

ABSTRACT

ALKALINE DISSOLUTION AND SPINNING OF CELLULOSE TO TEXTILE FIBERS

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Tree to Textile is a potential game changer in the textile industry, with the vision Better fibers for all. We are developing a unique fiber technology that has low environmental impact and comes at a low cost. The process has low demand for chemicals, energy, and water, and is both resource and cost efficient. We continuously develop our technology through life cycle assessments in order to significantly reduce our environmental footprint.

With the target of being as resource efficient as possible from the cellulose pulp to a cellulosic staple fiber, the process is via a direct dissolution of cellulose in alkaline aqueous solvent and a wet-spinning into an alkaline spin bath. Tree to Textile has developed a process for manufacturing a man-made cellulosic fiber at low cost and with low environmental footprint. The chemical recovery is implemented to support highly efficient closed-loop of chemicals and there is no CS₂ in the process.

The technology is now being verified in our Demonstration plant at Nymölla Mill, Sweden, where we have the capacity of 350 kg fiber/h going from dissolving pulp to man-made cellulosic staple fiber, and we are preparing for the next step in upscaling.