WEST SYSTEM

WOOD ROT

REPAIR KIT

EPOXY INSTRUCTIONS

WEST SYSTEM Wood Rot Repair Epoxy is ideal for reconsolidating rotted and damaged wood. Its low viscosity and slow cure speed allows for deep penetration and thorough absorption in deteriorated areas.

Compatible with the WEST SYSTEM Filler line to create thickened mixtures for gap filling and larger voids.

Use for: windowsills, porch railings, door frames, delaminated RV walls, damaged trim, boat seats, stringers, transoms, and general wood stabilization.

Note: For new construction, high-performance, or submerged applications, we recommend using the WEST SYSTEM 105 System.

If you have any questions about these instructions or using WEST SYSTEM products, contact our Technical Team at +44(0)1794521111 or through our website at eu.westsystem.com

SAFETY

Prepare a safe workspace. Read all safety information on containers before mixing. Keep children and pets away. Do not eat, drink, or smoke in the work area. Keep containers closed when not in use.

Avoid skin contact with resin, hardener, or mixed epoxy. Wear liquid-proof gloves (nitrile, PVC, or rubber). Wear safety glasses with side shields. Keep clean water nearby in case you need to rinse your eyes or use an eye wash. When sanding uncured or partially cured epoxy, wear a dust mask or respirator. Wash hands after use.

Work in a well-ventilated area. Avoid breathing fumes. Open windows and use fans to move fresh air across your workspace. If you cannot keep fumes low, wear an approved to EN140 and EN1438 respirator for organic vapours.

Epoxy gets hot while curing, especially in larger amounts. Do not mix more than 300ml at once. Mix smaller batches and spread them out promptly. Large batches can heat up enough to burn skin or melt plastic cups.

During clean-up, wipe wet epoxy from tools and surfaces with acetone, alcohol, lacquer thinner or WEST SYSTEM 850 Cleaning Solvent. Allow leftover mixed epoxy to fully harden before disposal. Wash hands with WEST SYSTEM 820 Resin Removal Cream, followed by soap and water.

LEARN MORE

PROJECT PLANNING

Assess the Damage

To accurately assess the extent of the damage, remove any paint or other finishes from the surface. If there is a veneer that cannot be fully removed, use wedges to create an access point to inspect the area. Remove any severely damaged wood to view the extent of the damage and to allow the epoxy to penetrate deeper.

Epoxy Depth Limitations

Curing epoxy generates heat. **Use caution when mixing large batches of epoxy.** 300ml of epoxy curing in a cup can generate enough heat to burn skin or melt plastic. When spread out over a large surface area, (ex. Roller pan or thin film) the heat can escape, providing a longer working time.

Wood Rot Repair Epoxy is not an epoxy casting system, so the depth of an epoxy application should be limited to 12mm or less.

For applications thicker than 12mm, we recommend two techniques to prevent uncontrolled exothermic reactions. The first is to build up multiple thinner applications of epoxy. The second technique is to embed a wood block in the epoxy to take up space so there's less contained epoxy mass. For more details, see *Use Instructions*.

Cure Times and Temperatures

Wood Rot Repair Epoxy will have a **working time of approximately 30-40 minutes** at 22°C in the provided mixing bottle. The epoxy will cure to a **sandable solid after 24 hours** at 22°C and will reach full cure after 2 weeks.

TEMPERATURE'S IMPACT

Temperature impacts epoxy's cure speed and viscosity. At temperatures cooler than 22°C, the epoxy will cure slower and be more resistant to flow. The higher viscosity means the epoxy will not penetrate as deeply into wood surfaces. The opposite is true at warmer temperatures. Epoxy will cure faster but have better flow due to the lower viscosity. For maximum penetration, testing shows 22°C to be an ideal balance between optimal flow characteristics and sufficient working time.

MINIMUM CURE TEMPERATURE

WEST SYSTEM Wood Rot Repair Epoxy is designed for use in temperatures as low as 10°C. Below 10°C, the epoxy will not have enough energy to cure properly.

