

Rubber Flooring Construction Manual

I . Rubber Flooring Construction Requirements

1. Pre-Construction Preparation for Rubber Flooring

(1) The cement mortar leveling layer of the ground must be completed and comply with the technical requirements for concrete as specified in GB50209-2010 Acceptance Standard for Construction Ground Engineering Quality. The acceptance procedures must also be completed.

(2) Accurately assess the structural conditions of the construction site's ground and develop a detailed construction plan based on the ground's structure and material composition.

(3) Thoroughly understand the type of rubber flooring to be used in the project—whether it is tile or roll, imported or domestic—and evaluate its stability. Check the model, batch number, color consistency, and thickness variation of the rubber flooring, and plan the work accordingly based on site conditions.

(4) Tool Preparation:

- Floor grinding machine
- Large vacuum cleaner
- 50-75 kg heavy roller
- Rubber flooring push knife
- All other necessary specialized tools

(5) Personnel Preparation:

Adjust staffing based on actual site conditions and project timelines.

2. Preparation During Rubber Flooring Construction

(1) Self-leveling compound must be fully applied. Before laying the flooring, check the flatness of the ground and ensure smooth transitions at self-leveling joints. Address any irregularities proactively.

(2) Avoid concurrent construction activities to prevent interference with rubber flooring installation.

(3) Ensure that overhead construction and any other work that may damage the rubber flooring are completed beforehand.

(4) Before large-scale installation, create a sample area for inspection and approval by relevant quality control departments.

(5) Store materials neatly in designated areas upon arrival, maintaining site cleanliness and material safety.

3. Pre-Laying Requirements and Knowledge

24-hour pre-laying period: Rubber flooring must be pre-laid before installation due to significant temperature variations across different regions in the world, as well as potential material shrinkage/expansion (especially for imported materials).

Purpose: Allow the material to acclimate to the site's climate, restoring its memory and physical properties.

4. Notched Trowel Types, Usage, and Adhesive Application Rates

Type	Tooth Depth (mm)	Tooth Width (mm)	Tooth Spacing (mm)
A1	1.10	1.50	0.50
A2	1.40	1.70	1.30
A3	1.50	1.60	0.40
A4	0.75	1.10	0.40
A5	1.00	1.35	1.45
B1	2.00	2.40	2.60
B2	2.55	3.00	2.00
B3	3.25	3.70	3.30
B9	5.00	6.10	9.90
B11	5.00	6.10	7.90

5. Adhesive Open Time and Working Time Requirements ★

Open time and working time vary by adhesive type and manufacturer.

Under standard indoor temperature/humidity:

AB-type two-component adhesive has a pot life of 25~35 minutes and a working time of approximately 0-40 minutes. Rubber floor water-soluble floor adhesive has a drying time of 5~40 minutes and a working time of 30-40 minutes.

Climate considerations: ★★

High temp/high humidity: The gel drying time is relatively extended, and

attention should be paid to whether dew forms on the back of the floor at this time;

High temp/low humidity: Adhesive sets faster.

Low temp/high humidity: The glue drying time is longer than usual, or there is a situation where the glue does not dry.

6. Material Storage ★★★

- (1) **Roll materials: Store vertically.** Tilting or horizontal storage may cause deformation (e.g., curling, wave-like distortions).
- (2) **Tile materials: Stack flat, max 10 layers per stack.**
- (3) **Label orientation: Keep labels facing outward for easy identification.**
- (4) **Batch separation: Store same color but different batch materials separately to avoid color mismatch during installation.**

7. Rubber Flooring Auxiliary Materials Configuration ★★

(1) Adhesive selection:

Thickness >2.5 mm: Use two-component polyurethane adhesive (high peel/shear strength).

Thickness <2.0 mm: Single-component adhesive.

(2) Self-leveling compound:

Heavy-duty (industrial): Compressive strength ≥ 30 MPa.

Medium-duty (commercial): Compressive strength ≥ 25 MPa.

Light-duty (residential): Compressive strength ≥ 20 MPa.

(3) Primer selection:

Dry base (absorbent floor): Absorptive primer.

Dry base (non-absorbent floor): Non-absorptive primer.

Damp base: Epoxy moisture barrier primer.

