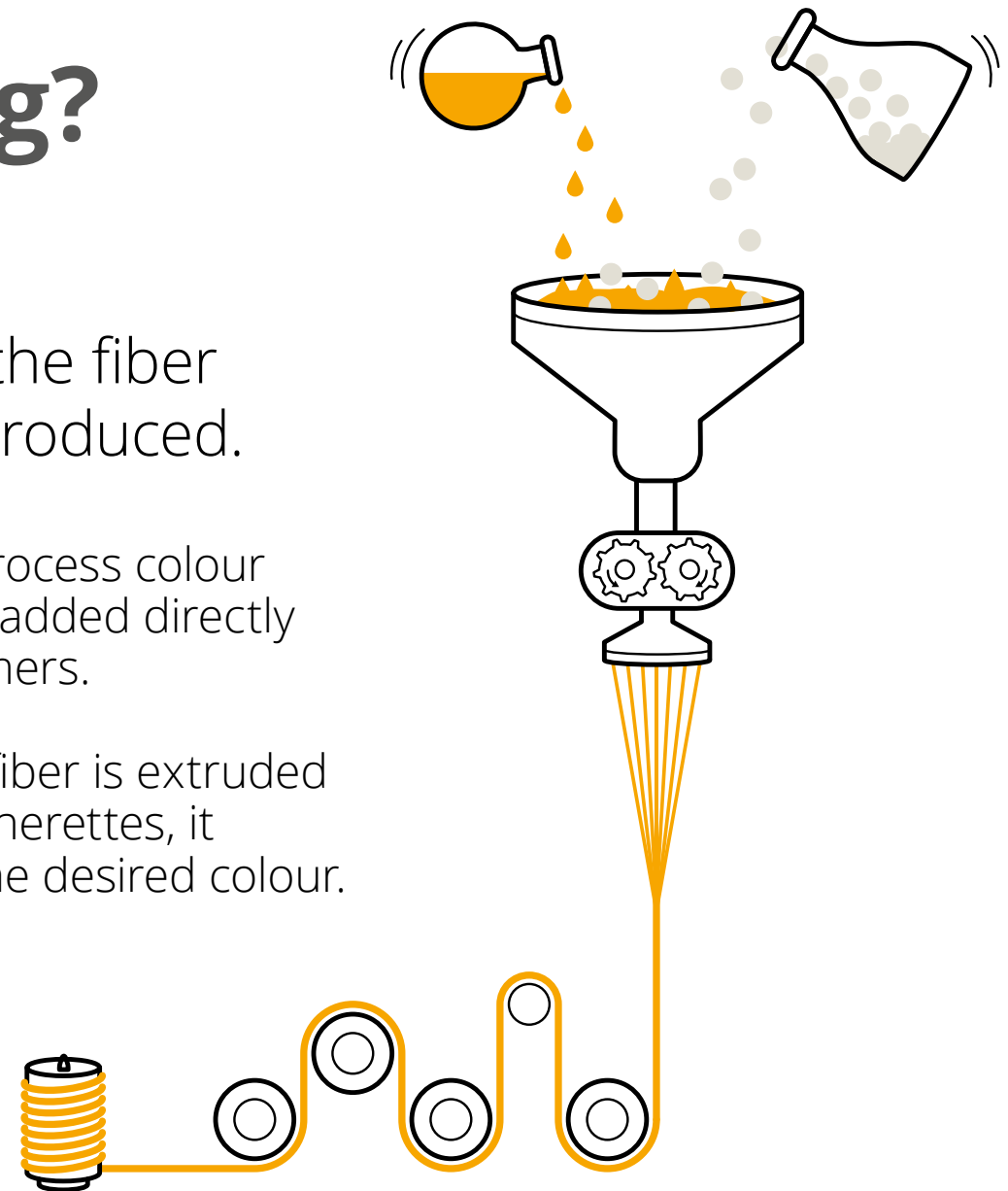


What is Solution dyeing?

SOLUTION DYEING METHOD

The colour is added to the liquid state of the fiber components, before the fiber is actually produced.

- Chemical compounds, called polymers, are fed into the top of the machine and are melted. This melt is then forced through tiny holes called spinnerettes where the melt is drawn out, leaving the newly created yarn.
- During that process colour pigments are added directly into the polymers.
- So when the fiber is extruded from the spinnerettes, it already has the desired colour.



How is Solution dyeing different?



PIECE DYEING

- **Plain colour dyeing:** the carpet is dyed 'in a piece' after tufting but before other finishing processes.
- **Differential dyeing:** yarns can be treated chemically to have different dye affinities, resulting in different shades.



- **Continuous dyeing:** the carpet is run through a dyeing installation or dyeing line.

SPACE DYEING

- Several colours are printed onto the yarn, thus creating specific colour combinations.



PRINTING

- **Digital Chromojet Printing:** Chromojet works by injecting dye into the pile of the textile.
- **Printing with cylinders:** Another method of dyeing printed carpet is to pass it under perforated cylinders which press colour into the carpet.

What about natural fibers?



DYEING NATURAL FIBERS

Solution dyeing is not applicable to natural fibers (such as wool).

Natural fibers are harvested from their source, so they must be dyed using traditional dyeing methods.

Why does Solution-dyed matter?

BECAUSE THE COLOUR IS PART OF THE FIBER

- When a fiber is dyed post-production (as in traditional dye methods), the dye soaks into the fiber and fills the fiber's cells. There will always be cells in the fiber that did not absorb the dye.

THE STORY OF THE RADISH AND THE CARROT



Radish: Traditional-dyed fiber where the colour is on the exterior but does not go through.



Carrot: Solution dyed fiber which has colour throughout.

The benefits of Solution dyeing



INCREASED LIGHT FASTNESS

... because the colour is locked into the fibers.

- Carpets made with Solution-dyed fiber are therefore a great choice for areas that will be subjected to intense light.



INCREASED STAIN RESISTANCE

... because Solution-dyed fiber has no empty dye sites which makes it easier to clean.

- Carpets made with Solution-dyed fibers are therefore great for use in commercial carpets.