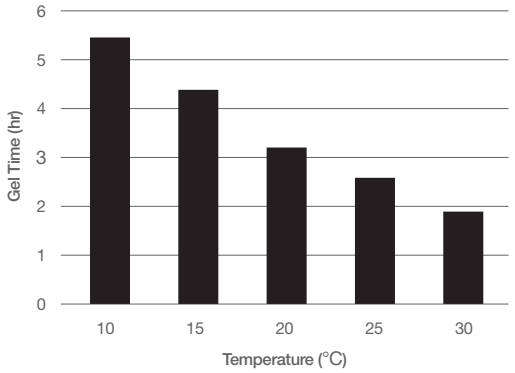
PENETRATION WINDOW

For best penetration, allow time for the epoxy to soak into porous wood. Since temperature affects cure speed, the absorption

window varies with temperature. At 22°C, you'll maximize working time while the epoxy maintains its low viscosity. When determining an acceptable temperature range, consider the working times at that temperature:

Epoxy Coverage

A batch of epoxy measured and mixed in the provided bottle 100ml should cover at least 320 cm^2 of rotted wood. The exact coverage will be dependent on how degraded the wood is.



USE INSTRUCTIONS

Setup

Gather all necessary application tools before starting. Rot and debris can be removed with tools like chisels and wire brushes. Common application tools include disposable bristle brushes, plastic spreaders, and syringes. To hold parts in place, clamps and tape may be helpful. Review the instructions to determine which tools are suitable for your application. **Read and follow all safety information before use.**

Clean

The surface should be free of contaminants such as grease, oil, and wax. Sand off any coatings in the affected area. Remove loose, or flaky wood/debris.

Surface Rot Preparations – It can be helpful to score the surface of the wood with a utility knife. This creates access points for the epoxy to flow deeper into the wood. Cut lines in the wood following the grain direction.

Deep Rot Preparations - If there is limited access to the rot, or it's a complex surface, it may be helpful to drill small, frequent holes to provide channels for the epoxy to flow deeper into the wood. Ideal bit size is 5-6 mm, depending on the severity of the rot. Drill holes in a staggered pattern offset

by 25-50mm. If the rot is on a vertical surface, drill the holes at a downward 45-degree angle to prevent epoxy from running out while it soaks into the wood.

Dry

Epoxy cannot displace water already in the wood pores, so for the best penetration, the wood should be as dry as possible. WEST SYSTEM Rot Repair Epoxy will still cure on damp woods, **however it will reduce the epoxy's adhesion and may cause continued deterioration of the wood.**

Using a heat gun can help accelerate drying time. Taking car not to over heat the area. A moisture meter can be helpful to check the water content of the wood. Dimensionally stable and dry wood usually has a reading of 8-12%.

Mix

WITH MIXING BOTTLE

First, fill with resin to the resin line (Part A). Second, add hardener to the line indicated on the mixing bottle (Part B). Install cap and shake vigorously for two minutes.

WITH MIXING POT

First, measure out the resin quantity into a pot. Secondly, add hardener at the correct ratio. Stir thoroughly for two minutes, ensuring that you are scraping the bottom and sides of the mixing cup.

Apply

Fill deep cracks and voids with epoxy 12mm maximum depth of visible epoxy per application. The mixing bottle is helpful for injecting epoxy into these areas, and once the cap has been removed, the nozzle can be trimmed to the desired opening size.

Then, brush or pour epoxy liberally onto the deteriorated areas until saturated. Apply enough so that the epoxy sits on the surface of the wood. This allows the epoxy to continue soaking into the wood grain until it begins to gel. Do not apply epoxy thicker than 12mm per application.

PRO TIP: Warm the wood with a heat gun or heat lamp just before applying the epoxy. This will help draw the epoxy deeper into the wood as it cools.

RECOATING

For maximum saturation, recoat once the initial application soaks into the wood. Continue reapplying until the wood stops absorbing epoxy or the void is filled 12mm.

Timing Between Coats / 22°C

For deep fills more than 12mm split into a number of thinner pours: Wait 3 hours between pours to allow the first layer to begin cooling before applying the next.

Within 12 hours: The epoxy will chemically bond with no surface preparation required. The previous layer should be liquid, tacky, or soft when you apply the next coat.

After 12 hours: Allow the epoxy to fully cure (24 hours minimum). Then prepare the surface for recoating by washing with water and an abrasive pad to remove amine blush (a waxy film). The surface will change from glossy to dull when blush is removed. Sand with 80-grit sandpaper, then apply additional coats.

