

A technique of wood plasticization for making bentwood furniture:

Use of curved wood in furniture and housing is prevalent and is of key importance in many industries in India especially in those that manufacture furniture, sports goods, boats, ships and several decorative and utility articles. Steam has traditionally been used to soften wood for bending. Tests carried out earlier have indicated that only a few Indian timber species are amenable to steam bending. The steam bending technique has also limitations such as bending at sharp radius of curvature is not possible, long period is required for plasticization and drying of stock after bending etc. The recent work carried out at Forest Research Institute, Dehradun has shown that the above-mentioned limitations can be overcome by using vapour phase ammonia plasticization technique. This technique has enabled a wider choice of species for production of bentwood components for a variety of commercial products.

The FRI has designed and developed a pilot scale unit for the plasticization of wood through vapour phase ammonia treatment for making bentwood furniture components and other utility and fancy bentwood articles.

Bending results have indicated that several important timbers which are not amenable to steam bending can be bent successfully even to sharp curvatures by this technique. The technique would economize use of wood without affecting the functional requirements of the products, as the current practice to obtain bent wood components is from wider sections.

