

# COLOUR FASTNESS IN PRACTICE

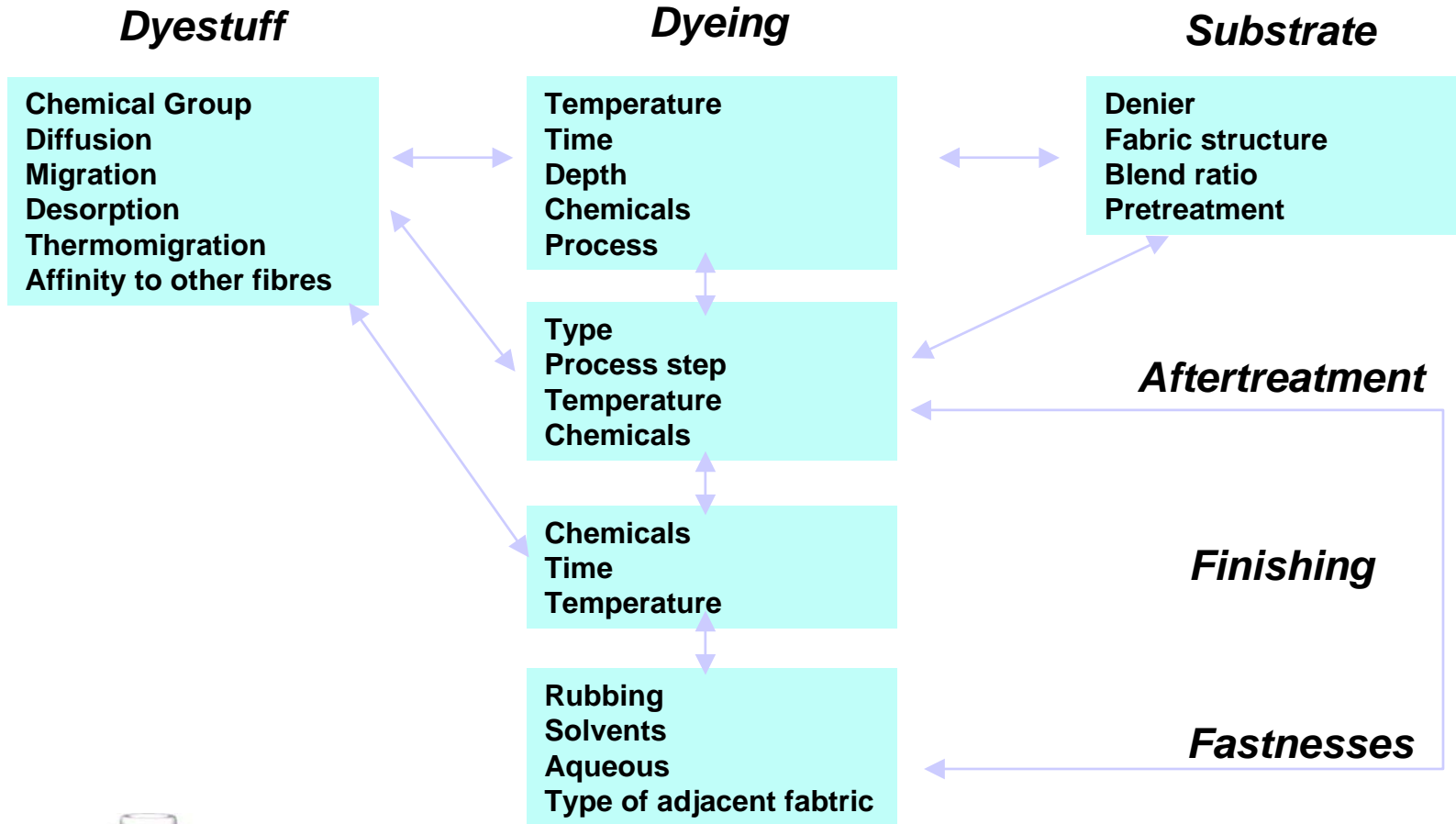


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# COLOUR FASTNESS IN PRACTICE