Refer to Cure Times and Temperatures for detailed cure information.

Thicken (Optional)

After applying Wood Rot Repair Epoxy, there may be a need to fill or smooth remaining voids. WEST SYSTEM Fillers are excellent for these applications. Adding a filler to mixed Wood Rot Repair Epoxy thickens the mixture.

Depending on the quantity of filler added, epoxy can be slightly thickened or thickened all the way to a peanut butter consistency that will cling to vertical surfaces.

For most applications of Wood Rot Repair Epoxy, we recommend using 407 Low-Density Filler (for easier sanding and shaping) or 405 Filleting Blend (for a wood toned mixture). To view the entire WEST SYSTEM Filler line, visit eu.westsystem.com.

FILLER USE

To ensure proper penetration, it is important to have applied several coats of unthickened (neat) epoxy to the surface before adding thickened epoxy.

Thoroughly mix Wood Rot Repair Resin and Hardener together. Then add your choice of filler, and stir until it is fully incorporated. Continue adding filler until reaching your desired thickness.

Wood Rot Epoxy can be applied up to 12mm thick at a time. The thickened mixture can be applied while the previous neat coat of epoxy is still tacky or once cured. See *RECOATING* for application window details.

Applications that require more than 12mm of epoxy can be achieved by building up multiple thinner coats. Wait for each layer to begin cooling down before applying another layer. Another easy way to build volume for thick applications is with a dutchman. Shape a block of wood to roughly the size of the void (leaving less than a 12mm gap). Generously apply thickened epoxy to the walls of the void and the block. When the block is

inserted, thickened epoxy should squeeze out around the edges. Scrape up the excess and fill remaining gaps. Allow the epoxy to fully cure before finishing.

Finishing

As the epoxy cures, it forms amine blush on the surface. This oily/waxy looking film is water-soluble, so it is removed easily with water and an abrasive pad. **Do not use soap or solvents.** Once the amine blush is dissolved into the film of water actively dry the surface with clean paper towel.

Epoxy is not UV stable and therefore requires a UV-stable topcoat. WEST SYSTEM Wood Rot Repair Epoxy is compatible with most varnishes, polyurethanes, and paints. The epoxy surface should be prepared to the specifications of the topcoat manufacturer. It is always best practice to test the final finish over a cured epoxy sample before applying it to a final project.

SAMPLE PROJECTS

The following examples are typical applications for Wood Rot Repair Epoxy and recommendations for how to approach them. **Review the entire *Use Instructions* section before you begin** for detailed surface preparation, handling, and finishing information.

Grain Checking

If needed for grain checking or for small cracks in the wood, you can use clear plastic tape to dam up the wood. The tape will not bond to a wet epoxy surface, so the tape should be applied before the epoxy is applied to the wood. The epoxy will not bond to the plastic tape, but it can encapsulate it or lock it in place if there are multiple wrinkles in it. Therefore, you'll want to try to work cleanly around the tape. You can use a paper towel and a small amount of solvent, such as WEST SYSTEM 850 Cleaning Solvent or isopropyl alcohol, to remove epoxy from the tape before it has cured, if necessary.

Brush or inject the epoxy on to the damaged area, getting the epoxy as deep as possible into the cracks. Reapply as necessary until the wood is saturated (stops absorbing epoxy) and the cracks are filled.

Plywood Checking

Since epoxy is a moisture barrier, it is recommended to coat all faces and edges of plywood with epoxy to prevent cupping or other shape distortions. Apply mixed epoxy to the surface of the wood with a bristle brush. Multiple coats can be applied until the epoxy stops soaking into the wood. Once saturated, allow the epoxy to cure. If plywood veneers are separated or peeling, coat mating surfaces with epoxy, then clamp with just enough pressure to hold the two surfaces together. Excessive pressure will create an epoxy starved joint. If the plywood is rotted and peeling, it is best to use thickened epoxy for better gap filling. Mix Wood Rot Repair Epoxy with 407 Low-Density Filler until it is thick enough to fill the voids. Apply the thickened epoxy to the

surface and clamp with enough pressure to hold the surfaces together but not squeeze all the epoxy out of the bond line.