III. Rubber Flooring Installation Preparations

1. Substrate Treatment: ★★★

Temperature: Do not install below 15°C.

Substrate requirements: Dry, flat, crack-free, structurally sound, and clean (free of dust, paint, wax, grease, asphalt, old adhesives, etc.).

Seamless joints: Seams must be straight, smooth, firmly bonded, and visually consistent in color.

Moisture content: Must be <3%. If higher, apply moisture barrier per industrial standards.

Leveling: Use self-leveling cement for irregularities ≤ 5 mm.

2. Material Preparation: ★

Acclimate rubber flooring on-site for ≥ 24 hours before installation.

Unroll and pre-cut based on layout and design.

3. Adhesive Application Notes: ★★

For tiles <2.5 mm thick: Use A5 notched trowel.

For tiles ≥ 2.5 mm thick: Select A2 or A5 trowel based on backing structure.

For high-pressure/impact areas: Apply adhesive to both substrate and

flooring back.

Avoid sunlight exposure before adhesive curing. Follow manufacturer's guidelines.

Do not install below 15°C or above 70% relative humidity.

IV. Rubber Floor Tile Installation ★★★★★

1. Construction Sequence:

- ① Check the flatness and elevation at intersections with other materials.
- ② Lay out reference lines properly.
- ③ Positioning and dry-laying.
- ④ Edge trimming.
- ⑤ Adhesive application.
- ⑥ Bonding.
- ⑦ Roller compaction.
- ⑧ Inspection and cleaning.

Based on the drawings or project specifics, plan a reasonable layout. Typically, for areas under 40 m², reference lines are laid along the edges, while for areas over 40 m², a cross-shaped centerline is used. For corridors connected to rooms, ensure seam alignment. After marking, pre-lay the tiles along the lines to verify the workspace is square and the layout is correct.

Key Points:

Adhesive Application: Use polyurethane two-component adhesive (reactive

type). Only apply adhesive to the floor. Once mixed, the adhesive must be used within 15 minutes. For small areas, mix only the required amount to avoid waste. Use an A5 notched trowel for spreading.

Bonding: Ensure tiles are aligned neatly at cross joints, edges are flattened, and air is squeezed out. Properly bonded tiles should show no color variation, height differences, or gaps.

Edge Trimming: Cut edges evenly and neatly. Press trimmed edges firmly and compact them with a small roller, followed by a full pass with a large roller.

Inspection: Check the installed area within 24 hours.

V. Rubber Sheet Flooring Installation (Flat Lay, Border Design, Border Wall Application)

1. Rubber Floor Roll Installation ★★★★★

- ① Construction Sequence:
- ② Check flatness and elevation at intersections.
- ③ Properly mark reference lines.
- ④ Positioning and Pre-laying.
- ⑤ Cutting border materials.
- ⑥ Adhesive application and bonding of borders.
- ⑦ Seamless cutting for large areas.
- ⑧ Adhesive application.

- ⑨ Bonding.
- ⑩ Roller compaction.
- ⑪ Inspection and cleaning.

2. Key Construction Details ★★★★★

(1) Material Preparation:

To avoid color discrepancies, use multiple rolls from the same batch. If using different batches but same color, avoid placing them side by side.

Unroll and acclimate materials on-site for at least 24 hours to allow memory relaxation and temperature adjustment.

(2) Pre-Laying:

Before laying, fold the sheet material back halfway and lay it flat on the marked construction site area. Do not roll the material backward, as this will cause compressive stress. When the sheet is placed on the adhesive, compressive stress can lead to the formation of bubbles. The folded edge should have a certain radius to avoid unnecessary creases that may cause damage. Before construction, clean the floor and the surface of the sheet material first, then apply adhesive to the floor.

(3) Layout & Cutting:

Snap lines, pre-lay materials, layout, and cut according to the door position.

(4) Select an appropriate notched trowel to evenly apply adhesive to the surface to be laid. When applying adhesive, ensure it is evenly spread across the entire surface, avoiding any untreated dead corners or unevenly

applied areas. For absorbent surfaces, flooring can be laid a few minutes after adhesive application. (Specific construction methods should follow the manufacturer's instructions for the adhesive.)