## Factors which influence the fastness results

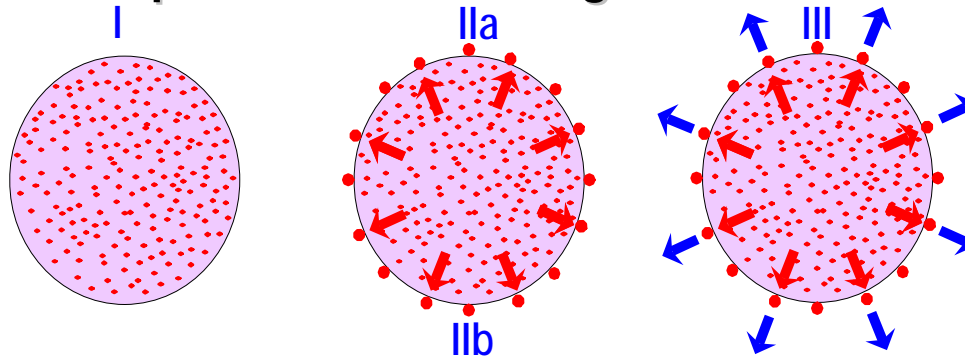


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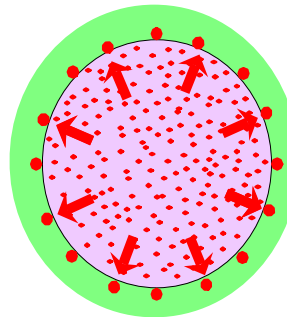


# COLOUR FASTNESS IN PRACTICE

## Desorption - Thermomigration - Sublimation



Dye dissolving  
chemical layer



120 - 130 °C

Air heat  
(independent of the evaporation  
temperature of the dye)

- I Reduction cleared fibre
- IIa Desorbed dye on fibre surface
- IIb Thermomigrated dye in softener layer
- III Evaporation (sublimation) of desorbed dye on reaching evaporation temperature

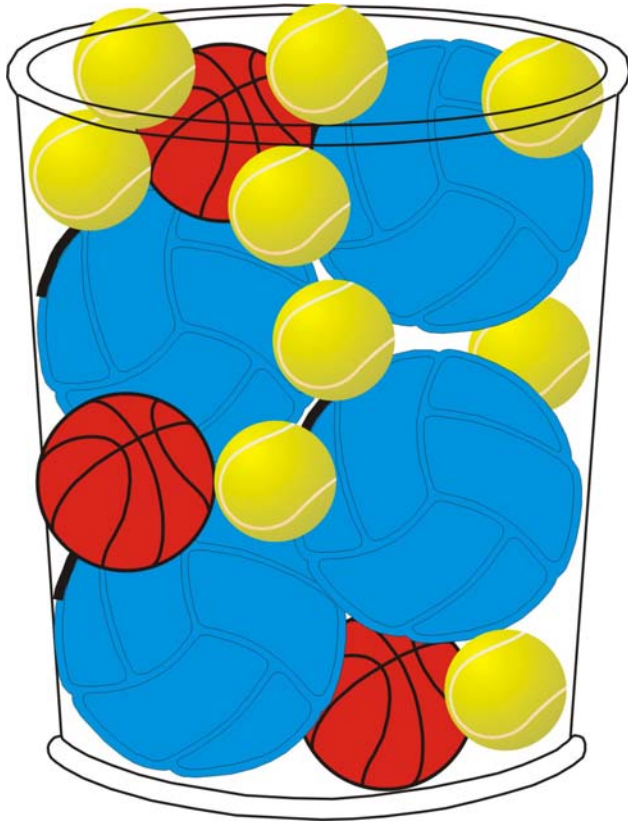


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# COLOUR FASTNESS IN PRACTICE

## Thermomigration



Polyester is dyed at 130-135° C and if after dyeing the temperature is raised beyond 135° C the dye molecules start migrating out of the yarn and will cause staining of the adjacent fabric as time passes and sufficient molecules migrate out to cause visible staining. Lubrication and coning oils which are applied on most yarns have a strong affinity for disperse dye molecules and the disperse dye molecules have a preference for adhering to these oils rather than the yarn. This phenomenon aggravates the process of thermo-migration.

