The following specifications call out the material and default installation requirements necessary for the floor as recommended by Robbins Sports Surfaces. In some cases, local codes, physical requirements or installer recommendation may override these methods and procedures. It is Robbins recommendation to review the specification with a Regional Sales Manager or the local Authorized Dealer before incorporating the specification into the project design. Some options impact installed cost and verification of the design and budget is advised.

SECTION 09 / GUIDE SPECIFICATIONS FOR
ROBBINS® PULASTIC® Classic 60
POLYURETHANE FLOOR SYSTEM

Part 1-GENERAL
1.01 DESCRIPTION

A. Scope
1. The complete installation of Robbins PULASTIC Classic 60 polyurethane surfacing over high-performance resilient base mat, by Robbins, Inc. of Cincinnati, Ohio, including adhesives, resilient base mat, polyurethane sealer, polyurethane structure layer, surface topcoat, and court markings.

B. Related work specified under other sections. (A cross-reference should be incorporated in these sections.)
1. Concrete and Concrete Finishing ................................ ................................ ................... Section 03300
   a. Concrete Slab Depression: a total of 6 mm, equal to system thickness, (0.2362 inches).
   b. Surface Finish: steel troweled and finished smooth.
   c. Concrete Tolerance: 1/8" (3mm) in radius of 10’ (3m). Floor Flatness and Floor Levelness (FF and FL) numbers are not recognized.
   d. **NO CURING AGENTS OR SEALERS ARE TO BE APPLIED TO THE CONCRETE SLAB.**

2. Membrane Waterproofing and Dampproofing ................................ ................................ ............... Section 07100
   a. Concrete subfloors on or below grade shall be adequately waterproofed beneath the slab and at the perimeter walls and on the earth side of below grade walls by general contractor using suitable type membrane.
   b. Sand-Poly-Sand slab construction **is not** an acceptable construction.

3. Thresholds ................................ ................................ ................................ ................................ ...... Section 08700

4. Game Standard Inserts ................................ ................................ ................................ .................... Section 11500

1.02 QUALITY ASSURANCE

A. Floor System Supplier Qualifications
1. Supplier shall be an established firm experienced in field and have been in business for a minimum of ten (10) years; Robbins, Inc. or an approved equal.
2. Formulator shall be ISO-9001 certified for quality control, and ISO-14001 certified for environmental care, and provide copy of Certification document upon request.

B. Floor Contractor/Installer Qualifications and Certifications
1. Floor Contracting Company and field personnel shall be trained by supplier on proper installation and finishing process.

C. System Industry Approvals
1. Floor system shall be approved by F.I.V.B. (International Volleyball Federation), and provide copy of Approval upon request.
2. Floor system shall be approved by F.I.B.A. (International Basketball Federation), and provide copy of Approval upon request.
3. Floor system shall be approved by I.H.F. (International Handball Federation), and provide copy of Approval upon request.
ROBBINS® PULASTIC Classic 60

D. System Technical Data:

<table>
<thead>
<tr>
<th>Character</th>
<th>Point-elastic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classification</td>
<td>n/a</td>
</tr>
<tr>
<td>Nominal thickness</td>
<td>6 mm (0.2362 inches)</td>
</tr>
<tr>
<td>Shock Absorption</td>
<td>12%</td>
</tr>
<tr>
<td>Vertical Deformation</td>
<td>0.6 mm</td>
</tr>
<tr>
<td>Linear Friction (dry)</td>
<td>98</td>
</tr>
<tr>
<td>Linear Friction (damp)</td>
<td>0.3</td>
</tr>
<tr>
<td>Ball Bounce</td>
<td>98 %</td>
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<tr>
<td>Gloss</td>
<td>3%</td>
</tr>
<tr>
<td>Resistance to rolling load</td>
<td>≥1500 N</td>
</tr>
<tr>
<td>Resistance to impact</td>
<td>≥800 gr @ 10°C</td>
</tr>
<tr>
<td>Resistance to indentation</td>
<td>0.35 mm @ 5 min</td>
</tr>
<tr>
<td>Resistance to wear</td>
<td>150 mg</td>
</tr>
<tr>
<td>Flammability</td>
<td>Bfl-S1</td>
</tr>
<tr>
<td>V.O.C. content - Adhesive</td>
<td>Solvent free</td>
</tr>
<tr>
<td>V.O.C. content - Topcoat</td>
<td>0.01 gr/lit (EU)</td>
</tr>
<tr>
<td>Adhesive composition</td>
<td>Free of solvents and heavy metals</td>
</tr>
<tr>
<td>Resin composition</td>
<td>Free of solvents and heavy metals</td>
</tr>
<tr>
<td>Elongation at break - Structure</td>
<td>150%</td>
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<tr>
<td>Tensile Strength - Structure</td>
<td>8 N/mm2 (1,160 psi)</td>
</tr>
<tr>
<td>Tear Strength - Structure</td>
<td>25 N/mm (142 pli)</td>
</tr>
<tr>
<td>Colour fastness</td>
<td>8 (excellent)</td>
</tr>
</tbody>
</table>

