FIRE REACTION PROPERTIES OF WOOD BAESD COMPOSITES MADE WITH BIOPOLYMERS

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Summary. Following the world tendency in the search for alternatives for the traditional materials in all areas of the economy, the use of wood and natural fibres as reinforcement for advanced composites is attracting the interest of several industries, like automotive and construction. In the last decade, these composites have been used by European car manufacturers for door panels, seat backs, dashboards and trunk liners. The key advantages of this new group of materials are their lightweight, low cost, carbon neutral and reuse of waste. The combination of natural fibres with biopolymers will contribute to opening the market to environmentally friendly composites with opportunities for recycling and bio-disposal. However, the thermal and fire performance of these composites is critical, because they melt at low temperatures (200-400°C) and burn easily at higher temperatures (>400°C) do to their organic nature.

This study investigates the fire reaction behavior of wood/biopolymer composites. For this purpose, several wood fiber/latex specimens with different wood contents were manufactured and tested for thermal and flammability evaluation.