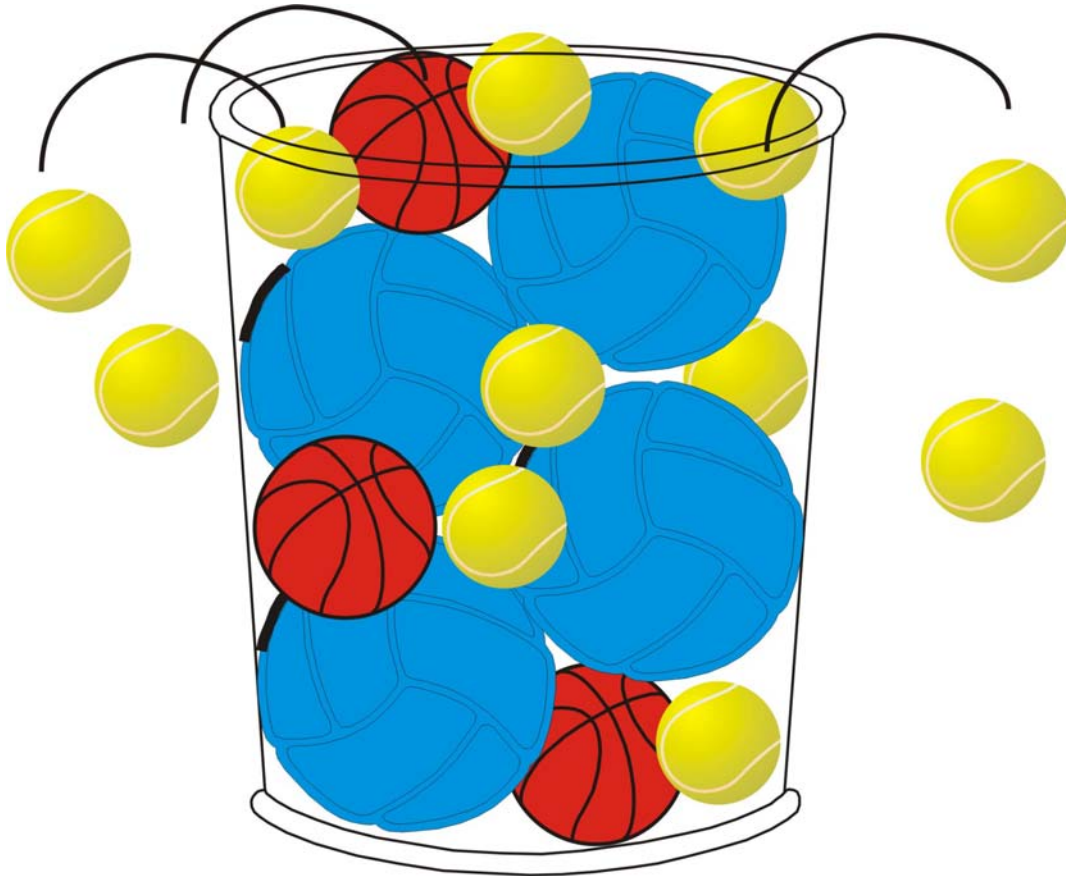


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# COLOUR FASTNESS IN PRACTICE

## Thermomigration



THERMOMIGRATION will occur every time the temperature is raised above dyeing temperature. Some weavers start ringing alarm bells at this stage and opt for a quick fix.



