

Asphalt+ Bamboo Roof ingemar@saevfors.se

The most common roof cover in the tropics is the corrugated metal sheet, “the bake oven roof”. Unfortunately, the indoor climate becomes unbearable daytime. Corrosion is another problem.



During the prefab bamboo house project in Thailand 2022, named Knocked-down, a replacement with a bamboo-based cover was discussed. A rain-safe roof using local materials is problematic. Grass, leaves and bamboo slats – all are facing rapid aging and then leaking. When replacing it with bamboo materials the impermeability becomes the big issue.



One solution could be using bitumen like for the tar paper roof used in America and Northern Europe for over a century.



A bamboo woven mat could make a support layer. A thin layer of asphalt on top seems to make it waterproof, even when bending the mat. The asphalt can be stretched and still stay waterproof. Maintenance is easy, just patching up with hot asphalt.

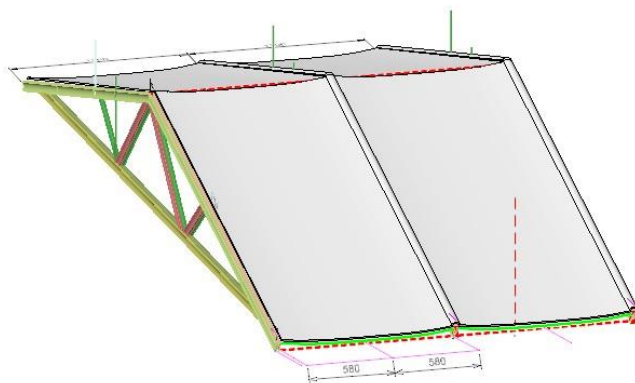


The bamboo mat is fixed to slats with a pneumatic staple gun. Those bamboo slats are 1x2 cm in section, spaced at 20 cm and 120 cm long.



This combined roof cover module could be rolled out from eave to eave over the ridge. One such module can then be fixed between the roof trusses which often are spaced at 120 cm. Joints between modules are covered with slim strips of asphalt felt melted to merge.

On top of the sticky asphalt layer there should be sprinkled a thin layer of small-size (2-3 mm), light grey sand/gravel material. It will protect the black asphalt from attracting heat and from exposure to the UV radiation from the sun. This composite roof cover is elastic enough to be rolled and easily packaged for distribution.



All bamboo parts should previously have been treated with borax to avoid insect attacks.

A full-scale test roof should be built to demonstrate the quality during the rainy season.

2/10/2023