2.4 Standards Council of Canada (SCC)

A. CAN/ULC-S102.2: Standard Method of Test for Surface Burning Characteristics of Flooring, Floor Coverings, and Miscellaneous Materials and Assemblies.

1.2.5 California Department of Public Health (CDPH)

A. CDPH V1.2 (2017): Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers.

1.2.6 Cradle to Cradle Products Innovation Institute Inc.

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.

1.2.7 Grenelle Environment Forum

A. Decree No. 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.

1.2.8 German Institute for Standardization (DIN)

A. DIN 53436: Generation of thermal decomposition products from materials for their analytic-toxicological testing.

1.2.9 GREENGUARD by UL Solutions

A. GREENGUARD Certification. Certified products have been screened for more than 15,000 VOCs known to pollute indoor air.
B. GREENGUARD Gold. Even more stringent standard that includes strict criteria for additional chemicals, limiting emissions of more than 360 VOCs and requiring a reduction in total volatile organic compounds (TVOCs), to ensure the acceptability of these products in environments such as schools and healthcare facilities.

1.2.10 Indoor Air Comfort® Gold by Eurofins

A. Indoor Air Comfort® Gold is Europe's most stringent indoor air quality certification, demonstrating product compliance to low VOC emissions criteria, including additional compliance of product emissions with the criteria of many voluntary specifications issued by most relevant ecolabels and sustainable building certifications. Certified products are those with the best-in-class low emissions.

1.2.11 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 22196: Measurement of antibacterial activity on plastics and other non-porous surfaces.
F. ISO 50001: Energy management systems — Requirements with guidance for use.

1.2.12 Living Building Challenge (LBC) Red List

A. The LBC Red List is a public list of "worst in class" chemical substances prevalent in the building industry; these chemicals are known to pose serious risks to human health and the environment. Grouped by chemical class, each individual chemical substance is identified by a CAS (Chemical Abstracts Service) number from the American Chemical Society.

1.2.13 Building Foundation Information RTS

A. M1. Finnish classification that 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 the indoor air quality in buildings. M1 Classification label on the product indicates that the product is low-emitting, and its use supports good indoor air. M1 Classification is a type I ecolabel (multicriteria).

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. General Contractor/Construction Manager 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 Manufacturer's latest technical data sheet (TDS) and guide specification for all Products Supplied.
B. Provide Manufacturer's latest substrate surface preparation guidelines for all Products Supplied.
C. Provide Manufacturer's latest installation guidelines for all Products Supplied.

1.3.3 Sustainable Design Submittals (When Required)

Specifier Note: Please consult Manufacturer for end-of-life options that favor a circular economy.

A. For Rubber Flooring, provide proof of compliance with CDPH V1.2 (2017) for low-emitting products by submitting a third-party indoor air quality certificate: GREENGUARD Gold certification by UL.
B. For the adhesive specified for Rubber Flooring installation, provide proof of compliance with CDPH V1.2 (2017) for low-emitting products by submitting a third-party certificate: Indoor Advantage™ Gold by SCS Global Services.
C. Provide a copy of Rubber Flooring's Cradle to Cradle Certified® certification.
D. Provide a copy of Rubber Flooring's HPD (Health Product Declaration), with chemical inventory at 0.01% by weight (100 ppm).
E. Provide a copy of Manufacturer's current declaration that the Rubber Flooring was not manufactured using ingredients listed on the latest LBC Red List.
F. Provide a copy of Rubber Flooring's product-specific Type III EPD (Environmental Product Declaration) for its Global Warming Potential (GWP) and recycled content.
G. Provide a copy of Manufacturer's ISO 14001, ISO 14064, and ISO 50001 certifications.
H. Reduction in maintenance from specifying Rubber Flooring that does not require special waxing or sealing. Regular care using green floor cleaner: Prominence™ by Diversey. Prominence™ is GREENGUARD Gold and Green Seal Certified.
I. Reduction in waste from specifying Rubber Flooring that is 100% recyclable (end-of-life recycling possible).

1.3.4 Closeout Submittals

A. Provide the Manufacturer's current printed maintenance guidelines for Manufactured Product.

B. Provide the Manufacturer's current Limited Material Warranty for the Manufactured Product installed. Refer to section 1.7.