1.03 SUBMITTALS

A. Manufacturer's Product Data
   1. Submit three (3) Robbins PULASTIC Classic 60 Floor System specification sheets.

B. Concrete Guidelines
   1. Submit three (3) copies of Recommendations for correct preparation, finishing and testing of concrete subfloor surfaces to receive granulated base mat and polyurethane floor system.

C. Samples
   1. Submit one (1) sample of PULASTIC Classic 60
   2. Submit one (1) PULASTIC Topcoat Standard Color Chart
   3. Submit one (1) PULASTIC Linepaint Color Chart

D. Maintenance Literature
   1. Submit copy of PULASTIC Maintenance Instructions.

E. References
   1. Submit Letter attesting that Floor Contractor and Field Personnel have been properly trained to perform work per specifications and contract.
   2. Reference list of three individual for whom installer has worked on projects of similar size and magnitude.

1.04 DELIVERY, STORAGE AND HANDLING

A. Delivery of Materials
   1. Material shall not be delivered or installed until all masonry, painting, plastering, tile work, marble and terrazzo work are completed and all overhead mechanical work, lighting, backstops, scoreboards are installed. Room temperature shall be at least 55 degrees Fahrenheit, and ambient relative humidity shall be 75% or less. In-slab relative humidity shall be 80% or less.
   2. Area where materials are to be stored should be maintained at least 55 degrees Fahrenheit and under 75% relative humidity by the General Contractor.

*please refer to Robbins Technical Services “Concrete Guide Specification” for further information regarding conditions and requirements of concrete prior to installation.
1.05 JOB CONDITIONS-SEQUENCY
A. Do not install floor system until concrete has been cured 60 days and the requirements in paragraph 1.01 and 1.04 are obtained.
B. General Contractor is responsible to ensure slab is clean and free of all dirt and debris prior to floor installation beginning.
C. Permanent heat, light and ventilation shall be installed and operating during and after installation. Environmental temperatures must average a minimum of 65 degrees Fahrenheit for one full week proceeding, throughout, and 72 hours following application.
D. After floors are finished, area to be kept locked by general contractor to allow curing time for the paint and finish system(s). No other trades are to be allowed on floor until it is accepted in writing by owner or owner's authorized agent.

1.06 GUARANTEE
A. Guarantee shall not cover damage caused in whole or in part by casualty, ordinary wear and tear, abuse, use for which material is not designed, faulty construction of the building, settlement of the building walls, failure of the other contractors to adhere to specifications, separation of the concrete slab and excessive dryness or excessive moisture from humidity, spillage, migration through the slab or wall, or any other source.
B. Robbins, Inc. hereby warrants the Pulastic Classic 60 material to be free from manufacturing defects for a period of 2 years. This warranty is in lieu of all other warranties, expressed or implied including but not limited to any warranty of merchantability or fitness for a particular purpose, and of any other obligations on the part of Robbins. In the event of breach of any warranty, the liability of Robbins shall be limited to repairing or replacing Pulastic Classic 60 material and system components supplied by Robbins and proven to be defective in manufacture, and shall not include any other damages, either direct or consequential.

