



WATER REPELLENT FINISH – PART I

REF: TT/ MAY 2018 / WK 2

Introduction

Finishes that repel water, oil and dry dirt are important in all parts of the textiles market. Such as for clothing, home and technical textiles are some of the application areas for repellent finishes. The oldest repellent finish is water repellent finish.

In this finish, the drops of water should not spread on the surface of the textiles and should not wet the fabric, wetting occurs when water in the form of droplet is absorbed by the fabric. In most finishes, it is desirable that drops stay on the surface and easily drips off or can be brushed off.

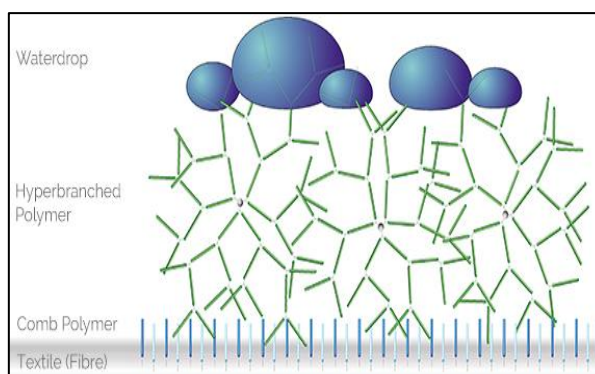
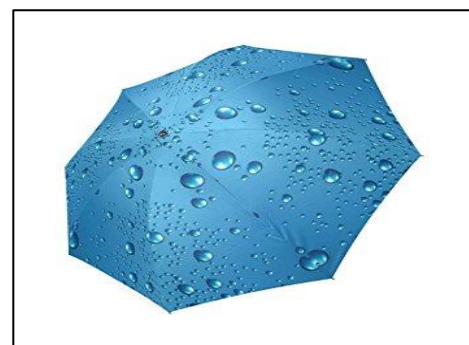


Fig 1.1 Water Repellent Finishes on Fabric

Mechanism of Water Repellent Finishes

Repellent finishes achieve their properties by reducing the free energy at fibre surfaces. If the adhesive interactions between a fibre and a drop of liquid placed on the fibre are greater than the internal cohesive interaction within the liquid, the drop will spread. If the adhesive interactions between the fibre and the liquid are less than the internal cohesive interactions within the liquid, the drop will not spread.



Oil repellency finishes with fluorocarbons always achieve water repellency but fluorine-free products, will not repel oil.

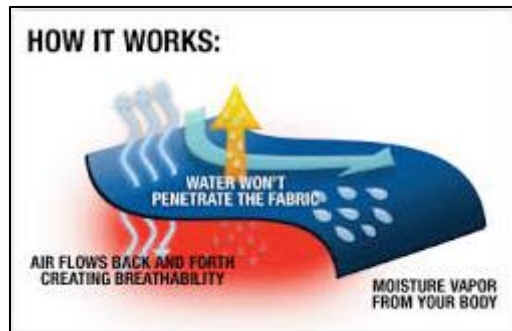


Fig 1.2 Mechanism of Water Repellent Finish

To be continued...

Wishing you a great week ahead!

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