1.3.5 Maintenance Material Submittals

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

1.4 QUALITY ASSURANCE

A. Manufacturer must have ISO 9001, ISO 14001, ISO 14064 and ISO 50001 certifications.
B. Manufacturer must have a minimum of fifteen (15) years of experience in manufacturing Rubber Flooring.
C. Rubber Flooring must be fully vulcanized; factory lamination must not be accepted as equivalent.
D. Flooring Contractor must be recognized and approved by Manufacturer.
E. Flooring Contractor must be fully acquainted with the existing facility and utilities and must fully understand the difficulties and restrictions attending the execution of the work under contract; Flooring Contractor must immediately advise Owner, in writing, of any restrictions or anticipated difficulty regarding execution of the work under contract.
F. Flooring Contractor must verify and approve the qualifications of all members of the installation team that will take part in installing Rubber Flooring.
G. Flooring Contractor must ensure that any member of its Installation Team having been assigned to substrate preparation and Rubber Flooring installation has performed work of the same scale in the last three (3) years and has the required skills.

1.5 DELIVERY, STORAGE AND HANDLING

A. Products Supplied must not suffer damage during delivery, storage and handling (e.g., dents, scratches, excessive compression or warping, chipped edges, etc.). Products Supplied that are damaged must not be used or installed.
B. Products Supplied must be delivered in Manufacturer's original, unopened, and undamaged packaging with their identification labels intact.
C. Products Supplied must be protected from exposure to harmful weather conditions and must be safely stored on a clean, dry, flat surface. Rolls of Rubber Flooring are to be stored upright. Tiles of Rubber Flooring are to be stored on a flat surface, carefully protecting corners and edges. Do not double-stack pallets.
D. Climate controlled storage is recommended. Storage temperature should not be below 50°F (10°C) and should not exceed 90°F (32°C). Materials must be delivered to site a minimum of 48 hours before work is scheduled to begin so that they may acclimate.
E. Avoid storing Rubber Flooring for extended periods of time or additional material trimming may be required prior to its installation.

1.6 SITE CONDITIONS

A. General Contractor/Construction Manager must provide a structurally sound concrete substrate. **CAUTION: Manufacturer accepts no liability for any failure related to unstable concrete substrates.** Concrete substrates must not be subject to shrinking, curling, cracking or moving prior to Rubber Flooring installation. **CAUTION: Expansion joints allow for movement and expansion, therefore do not specify the direct installation of Rubber Flooring over expansion joints. Always use industry standard expansion joint assemblies.**

B. General Contractor/Construction Manager is responsible for ensuring that all site conditions meet the requirements of the Manufacturer. Ensure that 1.6. Site Conditions, 3.2. Examination, and 3.3 Preparation comply with project requirements, prior to proceeding with Rubber Flooring installation. Refer to the latest ASTM F710 standard practice for additional information.
C. All concrete slabs, on or below grade, must be installed over a permanent effective vapor retarder, complying with the latest ASTM E1643 standard practice and the latest ASTM E1745 standard specification. The vapor retarder must be placed directly underneath the concrete slab, above the granular fill, as per its manufacturer's instructions. The vapor retarder must have a minimum thickness of 10 mil (0.010 in) and a perm rating of 0.1 or less.
D. Sealers and curing compounds must not be applied to or mixed into the concrete slab. Refer to MasterFormat® section 03 05 00 – Common Work Results for Concrete of Division 3.
E. Rubber Flooring installation to be carried out no sooner than the specified curing time of concrete (normal density concrete curing time is approximately 28 days for development of design strength, having a minimum of 3500 psi or 25 MPa in compressive strength).
F. Concrete substrates 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). **CAUTION: Do not use abatement chemicals; these chemicals can be absorbed by 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 following the latest ASTM F3311 standard practice.
G. Concrete substrate's surface must be smooth and level within a tolerance of 3/16" (4.8 mm) in a 10-foot (3.05 m) span. *NOTE: Manufacturer does not recognize "F" numbers (FF: floor flatness, FL: floor levelness).*
H. Concrete substrate's surface must be free of imperfections and irregularities (holes, voids, bumps, cracks, depressions, etc.); a smooth and even surface is required before proceeding with Rubber Flooring installation. Refer to the latest ASTM F710 standard practice for additional information. Only use high quality Portland cement-based patching and leveling compounds, respecting the manufacturer's instructions for compatibility and use with resilient flooring products and accessories. **CAUTION: When preparing a control joint (saw cut) before installing flooring, always clean out and vacuum the entire depth of the cut before completely filling it.**
I. Concrete substrate must be dry and free of moisture-related problems; never install Rubber Flooring where hydrostatic pressure, osmotic blistering or alkali silica reaction (ASR) conditions exist. Moisture and pH tests must be performed on all concrete substrates, under in-service conditions, before proceeding with Rubber Flooring installation; it is suggested to use a third-party specialist for these tests and to keep records of all results for a minimum of three (3) years. **CAUTION: Never attempt substrate moisture testing or Rubber Flooring installation until the jobsite's ambient conditions (ambient temperature and ambient relative humidity) are constant and representative of the building's operating conditions. 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 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 completed Rubber Flooring installation. Maintain ambient temperature inside the range of 65°F to 86°F (18°C to 30°C), allowing for no more than ± 5°F (± 3°C) fluctuations (always adjust the temperature gradually). Maintain ambient humidity inside the range of 35% to 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 for a minimum of 72 hours after the completed Rubber Flooring installation.
J. Rubber Flooring installation must not commence until the building is enclosed and all other indoor trades have completed their work. General Contractor/Construction Manager is responsible for maintaining a secure and clean working area before, during and after Rubber Flooring installation.
K. 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 Rubber Flooring installation, for the duration of the installation, and for a minimum of 72 hours after the completed installation.