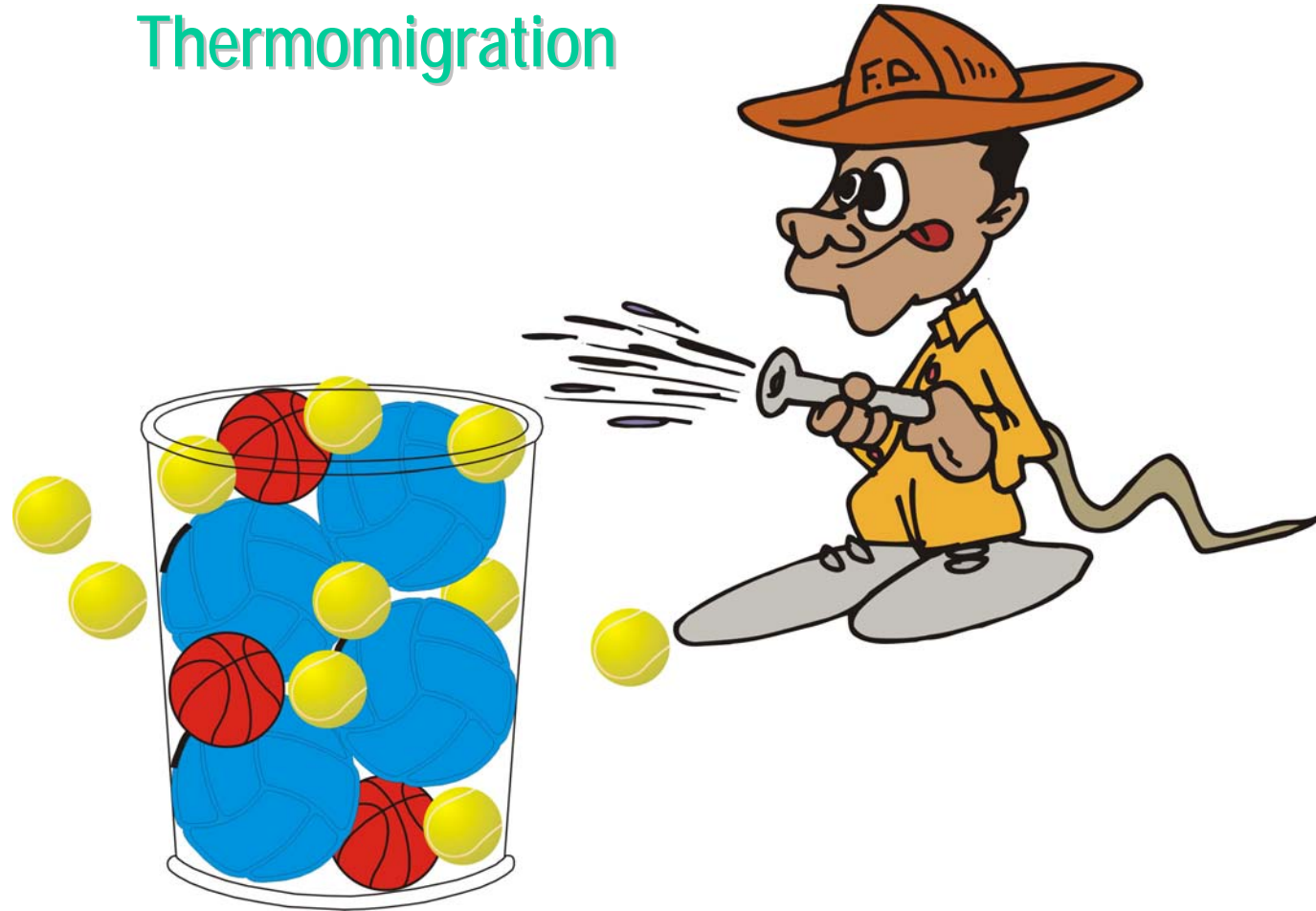
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# COLOUR FASTNESS IN PRACTICE

## Thermomigration

The quick fix is to wash off the migrated dye stuff using water / detergent / solvent. This quick fix only postpones the problem for a very short time.



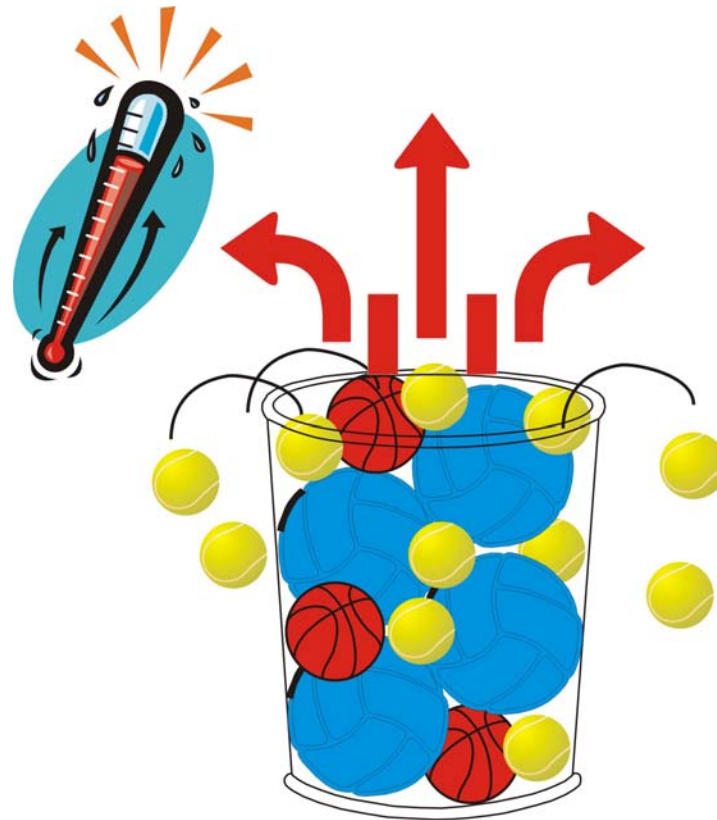
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# COLOUR FASTNESS IN PRACTICE

## Thermomigration

After the Label is washed it has to be ironed and heat set again on pressing rollers, to make it usable / marketable or else the actual user will submit it to a process which will again trigger the thermo migration process. There is just no quick-fix to this problem except using yarns which resist thermo-migration.

