

Materials development



Life cycle of a carpet i. Suggestions Biological technology is playing vital role in manufacturing of carpet. The innovation can be made at first two stages of carpet life cycle (i. e., Raw materials, processing the raw material). If we just have to educate farmers in the particular context. If farmers would be educated with regard to this technological advancement, we can directly start the life cycle for manufacturing of carpet from third stage (i. e., combine ingredients) and so on.

ii. Technological advancement practicing:

Researchers have now developed an enzyme-based biological technology that paves the way for manufacturing carpets that are much lighter, sustainable, biodegradable, and 100% recyclable. A wool carpet manufactured using this innovative system is a completely natural and biodegradable product. At the end of its useful life the entire product can be shredded and turned into organic material, which can then be used, for example, as fertilizer for growing plants. The work has been carried out for the Netherlands companies Bond Textile Research, Best Wool Carpets and James, which own the four patents on which this new biological technology is based. The so-called " cradle-to-cradle" model has been central to the work done by the team led by Tzanko Tzanov, a researcher with the Molecular and Industrial Biotechnology Group at the Universitat Politècnica de Catalunya. BarcelonaTechs Terrassa Campus. The outcome is an enzyme-based biological technology that paves the way for three Netherlands companies to manufacture carpets that are much lighter, sustainable, biodegradable, and 100% recyclable. At the end of their useful life, the carpets can be used as fertiliser or substrate for growing plants. The system saves a great deal of energy, completely closes the biological cycle for wool, and significantly

reduces the final cost of carpet products.

Reference:

Universitat Politècnica de Catalunya (UPC). (2011, July 13). Innovative system for producing carpets. ScienceDaily. Retrieved October 12, 2014 from www.sciencedaily.com/releases/2011/07/110712093853.htm