1.7 LIMITED MATERIAL WARRANTY

A. Rubber Flooring is warranted to be free from manufacturing defects for a period of one (1) year from the date of invoice from Mondo, in accordance with the terms and conditions of Mondo's latest 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, in accordance with the terms and conditions of Mondo's latest Limited Material Warranty.
C. For all terms and conditions, refer to the Manufactured Product's current Limited Material Warranty obtained directly from Mondo. In no event shall any warranty provided by any third party (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: Specify required color(s) and format(s).

A. Zeus is premium prefabricated rubber flooring, calendered and vulcanized, with a synthetic rubber base, stabilizing agents, and pigmentation, as manufactured by Mondo.
B. Vulcanized, single layer. Shore hardness to be set by the Manufacturer and to conform to industry standard.
C. Health and The Environment: Zeus is manufactured in a facility that has ISO 9001, ISO 14001, ISO 14064 and ISO 50001 certifications where 100% of the electric energy used comes from renewable sources (hydroelectric, wind power and solar power). 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. Mondo does not use ingredients on the 2025 LBC Red List CASRN Guide to manufacture Zeus, which includes but is not limited to harmful chemicals of concern like bisphenol A (BPA), formaldehyde, halogens, heavy metals, isocyanates, phthalates, polyvinyl chloride (PVC), perfluorinated compounds (PFC), and perfluoroalkyl and polyfluoroalkyl substances (PFA). A Health Product Declaration (HPD) at 100 ppm and a product-specific Type III Environmental Product Declaration (EPD) are available. Zeus complies with CDPH Standard Method V1.2 (2017) and meets the requirements of multiple certifications: AgBB, Blue Angel, Cradle to Cradle Certified® Silver, Class A+ (French Decree No. 2011-321) GREENGUARD Gold, Indoor Air Comfort® Gold, and M1.
D. Thickness: 0.138'' (3.5 mm).
E. Colors: Provided in standard solid background colors with randomly dispersed colored granules throughout the surface. Custom colors available upon request; minimum quantities may apply.
F. Surface Texture: Hammered.

G. Product Weight: ≈ 1.13 lb/ft^2 (≈ 5.5 kg/m^2).
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 39 $^3/_8$" x 39 $^3/_8$" (100 cm x 100 cm).

2.1.3 Performance

A. Manufactured Product tested following ASTM F1344 Standard Specification for Rubber Floor Tile and ASTM F1859 Standard Specification for Rubber Sheet Floor Covering Without Backing.
B. Performance of the Manufactured Product to conform to the following criteria:

Test Method	Performance Criterion *(and Applicable Conditions)*	Requirement*	Result**
ASTM D412	Modulus at 10% Elongation	≥ 300 psi	465.77 psi
ASTM D2047	Static Coefficient of Friction *(dry, Neolite heel)*	≥ 0.50	≥ 0.85
ASTM D2240	Durometer Hardness *(Shore A durometer)*	≥ 85	95
ASTM D3389	Abrasion Resistance *(H18 wheels, 1000 cycles)*	< 1.0 g loss (500 gf)	0.56 g loss (1000 gf)
ASTM D6499	Antigen detection (latex)	-	Below detection
ASTM E648	Critical Radiant Flux	≥ 0.45 W/cm^2, Class 1	≥ 0.45 W/cm^2, Class 1
ASTM E662	Optical Density of Smoke	≤ 450	≤ 450
ASTM E2179	Impact sound transmission reduction *(100-3150 Hz)*	-	ΔIIC 13 dB
ASTM F386	Thickness	3.5 mm (± 0.15 mm) 0.138" (± 0.006")	Compliant
ASTM F925	Chemical resistance***	≤ Slight change	Compliant
ASTM F970	Static loading (*250psi)*	≤ 0.005 in	0.001 in
ASTM F970	Static loading (*800psi)*	-	0.003 in
ASTM F1514	Heat resistance	ΔE ≤ 8.0	Compliant
ASTM F1515	Light resistance	ΔE ≤ 8.0	Compliant
ASTM F2055	Tile size	± 0.5 mm	Compliant
ASTM F2055	Tile squareness	≤ 0.254 mm	Compliant
ASTM F2199	Dimensional stability of tiles	≤ 0.15%	Compliant
ASTM G21	Resistance to fungi (*ATCC: 9642, 11797, 6205, 9645, and 15233*)	-	No growth
CAN ULC/S102.2	Surface burning characteristics: flame spread (FS)	≤150 (with sprinklers)	70 (FS)
CAN ULC/S102.2	Surface burning characteristics: smoke development (SD)	≤450	295 (SD)
DIN 53436	Toxicity of decomposition gases (*at 350°C*)	-	Non-hazardous
ISO 22196	Bacterial resistance (*ATCC: 43300, 14028, 35150, 15442, BAA1605, and 51575*)	-	≥ 99.99% (4-log) reduction

**For each individual test, the Manufactured Product is only required to meet any applicable requirement listed in the Requirement column.*
***A result obtained from testing during manufacturing controls or third-party verifications may vary between production lots, laboratories, methods 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 specifications at any time without notice.*
****For the complete list of chemicals evaluated, please contact Mondo's Technical Department.*

2.1.4 Limitations

A. Zeus is not designed for unglued, partially glued or temporary applications: always completely adhere the Rubber Flooring to the substrate with adhesive having been fully spread to the edge of the material.

2.1.5 Materials

A. Rubber Flooring: Zeus 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: Mondo EP 55 (epoxy), Mondo MP 1000 (acrylic) or MP 95-MAX (acrylic); wet-lay installation is required for all adhesives. **CAUTION: Use of acrylic adhesives in areas with heavy rolling and static loads is not recommended; specify Mondo EP 55 for areas with heavy rolling and static loads. CAUTION: Installations with acrylic adhesives require a porous substrate surface; verify porosity per ASTM F3191.** Exceptionally, Mondo PU 300 polyurethane may be recommended for specialty installations, under set conditions. For suitability, recommendations, and use of any adhesive, please refer to Manufacturer's latest adhesive technical data sheet (TDS).
B. If welding of the seams has been specified, Rubber Flooring sheets may be cold welded, and the welding chemical is to be supplied or approved by Manufacturer. **CAUTION: Zeus is a textured product and heat welding is not recommended.**
C. If flash coving has been specified for Rubber Flooring sheets, the coving accessories (cove stick and cove cap) are to be supplied or 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. Rubber Flooring installation must not commence until the building is enclosed and all other indoor trades have completed their work. General Contractor/Construction Manager is responsible for maintaining a secure and clean working area before, during, and after the completed Rubber Flooring installation.
B. Flooring Contractor must verify with the General Contractor/Construction Manager that the concrete substrate is ready to receive Rubber Flooring and that it has been effectively prepared according to Manufacturer's latest substrate surface preparation guidelines. Refer to the latest ASTM F710 standard practice for additional information.
C. Flooring Contractor must verify with the General Contractor/Construction Manager that all on or below grade concrete slabs have been installed over a permanent vapor retarder that complies with the latest ASTM E1643 standard practice and the latest ASTM E1745 standard specification. The vapor retarder must be placed directly underneath the concrete slab, above the granular fill, as per its manufacturer's instructions. The vapor retarder must have a minimum thickness of 10 mil (0.010 in) and must have a perm rating of 0.1 or less.
D. Flooring Contractor must verify in writing with the General Contractor/Construction Manager that no concrete sealers or curing compounds have been applied to or mixed into the concrete. Refer to MasterFormat® section 03 05 00 – Common Work Results for Concrete of Division 3.
E. Flooring Contractor must verify with the General Contractor/Construction Manager that all concrete substrates have 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).

