

Technical Bulletin #1-D Surface Preparation

Preparation of Wood Substrates

I. GENERAL INFORMATION

Resinous flooring or epoxy terrazzo must always be applied directly to **exterior grade plywood with extended glue line**. **INTERIOR GRADE PLYWOOD** delaminates easily and **SHOULD NOT BE USED** as it could result in a failure of the resinous flooring system. **MARINE GRADE PLYWOOD** contains moisture repellants which could cause a darkening of the resinous flooring system and **SHOULD NOT BE USED**. **FIRE-RETARDANT TREATED PLYWOOD** may be acceptable but must be tested by Key Resin to confirm suitability. All plywood must be completely free of all waxes, varnishes, or other foreign materials. Tile backer board (e.g. HardieBacker Board) may also be used to overlay existing wood floors. To accommodate dynamic loading, wood or cement board substrates should be designed for maximum deflection of L/360.

A. Plywood used to cover existing wood floors:

1. Clean and fasten existing wood floor to the floor joists.
2. If the floor is completely sound, fasten **½" Exterior grade plywood "C" plugged with an extended glue line** to the existing floor. Stagger the plywood for strength.
3. **¾" DFPA Exterior or ¾" DFPA Underlayment grade plywood with exterior glue line** must be used if the existing floor cannot be cleaned, or is not sound.
4. All plywood must be completely free of all waxes, varnishes, or other foreign materials.
5. Secure plywood with exterior grade glue.
6. Use **Screws** at six (6) inch centers around panel edges and support.
7. Stagger all panel joints, fill joints with rigid epoxy such as **Key #502**, and cover joints with fiberglass cloth and epoxy resin. Treat individual joints or overlay the entire substrate with fiberglass.
8. Lightly sand the floor surface to insure proper adhesion of the resinous flooring or epoxy terrazzo system. Remove all dust with a vacuum cleaner.
9. Prime surface with appropriate primer prior to system application. Surface will require double priming due to porosity of plywood.
10. Install the Key Resin flooring system as specified.
11. Key Urecon and Flowcrete Flowfresh urethane cement toppings should be installed over wire mesh screwed into the plywood.

B. Plywood used for new construction (plywood is laid directly on the joist):

1. $\frac{3}{4}$ " exterior grade plywood "C" plugged with an extended glue line must be used.
2. All plywood must be completely free of all waxes, varnishes, or other foreign materials.
3. Use **Screws** at six (6) inch centers around panel edges and support.
4. Stagger all panel joints, fill joints with rigid epoxy such as **Key #502**, and cover joints with fiberglass cloth and epoxy resin. Treat individual joints or overlay the entire substrate with fiberglass.
5. Lightly sand the floor surface to insure proper adhesion of the resinous flooring system. Remove all dust with a vacuum cleaner.
6. Prime surface with appropriate primer prior to system application. Surface will require double priming due to porosity of plywood.
7. Install the Key Resin flooring system as specified.
8. Key Urecon and Flowcrete Flowfresh urethane cement toppings should be installed over wire mesh screwed into the plywood.

C. Applications with Key #580 Flexible Crack Isolation Membrane:

Note: Use Key #580 Flexible Membrane for additional absorption of substrate deflection or movement at joints, or as otherwise specified for your particular project.

Note: At the flooring contractor's discretion unless otherwise specified, treat either individual joints or cover the entire floor area with Key #580 Flexible Membrane.

1. After preparing and priming the wood/cement board substrate as prescribed above, coat substrate with 32-40 mils of Key #580 Flexible Membrane at a minimum 12" width along all joints. Carefully place fiberglass scrim cloth (or similar reinforcing cloth) lightly into surface of wet resin. Alternatively, coat entire floor area with Key #580 Flexible Membrane and reinforce with scrim cloth. Allow to cure.
2. Alternative procedure for application of scrim cloth: Apply first coat of Key #580 as outlined previously and allow to cure. Apply second coat of Key #580 Flexible Membrane or Key #502 at 15-20 mils, imbed and saturate scrim cloth. Allow to cure. This second procedure provides the best combination of 'neat' membrane performance combined with added tensile strength provided by the scrim cloth to resist extreme movement.
3. Install the Key Resin flooring system as specified.

IMPORTANT: The use of flexible membrane typically requires a minimum 1/16" thick aggregate reinforced flooring system for best performance over the membrane.

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EXCEPTION: Do not install Key Urecon or Flowcrete Flowfresh urethane cement toppings over flexible membrane unless special procedures are followed. Contact Key Resin Technical Service for recommendations.

IMPORTANT DISCLAIMER: The recommendations summarized herein represent both Key Resin and industry best practices, however it is not possible to guarantee crack-free performance if excessive movement occurs in the wood/cement board substrate. If cracks do occur, they can be easily repaired by filling with a fast cure polyurea crack/joint filler or other resin, contact Key Resin Technical Service for recommendations.

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