

Biocomposites containing peat fibre for making new kinds of biodegradable products

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VTT Technical Research Centre of Finland has developed methods and product innovations for processing the most rapidly renewable surface layer of peat instead of using it for energy production. The goal is to develop bio-based composite materials containing peat fibre, for example for the manufacture of consumer products and construction materials, at the same time reducing the use of oil-based raw materials in production.

The advantages of products containing peat fibre are their bio origin, low cost, water resistance, impact strength, excellent fire endurance

characteristics and [biodegradability](#).

Through its various projects VTT has developed materials containing thermoplastic and panel-form peat fibre, as well as fibre-suitable preprocessing methods. Milled peat can be used as peat fibre because it contains several peat fractions and preferably long fibres, which are not silt up, so it can function both as filling material and as reinforcing material in [composite](#) structures.

The amount of raw material necessary for composite products would equate to a fraction of current peat production, which is a factor in support of its use in ecological products. Composite production is also an alternative to peat burning, and would preserve jobs in the peat industry.

Materials containing peat fibre are suitable for processing with normal plastic processing methods, using compounding, extrusion and injection moulding, for example. Currently no company in Finland is producing or exploiting these kinds of peat composite materials.

Material solutions containing peat fibre can be used in construction (boards, moulding, profiles, plate structures), product applications in horticulture and in agriculture and forestry (seedling guards, planters, peat-coloured [wall structures](#), plant supports), consumer products (golf tees, ornaments), biodegradable packaging, earth-moving (erosion protectors, biodegradable support structures) and funerary products.

VTT currently has three patent applications pending related to peat containing biocomposites.

Provided by VTT Technical Research Centre of Finland

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