F. Prior to Rubber Flooring installation, Installer must ensure that all concrete substrate surfaces are free of bond inhibitors (paint, wax, dust, oil or grease, sealer or curing agent, surface hardener, solvent, asphalt, old adhesive residues, etc.). Concrete substrate 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). **CAUTION: Do not use abatement chemicals; these chemicals can be absorbed by concrete and prevent adhesion.** Always confirm removal effectiveness with a mat bond test. Refer to the latest ASTM F3311 standard practice.

G. Prior to Rubber Flooring installation, Installer must ensure that the concrete substrate's surface is smooth and level within a tolerance of 3/16" (4.8 mm) in a 10-foot (3.05 m) span. *NOTE: Manufacturer does not recognize "F" numbers (FF: floor flatness, FL: floor levelness).*

H. Ensure that imperfections and irregularities (holes, voids, bumps, cracks, depressions, etc.) are corrected and that substrate surfaces are smooth and even before proceeding with Rubber Flooring installation. Refer to the latest ASTM F710 standard practice for additional information. Only use high quality Portland cement-based patching and leveling compounds, respecting the manufacturer's instructions for compatibility and use with resilient flooring products and accessories. **CAUTION: When preparing a control joint (saw cut), always clean out and vacuum the entire depth of the cut, before completely filling it.**

I. Concrete substrates must be free of moisture-related problems like hydrostatic pressure, osmotic blistering, and alkali silica reaction (ASR). Moisture and pH tests must be performed on all concrete substrates, under in-service conditions, before proceeding with Rubber Flooring installation; it is suggested to use a third-party specialist for these tests and to keep records of all results for a minimum of three (3) years. 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 pH tests. The concrete's surface pH must be between 7 and 11, measured using a pH meter with flat surface electrode. Relative humidity of the concrete slab must not exceed the tolerance of the adhesive specified, in accordance with the latest ASTM F2170 (in situ probes) standard test method, using high quality equipment from Wagner Meters or equivalent. Moisture vapor emissions from the concrete slab must not exceed the tolerance of the adhesive specified, in accordance with the latest ASTM F1869 (anhydrous calcium chloride) standard test method. Verify that concrete moisture and surface pH are acceptable and respect the limits of all products specified. Where tolerances are exceeded and a moisture mitigation system must be used, refer to the latest ASTM F3010 standard practice.

J. General Contractor/Construction Manager 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 completed installation. Maintain ambient temperature inside the range of 65˚F to 86˚F (18˚C to 30˚C), allowing for no more than ± 5˚F (± 3˚C) fluctuations (always adjust the temperature gradually). Maintain ambient humidity inside the range of 35% to 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 for a minimum of 72 hours after the completed Rubber Flooring installation.

K. Installer must perform bond tests with specified products to confirm suitability and strong adhesion to all substrates, as detailed in the latest ASTM F3311 (mat bond evaluation) standard practice. Special attention must be paid to any area where a contaminant was removed, to confirm the effectiveness of the removal. Refer to Manufacturer's latest substrate preparation manual for additional notes on bond tests.

L. If applicable, the General Contractor/Construction Manager must shut off all radiant floor heating systems a minimum of 48 hours before the Installer can proceed with installing Rubber Flooring, keeping the system off until at least 48 hours after the completed installation. Afterwards, the General Contractor/Construction Manager must increase the temperature gradually, no more than 5˚F (3˚C) per hour, to prevent problems associated with drastic temperature variations.

3.3 PREPARATION

Specifier Note: The surface of the concrete substrate is to be prepared according to Manufacturer's latest 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 concrete substrates that will be receiving resilient flooring materials, and as such should not be omitted or altered in any case.

A. Prepare the concrete substrate's surface in accordance with Manufacturer's latest guidelines.

3.4 INSTALLATION

Specifier Note: Products Supplied are to be installed following their latest 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 latest guidelines for the specified product. When cold welding of Rubber Flooring sheet seams or flash coving of Rubber Flooring sheets is specified, follow latest Manufacturer guidelines for these additional procedures.
B. Install all accessories following Manufacturer's latest 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 the Manufactured Product initially installed.
B. Repairs are to be performed by Flooring Contractor's qualified installers/technicians only, unless a special circumstance merits the Manufacturer to assign a particular specialist from its technical team.

3.6 CLEANING

Specifier Note: A copy of the latest maintenance guidelines can be obtained from the Technical Department at Mondo America, Inc. (technical@mondousa.com).

A. Always wait a minimum of 72 hours after Rubber Flooring installation has been completed before performing initial wet maintenance.
B. Always follow Manufacturer's latest maintenance instructions for the Manufactured Product installed.

3.7 PROTECTION

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

END OF SECTION