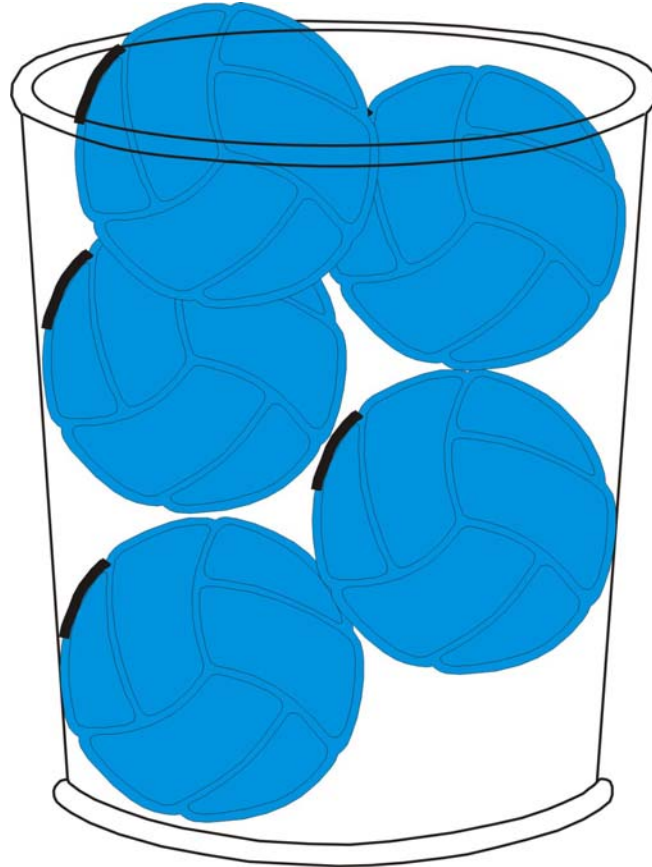


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# COLOUR FASTNESS IN PRACTICE

## Saturation

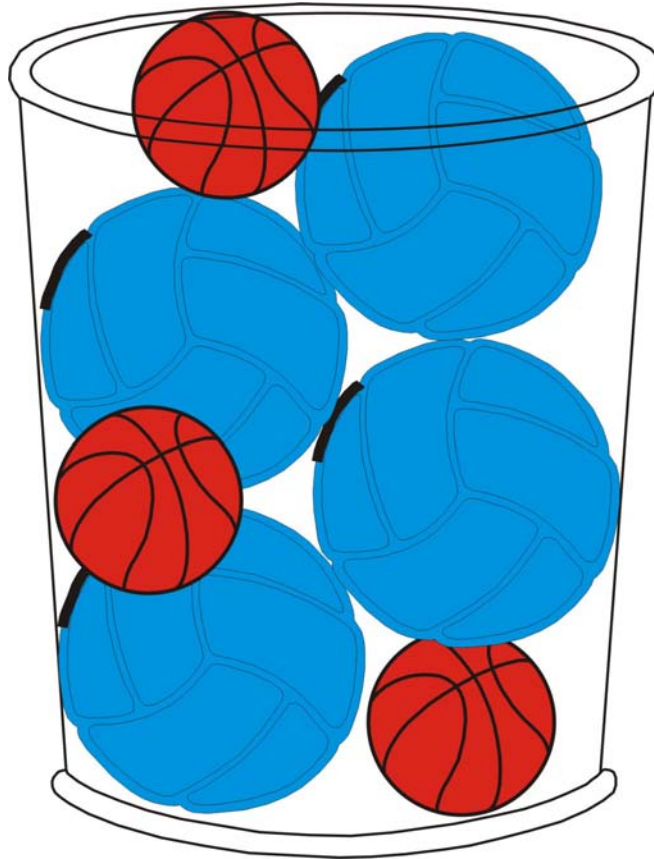


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# COLOUR FASTNESS IN PRACTICE