(5) When installing, it is best to start from the room entrance to avoid seams at the door area. Press the roll material tightly against the starting wall; if the starting wall is uneven, use a long straightedge to ensure proper alignment with the wall. For directional flooring, align the design with the grain as much as possible during installation. When cutting, allow an extra 5cm of material beyond the actual length. For areas covering walls and corners, press the material firmly by hand in a 'V' shape, and cut along the contour of the corner surface (with a 5cm reserve). Maintain a certain distance from the wall during cutting, reserving space for the baseboard to cover.

(6) After pasting the floor, first use a cork block to press the floor surface flat and expel air. Then roll the floor evenly with a roller weighing 50-75 kilograms and promptly rectify any upturned edges at the joints. Excess adhesive on the floor surface should be wiped away in a timely manner.

(7) When placing edge materials, combine it with the floor's width for rational material usage. When trimming with a fly cutter or knife, take care not to damage the underlying floor.

(8) The edge line must be straight. For corridors, use a long line with

markers for layout.

(9) When pasting edges or attaching baseboards to the wall, ensure the wall surface is flat; any uneven areas should be pre-leveled. Inside and outside corners must be perpendicular, and any non-perpendicularity should be addressed in advance. Strictly prohibit violations. When attaching edges to the wall, folding is strictly forbidden, and the top edge should be trimmed promptly.

(10) Comprehensive layout is the key to controlling floor waste and ensuring the successful completion of the project. It is a standard for fully evaluating all construction personnel's awareness of saving, technical skills, and sense of the overall situation. Specifically, it involves:

① Conducting a complete measurement of the entire construction area in advance and recording it accurately, with designated personnel responsible for material placement to ensure accuracy.

② Material dimensions shall not exceed the actual data by more than 3 centimeters.

③ Material placement personnel must be aware of whether the floor has color differences and place materials by area and region.

④ Floor pre-laying is a necessary procedure for roll flooring. Only after pre-laying can construction proceed. Additionally, it serves the following purposes: Fully adapt to the on-site environmental temperature, theoretically requiring a 24-hour standstill.

⑤ Check for color differences in the floor and any quality issues; defective items must be replaced.

⑥ Comprehensively inspect the entire area for any quality issues that may affect acceptance.

3. Issues to Note When Applying Adhesive ★★

When applying adhesive, select the appropriate specialized notched trowel based on the thickness and material of the floor being installed.

Cultivate a sense of frugality, especially when pouring adhesive from the bucket—pour in one direction. After completing the work, use floor waste strips to scrape clean any residual adhesive on the bucket walls.

When applying adhesive, use a chalk line to mark a reference line in the middle of the jointed floor sections. Strictly prohibit exceeding this line when spreading adhesive.

If there are unremoved sand or gravel on the floor, clean them thoroughly before proceeding with the adhesive application.

Apply adhesive evenly; avoid uneven patterns or streaks, as this will result in an uneven appearance and visible trowel marks on the installed floor.

4. Issues to Note When Adhering ★★★

Determine the optimal adhesive application condition based on the site's temperature, humidity, ventilation, and the adhesive's usage

instructions to ensure construction quality.

Before adhering, thoroughly clean the lifted floor sections. Strictly prohibit leaving sand, floor strips, or other debris underneath the floor.

Promptly use a softwood block to fully press and push the entire already installed floor, thoroughly squeezing out any air bubbles. Roll the floor longitudinally and transversely twice with a 60kg pressure roller.

Comprehensively inspect the already installed floor to prevent missed sand or air bubbles. If inspection is delayed beyond 24 hours, it will miss the optimal adhesive bonding time, causing greater trouble for subsequent work.

5. Seamless Splicing Technology for Rubber Flooring (Recommended Process) ★★★★★

For sheet flooring layout, overlap the sheets by 30mm vertically. Material cutting: For tight-seam splicing, perform overlapping cuts using a specialized edge cutter. When laying out, place the smooth edge of one floor sheet over the rough edge of another, overlapping by 30mm. When cutting, measure 10mm from the smooth edge, align a straightedge, and cut along the straightedge once (avoid cutting through to prevent damaging the self-leveling base). Then insert a seam wedge to separate the floor sheets.

After cutting, you can also pull down the excess edge to separate the floor sheets, ensuring a clean edge and avoiding gaps in the splice. Peel away the excess downward to ensure smooth seams.