



Lasale College

#### POLYURETHANE FIBER

#### POLYURETHANE sometimes called

spandex, are synthetic fibers in which the fiber forming substance is a polymer consisting of at least 85% segmented polyurethane.

## What Is ?

spandex has elastomeric, rubberlike qualities and is very durable. In fact it is more durable than rubber.



- 1. The raw materials are held in large tanks. These tanks eqquiped with agitators to keep the materials fluid, and then it can be pumped out
- 2. The materials are passed through a heat exchanger as they are pumped into pipes. By the time the polymerizing liquid gets to the end of the pipe, the polyurethane is already formed.
- 3. The dispensing head is hooked up to the processing line, a roll of baking paper is spooled. This paper is moved along a conveyor and brought under the dispensing

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- 4. As the paper passes under, polyurethane is blown onto it. As the polymer is dispensed, it is mixed with carbon dioxide which causes it to expand
- 5. After the expansion reaction begins, a second top layer of paper is rolled on. Additionally, side papers may also be rolled into the process. Each layer of paper contains the polyurethane foam giving it shape
- 6. At the end of the production line, the foam insulation is cut with an automatic saw to the desired length. The foam bun is then conveyored to the final processing steps that include packaging, stacking, and shipping



Susceptible to UV High Flammability Difficult to Paint Susceptible to Oxidation High Thermal Expansion Difficult to Bond





## How is polyurethane fibre used?







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# THANKS