## Saturation

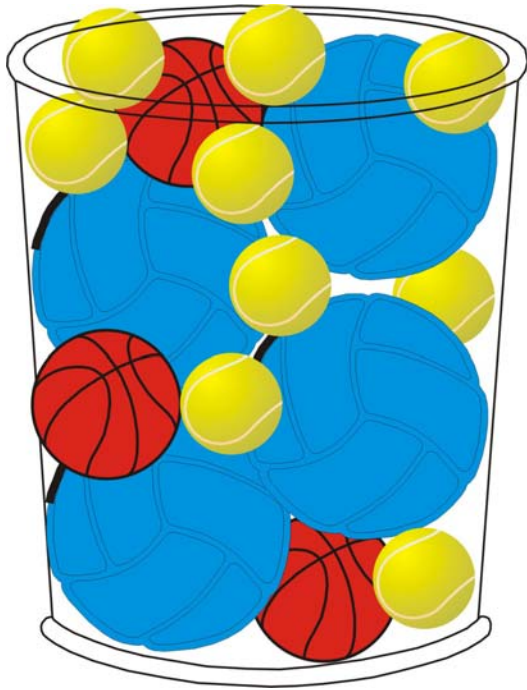


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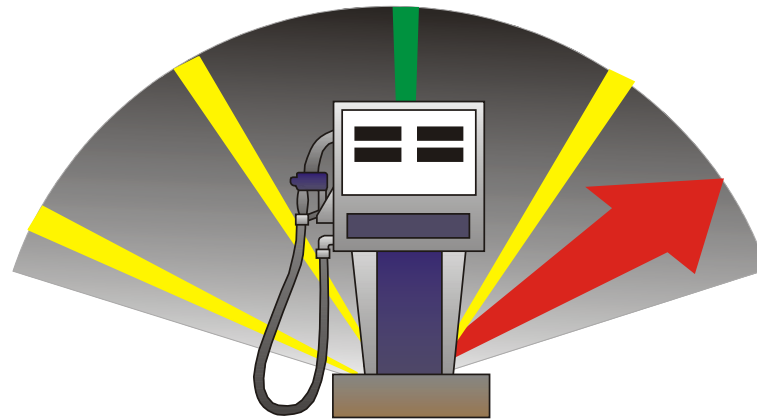


# COLOUR FASTNESS IN PRACTICE

## Saturation



Maximum 4%



CAPACITY OF POLYESTER  
YARN TO HOLD DYES  
MAXIMUM 4%



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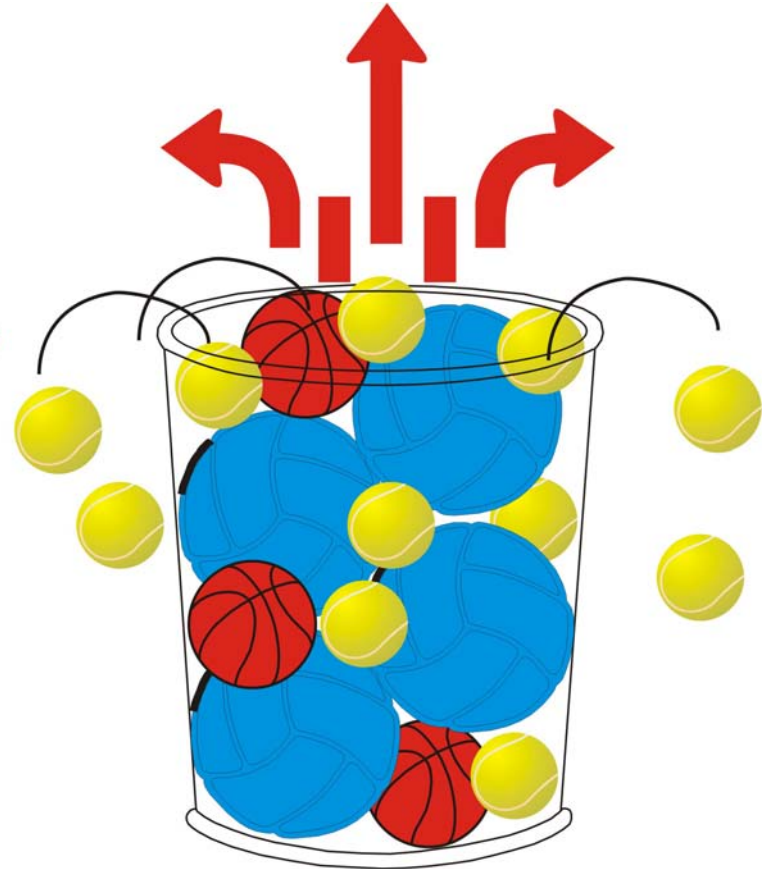


# COLOUR FASTNESS IN PRACTICE

## Saturation

If we try to add more disperse dyes in excess of 4% by adding smaller molecule dyes these will migrate out of the yarn at the slightest provocation

4%



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