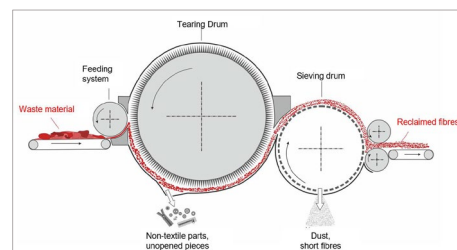


Mechanical recycling of textile waste

The production of reclaimed fibres from old textiles and their processing into textile products is an effective recycling solution. To the same extent as the products of the textile industry continue to develop, the future requirements for textile recycling are evolving as well. Today, new raw materials, combinations of materials and the increasing specialisation of the textile industry are making increasing demands on textile recycling.

From fabric to fibre

The principle of the tearing machine is that coarsely pre-cut materials are fed through a transporting and simultaneously clamping feeding system to a drum rotating at high peripheral speed, the tearing drum. The pin or tooth-shaped tearing elements arranged on the tearing drum enter the structure and tear it under the action of a tensile stress. In addition to the actual fibres, the reclaimed fibres that are the result of the tearing process contain other components such as threads, nibs, dust or unopened pieces.



Principle of the tearing machine

From fibre to fabric



Processing of tear fibres at STFI

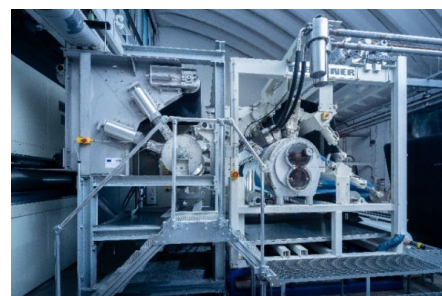
Most of the reclaimed fibres produced in Germany are processed in the nonwovens production. These nonwovens are used for instance in vehicle construction, in general machine and device construction as well as in the home textile and furniture industry. The nonwoven can be formed from reclaimed fibres by carding or aerodynamically by forming a randomised web. The consolidation of the web can be done by needle punching, by water jets, in a thermofusion oven or by stitch-bonding technology.

While the processing of reclaimed fibres into yarns has lost much of its importance with the development of nonwoven technologies and the changed economic conditions in the industrial countries of Central Europe, efforts in Germany and Europe have recently been increasingly aimed at such applications.

We would like to exchange ideas with you about the possibility of joint research projects and suitable funding programmes.

Have we caught your interest?

We look forward to hearing from you.



Spunlace line: Consolidation of fibres using high-pressure water jets