The effect of recycling on wood-fiber thermoplastic composites

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ANOVA AND TUKEY’S TEST ON FIBER ASPECT RATIO

Table S1. Fiber aspect ratio and Tukey’s test after each recycling step.

| No of passes | L/D     |
|--------------|---------|
| 0            | 22±13 A |
| 1            | 14±6 B  |
| 3            | 11±7 B/C|
| 5            | 10±6 B/C|
| 7            | 9±7 C   |
| 9            | 8±6 C   |

Marked with the same letter within the same column are not significantly different at 5% significant level based on ANOVA and Tukey’s test.
Figure S1. Viscosity as a function of shear rate after each recycling step. a) PP-0, PP-1, PP-3, PP-5, PP-7 and PP-9 and b) WPC-0, WPC-1, WPC-3, WPC-5, WPC-7 and WPC-9 at 230 °C
Figure S2. Differential scanning calorimetry (DSC) graphs for the neat PP and WPC after each recycling step. a) PP-0, PP-1, PP-3, PP-5, PP-7 and PP-9 and b) WPC-0, WPC-1, WPC-3, WPC-5, WPC-7 and WPC-9.
THERMOGRAVIMETRIC ANALYSIS

Figure S3. Thermal degradation (TGA/DTG graphs) for PP and WPC after each recy cling step. a) PP-0, PP-1, PP-3, PP-5, PP-7 and PP-9 and b) WPC-0, WPC-1, WPC-3, WPC-5, WPC-7 and WPC-9.
Figure S4. Fracture surfaces of WPC after each recycling step showing that interaction between the MAPP and WPC is improved during repeated processing. (a) WPC-0, (b) WPC-1, (c) WPC-3, (d) WPC-5, (e) WPC-7 and (f) WPC-9.