Part 2-PRODUCTS

2.01 MATERIALS
NOTE: USE OF ANY NON-APPROVED COMPONENT SUBSTITUTIONS SHALL VOID WARRANTY.
A. Robbins PULASTIC ZS
   1. Adhesive
      a. Pulastic Tacly Adhesive: a two-component polyurethane adhesive
   2. Shock Pad
      a. Shock Pad, a granulated rubber/polyurethane mat 4.5 mm thick.
   3. Pad Sealer
      a. Pulastic EG Sealer: a two-component polyurethane sealer
   4. Polyurethane Resin
      a. Pulastic GM1500 Compound: a pigmented two-component polyurethane resin
   5. Coating
         1) Color Options: Specify Topcoat color from following standard colors:
            a) 401 Lime Green
            b) 417 May Green
            c) 400 Green Oxide
            d) 407 Turquoise Mint
            e) 205 Sand Beige
            f) 800 Yellow Ochre
            g) 106 Autumn Brown
            h) 100 Red Oxide
            i) 307 Pastel Blue
            j) 308 Pigeon Blue
            k) 306 Steel Blue
            l) 305 Sky Blue
            m) 309 Capri Blue
            n) 504 Stone Grey
o) 506 Dusty Grey
p) 507 Iron Grey

6. Game line Paint
      1) Color Options: Specify Court Marking colors from following standard colors:
         a) Black
         b) Light Grey (504)
         c) White
         d) Light Blue
         e) Signal Blue
         f) Dark Blue
         g) Lilac
         h) Ruby Red
         i) Red Orange
         j) Pastel Orange
         k) Yellow
         l) Light Green (401)
         m) Dark Green (400)
         n) Dark Brown (106)
         o) Light Brown
   b. **Option:** Pulastic Linepaint-W: a pigmented, two-component, water-dispersed polyurethane paint.

**Part 3-EXECUTION**

**3.01 INSPECTION**
A. Inspect concrete slab for proper levelness tolerance, dryness, and possible contamination, (see Part 1 – Sec 1.01 and Sec. 1.04) and report any discrepancies to the general contractor and architect in writing.
B. All work required to put the concrete subfloors in acceptable condition shall be the responsibility of the general contractor.
C. Subfloor shall be broom cleaned by general contractor.
D. General Contractor will notify the flooring installation company to proceed with the installation after concrete slab specifications are met.
E. Installer shall perform tests for moisture and adhesion prior to application and report adverse conditions to the general contractor in writing.
F. Installer shall document all working conditions provided in General Specifications prior to commencement of installation.

**3.02 INSTALLATION**
A. Robbins Pulastic
   1. Shock Pad
      a. Mix two-component Tacly Adhesive according to supplier’s instructions and spread adhesive using ROBBINS PULASTIC notched trowel.
      b. Unroll polyurethane/rubber granulated base mat into freshly applied adhesive. Seams shall be in virtual contact with absence of compression fit. Roll surface of base mat with a medium-size roller.
   2. Sealer
      a. Mix two-component EG Sealer according to supplier's instructions and spread sealer over base mat using a straight trowel. Allow to cure minimum 12 hours before proceeding.
   3. Structure Layer
      a. Mix two-component ROBBINS PULASTIC GM1500 pigmented polyurethane resin and spread over EG Sealer according to supplier’s instructions. Allow to cure minimum 12 hours before proceeding.
      b. Mix two-component ROBBINS PULASTIC GM1500 pigmented polyurethane resin and apply at proper thickness according to supplier's instructions. Allow to cure minimum 12 hours before proceeding.
   4. TopCoat
a. Mix two-component ROBBINS PULASTIC Coating 221W and apply using ROBBINS PULASTIC lamb'swool roller(s) according to supplier's instructions. Allow 24 to 48 hours curing time before proceeding.

5. Gamelines
   a. Mix two-component ROBBINS PULASTIC PU-Linepaint according to supplier's instructions.
   b. Line painting should be in accordance with supplier's directions.
   c. Color of court markings shall be chosen from ROBBINS PULASTIC PU-Linepaint standard colors.
   d. Consult architectural drawings for game line locations and chosen colors.

B. Perimeter Molding (Optional):
   1. Install a rubber base, anchored to the walls with standard base cement.

3.03 CLEANING
   1. Clean up all unused materials and debris and remove from the premises. Dispose of empty containers in accordance with federal and local regulations.

3.04 PROTECTION
   1. Cure Time
      a. No traffic or other trades shall be allowed on the surface for a period of one week following completion to allow for complete and proper cure of the finish.
   2. Other Trades
      a. It shall be the responsibility of the general contractor to protect the surface from damage by other trades before acceptance by the owner or the owner's authorized agent.
   3. Safety
      a. No smoking, open flames or sparks from electrical equipment or any other source shall be permitted during the installation process, or in areas where materials are stored

Construction options are available to modify this system to the project design and budget. Contact your Regional Sales Manager or the local Authorized Dealer for more information.