

RECONSTRUCTION OF WOODEN'S PORTIONS OR PROSTHESIS'S CONNECTION

Reinforcement and recovery of wooden elements

APPLICATION DATA SHEET

Reconstruction of wooden elements portions using:

1. preliminary operations;
2. placement of synthetic reinforcement bars;
3. casting with collaborative epoxy pouring;

1A) PRELIMINARY OPERATIONS (EXTRADOSAL RECONSTRUCTION)

Shoring of the structure, with removal of all the materials found in the intervention areas. Verification and static design of the existing stresses. Execution, in the extrados of the wooden beam, of a section opening suitable for the construction of a new collaborating beam that can support the present loads. Anti-woodworm and anti-mold treatment on all wooden parts, after the careful removal of dust, greasy substances and all materials that may compromise a perfect anchoring of the resin.

1B) PRELIMINARY OPERATIONS (RECONSTRUCTION AT THE SUPPORTS)

Shoring, where necessary, of the structure, with removal of all the materials found in the intervention areas. Demolition of the masonry in correspondence with the contact point with the wooden beam and elimination of the damaged parts of the wooden beam. Anti-mold and anti-woodworm treatment to be carried out by applying single-component synthetic resin by brush or spray on all the wooden parts, after careful removal of dust, greasy substances and all materials that may compromise a perfect anchoring of the resin.

2A) PLACEMENT OF SYNTHETIC REINFORCEMENT BARS (EXTRADOSAL RECONSTRUCTION)

Insertion, in the section hollowed in the wooden beam, of the reinforcement structure composed of 4 fiberglass bars

with full circular section and very high resistance to corrosion Kimitech TONDO VR, made of unidirectional glass fibers impregnated with synthetic resins

2B) PLACEMENT OF SYNTHETIC REINFORCEMENT BARS (RECONSTRUCTION AT THE SUPPORTS)

Perforation of the head of the wood beam and accurate blowing of the perforations in order to eliminate any possible residual of inconsistent materials that could compromise the adherence to the wood of the subsequent processing steps. Insertion of 4 bars with full circular section and very high resistance to corrosion Kimitech TONDO VR. The section of the bars will be indicated by an accurate static verification of the wooden structure. Grouting of fiberglass bars by injection, to be carried out with a special gun, of fluid epoxy resin Kimitech EP-IN, with excellent structural adherence to the wood and which does not shrink while hardening.

3A) CASTING WITH COLLABORATIVE EPOXY POURING (EXTRADOSAL RECONSTRUCTION)

Pouring of two component solvent-free fluid epoxy resin Kimitech EP-IN, loaded 1 to 5 with quartz-type aggregates Kimifill HM.

Once hardened, restore the previously removed materials and eliminate any shoring.

3B) CASTING WITH COLLABORATIVE EPOXY POURING (RECONSTRUCTION AT THE SUPPORTS)

Installation of disposable formwork in wood of the same size as the beam to be restored and pouring of fluid epoxy resin Kimitech EP-IN or similar, loaded 1 to 5 with quartz-type aggregates Kimifill HM.

Once hardened, restore the previously removed materials. The collaborating casting in the formwork can be replaced



by a specially modeled wooden prosthesis; in this case, housings will also be created on the prosthesis, in order to insert the fiberglass bars embedded with epoxy resin.