Allow the epoxy to fully cure. Wash the surface to remove the amine blush and prepare the surface for a UV-stable finish coat, such as paint.

Boat Seat Frame Deterioration

The frame of boat seats (or other upholstered surfaces) may rot from the upholstery trapping moisture in the wood or because the staples provide an access point for moisture intrusion.

To reconsolidate the wood, apply thoroughly mixed epoxy to the surface of the wood with a bristle brush. Reapply coats until the epoxy stops soaking into the wood. Detailed instructions are outlined in the *Use Instructions*. Cured Wood Rot Repair Epoxy can be stapled or nailed into without cracking, allowing for easy reupholstery.

Fiberglass Boat or RV Laminate Core Damage

Veneers or laminate skins can trap moisture in wood cores, causing rot and creating soft spots. It is important to assess the damage very thoroughly, since much of the damage may not be visible.

Note: This method should not be used for an area larger than a couple square feet (43cm x 43cm).

If there is a small amount of rot, you may be able to lift a section of the veneer or laminate to inject mixed epoxy between the core and the surface sheathing. Then apply pressure to get a solid bond between the skin and the core.

If the veneer or laminate cannot be lifted to expose the damage, holes will need to be drilled to aid in drying and create epoxy injection points. Make sure to drill through only one skin. (See drilling information in *Deep Rot Preparations*.) Mix the resin and hardener, then inject the epoxy into the holes. Recoat until the epoxy levels in the holes remain consistent, indicating the wood is saturated.

If desired, mix Wood Rot Repair Epoxy with WEST SYSTEM 407 Low-Density Filler for a thickened mixture to smooth the surface. Allow the epoxy to fully cure. Wash the surface, then sand the epoxy dull, and apply a UV-stable finish, such as paint.

Home Windowsill, Threshold, and Railing Rot

Windowsills, thresholds, and railings are particularly susceptible to rot due to their flat, moisture-exposed surfaces. Because they're typically integrated into the surrounding structure, replacement can be labour intensive—making an in-place epoxy repair an efficient alternative. For surface-level damage, brush on mixed epoxy, using thin coats on vertical surfaces to prevent runs. Continue applying coats as the wood absorbs the epoxy. The wood is fully saturated when an epoxy film remains on

the surface. If voids remain, mix the epoxy with 407 Low-Density Filler to a peanut butter consistency. Applied with a spreader to smooth the surface. Allow the epoxy to fully cure. Wash the surface, then sand the epoxy dull, and apply a UV-stable finish, such as paint.

Pillar and Post Rot

House pillars or fence posts commonly have rot deterioration where the wood has been in constant contact with the ground. These pillars often rot from the center of the column outward creating deep rot in the center that can be difficult to dry. Often the most difficult part of these repairs is drying the wood so the epoxy can effectively penetrate.

If the rot is deep in the pillar or post, it can be helpful to drill several holes 6-10mm in diameter at a downward angle into the wood. This provides channels for airflow to aid in the drying process and allows the epoxy to get deep inside the wood for reconsolidation. The downward angle prevents the epoxy from running out of the holes allowing more time for absorption.

Once the wood is dry, epoxy can be applied. After 2-3 applications, the epoxy level should remain consistent, signifying the wood is saturated. WEST SYSTEM 407 Low-Density Filler can be added to mixed Wood Rot Repair Epoxy until reaching a peanut butter consistency. This mix can be used to fill voids and install a dutchman. Allow the epoxy to fully cure. Wash the surface, then sand the epoxy dull, and apply a UV-stable finish, such as paint.

Most types of coatings are compatible with cured epoxy which is an almost completely inert, hard plastic. Thus, most paint solvents will not soften, swell or react with an epoxy surface. However, it is advisable to build a test panel to assure coating compatibility. It is always recommended to check manufacturer's instructions to verify compatibility and suitability.

One-part polyurethanes and polyester gelcoat can be affected by epoxy amines and if used must be applied when the epoxy is thoroughly cured, generally after two weeks at room temperature. A thorough cure can be achieved much quicker with elevated temperature post curing. Post curing will also improve epoxy's thermal properties and is recommended if dark paint is to be applied over epoxy.

Two-part polyurethanes tend to offer the best results over epoxy.

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Version 1

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