

Supporting Information

Insulative wood materials templated by wet foams

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Size distribution of milled wood

Size distribution was determined from optical microscopy images (Fig. S1a) using Fiji processing package for ImageJ2 freeware. Milled wood particles exhibited a broad size distribution with aspect ratio values from 2 to 12 with aspect ratios 2, 3 and 4 being the most frequent (Fig. S1b).

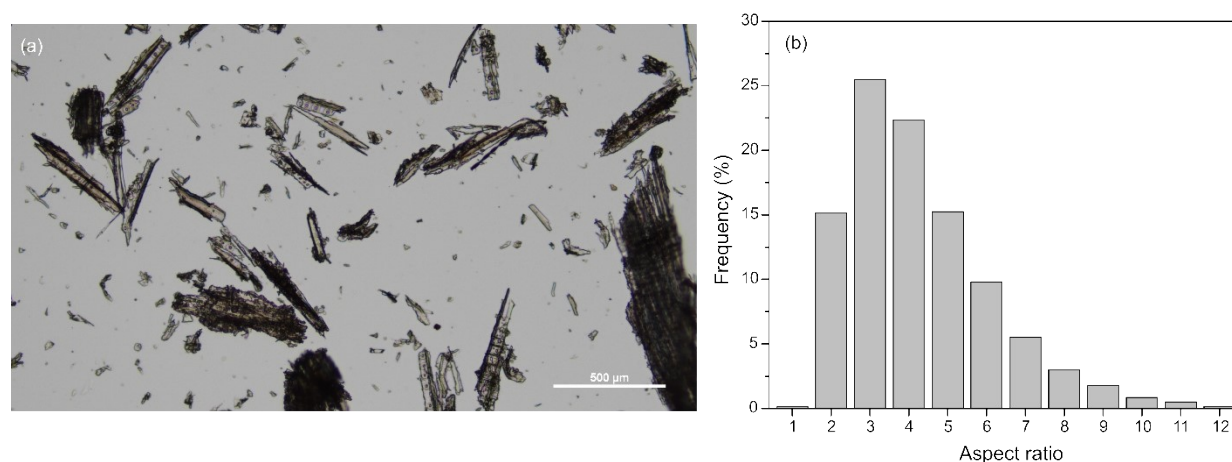


Fig. S1. (a) Representative image from optical microscopy used to determine the aspect ratio of milled wood particles; (b) aspect ratio distribution of milled wood.

Stability of wet foams

Bubble size and liquid drainage from the wet foams were observed over time (Fig. S2). Immediately after preparation, bubbles could not be identified by eye, forming a white wet foam, and a bubble size increase was observed after one and three days without significant collapse for

all samples (initial volume remained constant). Liquid drainage was noticed a few minutes after preparation and the drained volume (around 8%) was constant after one day, regardless of the foam composition. Drainage was faster for foams with higher wood/PVA ratios, indicating that a high PVA content could de-accelerate liquid flow.

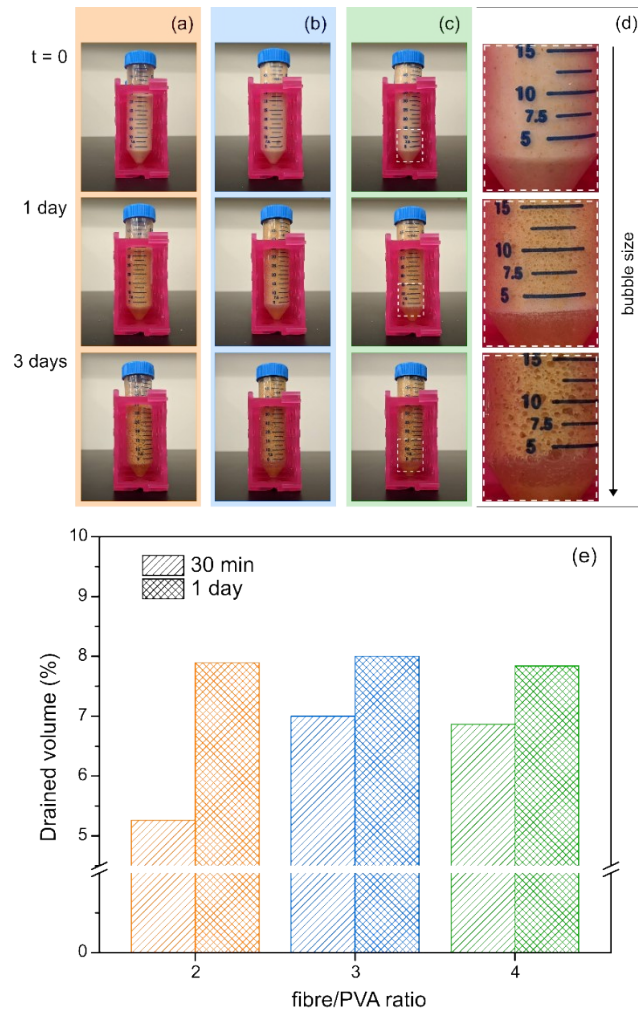


Fig. S2. Wet wood foams with wood/PVA ratios of: (a) 2; (b) 3; and (c) 4 immediately after preparation, after one day, and three days; (d) Detail of foam structure from frames in (c) showing bubble size increase over time without foam collapse; (e) drained volume percentage with respect to the initial wet foam volume after 30 min and one day. The composition of the wet foams is described in Table 1.