



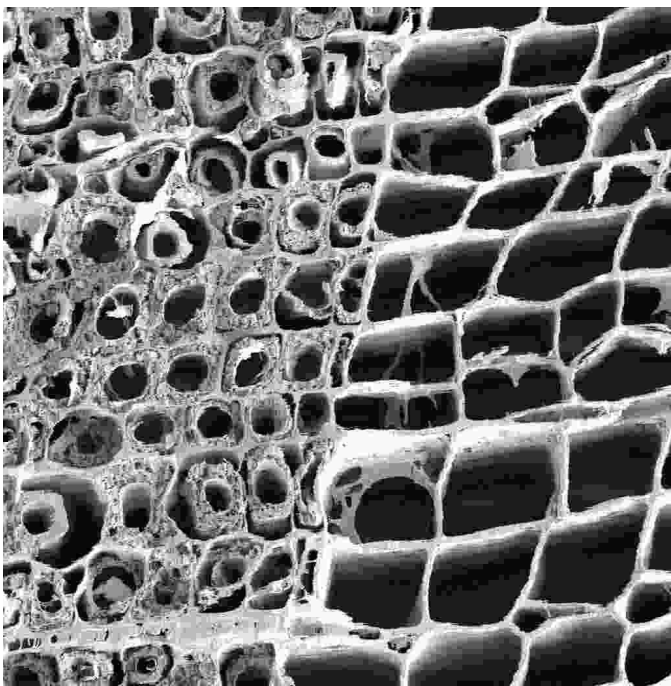
PRESERVATION Solutions

SP-11[®] Waterlogged Wood Treatment

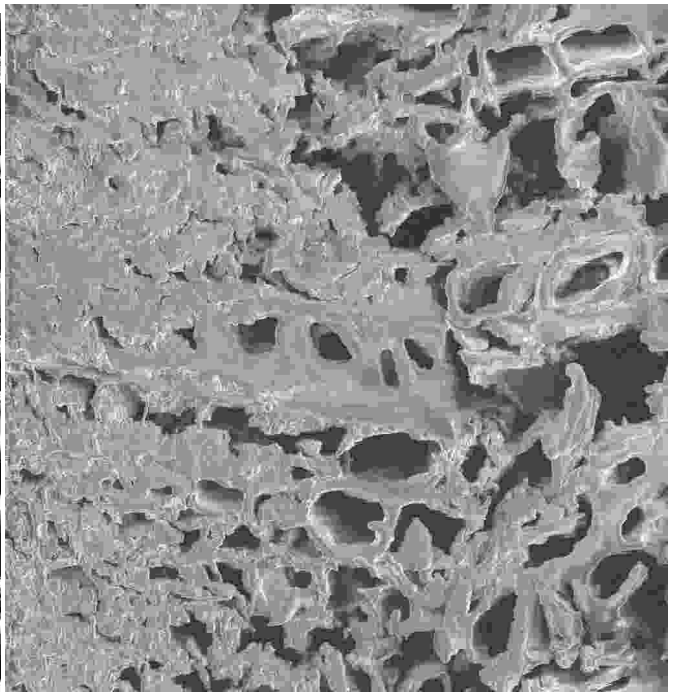
After 2 years of formulating and testing, SP-11 was developed in 1995 at the request of the Maine State Museum. The museum was looking for a better treatment method than what was currently being used for the conservation of waterlogged wooden artifacts.

SP-11 is a formulation of modified polymers with a high grade, high flash mineral solvent that contains no sulphur and has a very slow evaporation rate. Being water soluble, it penetrates the wood quickly displacing the water. SP-11 fills the wood cells and capillary tubes. During drying, the water evaporates first, then the wood dries followed by the evaporation of the solvent. When the artifact is completely dry, a thin coat of the SP-11 is left on the wood cell walls, which prevents the cells from shrinking and collapsing, thus keeping the artifact intact.

See the magnified photos below showing cross sections of a fishing weir stake which is carbon dated to 5,000-7,000 years old. It is believed to be Hemlock. The photo on the right is a piece treated with SP-11 and shows the coating on the wood cell walls. These photos are courtesy of the conservation lab at Bates College in Lewiston, ME.



Untreated weir stake, 400x magnification.



Treated weir stake, 400x magnification

SP-11 has been tested on waterlogged wooden artifacts for over 25 years with highly successful results. See our website for case studies by the *Maine State Museum*, *Archaeological Society of Virginia (ASV)*, *Virginia Canals & Navigations Society (VCNS)*, and *North Carolina Office of State Archaeology*.

<https://preservation-solutions.com/pages/what-is-sp-11-waterlogged-wood-treatment>

Previous treatment methods have included:

- Polyethylene Glycol, PEG
- Freeze Drying
- Alcohol Treatment
- Sucrose

These past treatment methods have drawbacks and concerns of their own including the time it takes to impregnate the wood and, in many cases, may involve a multi-step process including combining several different treatments.

SP-11 is non hygroscopic, unlike PEG and sugar treatments which draw moisture into treated wood. Additional benefits of SP-11 include:

- Easy to use and does not need to be heated to penetrate
- SP-11 is a small molecular weight polymer, which allows for easy penetration
- It is highly soluble in water which also aides in greater penetration
- Treated wood is non-hygroscopic, not sensitive to humidity or temperature changes
- SP-11 will not darken wood
- Very little extra weight is added to the wood after treatment, making it ideal for use on large artifacts
- Artifacts can be re-glued once the wood has dried. Treated wood will not be tacky
- If necessary, the treatment is reversible

Developed and Manufactured in the USA by:

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