For this purpose the veneers are impregnated with a two-component solution consisting of a furan component and a carboxylic acid anhydride. The solution plasticizes the veneer resulting in an increased shaping ability. The fixation of the shape is realized by a heat-induced polymerisation of the solution in the cell walls.

Still, knowledge has to be gained about the effects of the different parameter on the process. Different chemical and mechanical analyses are applied to differently prepared samples. The experimental setup is shown in figure 2.

**Results**

1. By shaping tests based on the cupping test according to Erichsen (DIN EN ISO 20482) could be demonstrated that the forming path can be increased considerably by the proposed impregnation (figure 3) realizing an increased shaping ability (figure 4).

2. With Helium pycnometry it could be demonstrated that the solution permeates the cell walls causing a bulking effect before curing.

3. Confocal Laser Scanning Microscopy (CLSM) validates an even distribution of the polymer in the cell wall (figure 5).

4. Chemical analyses (DSC, HS-GC/MS, Pyrolysis GC/MS, FT-IR spectroscopy) give more information about the reaction mechanisms and kinetics as well as the composition of the end product correlated to the varying process parameter.

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