Wood renovation with epoxy resin

It is possible to repair, repair and stabilize rotten wood with epoxy resin. An expensive replacement is not always necessary. However, please note that in the case of load-bearing wooden parts, a structural engineer must always decide on the type of repair. Before you start repairing, however, you should also find the cause of the damage to the wood and possibly eliminate it (e.g. leaks in the roof).
The wood must be absolutely dry and dust-free. Brittle pieces of wood should be carefully removed. By absorbing the resin through the wood, the strength is improved, but the original strength level is not reached. We recommend our epoxy resin 4307 + hardener 313.

Occupational safety is important, gloves and safety goggles should always be worn, and we also recommend wearing a protective suit. Processing should only take place in well-ventilated rooms.

Processing

For epoxy resins, the processing temperature should be between 15-25°C. The relative humidity should not exceed 70%. (high temperatures – faster curing; lower temperatures can slow down curing considerably)

The hardener addition must be adhered to exactly, please refer to the respective data sheet. Mix ratio 100 parts resin / 50 parts hardener by weight!
Before use, all components should be stirred thoroughly to achieve perfect curing.

Please make sure to regularly wipe the bottom and side walls of the mixing cup with a stirring stick so that the resin and hardener are really well mixed together.

When processing, you should measure the resin/hardener exactly with a (letter) scale, the mixing ratio must be adhered to exactly!

To counteract too fast curing, the mixed resin/hardener mixture should be placed in a shallow container, such as a paint tub, due to this large surface area and shallow storage, the resin does not heat up so quickly.

To make the epoxy resin more creepable, you can also add a thinner. This means that it is better absorbed by the wood fibres. We would like to point out that the addition of reactive thinner to the resin can negatively affect other system properties. By drilling smaller holes in the wood, a better resin absorption can also be achieved.

In the case of major damage or unevenness, fillers can also be added to the resin. This results in a filler that can be applied with a spatula.

You can apply the resin with a brush, spatula or syringe (for the drill holes), depending on the consistency. If you apply several coats, apply the next coat only after the previous one has been lightly dressed (wet-on-wet).

Once the resin has dried and hardened, it can be processed with a saw, rasp, milling machine or sandpaper.

To improve resistance to environmental influences (especially UV resistance), the resin should be protected with a clear or coloured varnish. After sanding with fine sandpaper, the varnish can be applied (please test adhesion beforehand).

To clean the tools, use our acetone.

Materials

- Epoxy Resin 4307 + Hardener 313 (Art.Nr. 962015-V)
- Thinner: EP43RV Reactive Thinner (Art.Nr. 90100RV-V)
- Filler: Thixotropic (Art.Nr. 55110-V)
- Clear Coat: Acrylic Clear Coat Ultra-Plus (Art.Nr. 50260fn)
- Acetone (Art.Nr. 35120-V)

Tools and aids

- Digital Scale
- Brushes
- Spatula
- Syringe
- Mixing Cups and Stirring Bars
- Säge, Raspel, Bohrer
- Disposable gloves
- Respiratory protection e.g. FFA1P2 R D respirator (Art.Nr.: 39102)

If you have any questions, please do not hesitate to contact us.

Our team will be happy to help you.
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