

A microscopic view of a surface covered with numerous small, spherical microcapsules. A large, semi-transparent blue circle is overlaid on the image, containing the word "Microencapsulation" in orange text.

Microencapsulation

***An innovation which
enhances textiles***

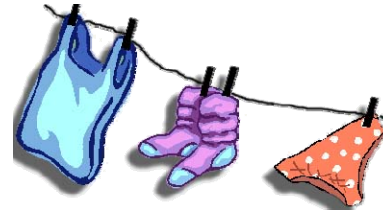
Nearchimica

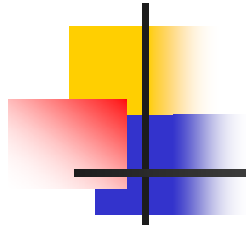
Microencapsulation : Summary

- *Principle*



- *Applications*





Principle





Principle

This revolutionary technique dates back to the Sixties.

It was initially used in various industrial sectors (pharmaceutical, chemical, food...) then later in the textile field.



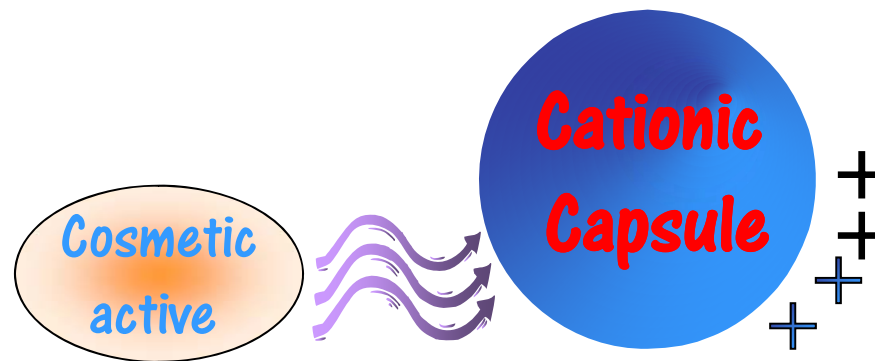
Principle

The microencapsulation technique is used to trap liquids or solids inside a shell which isolates them and protects them from the external environment.

Microcapsules vary in size between 0.5 and 2,000 microns.

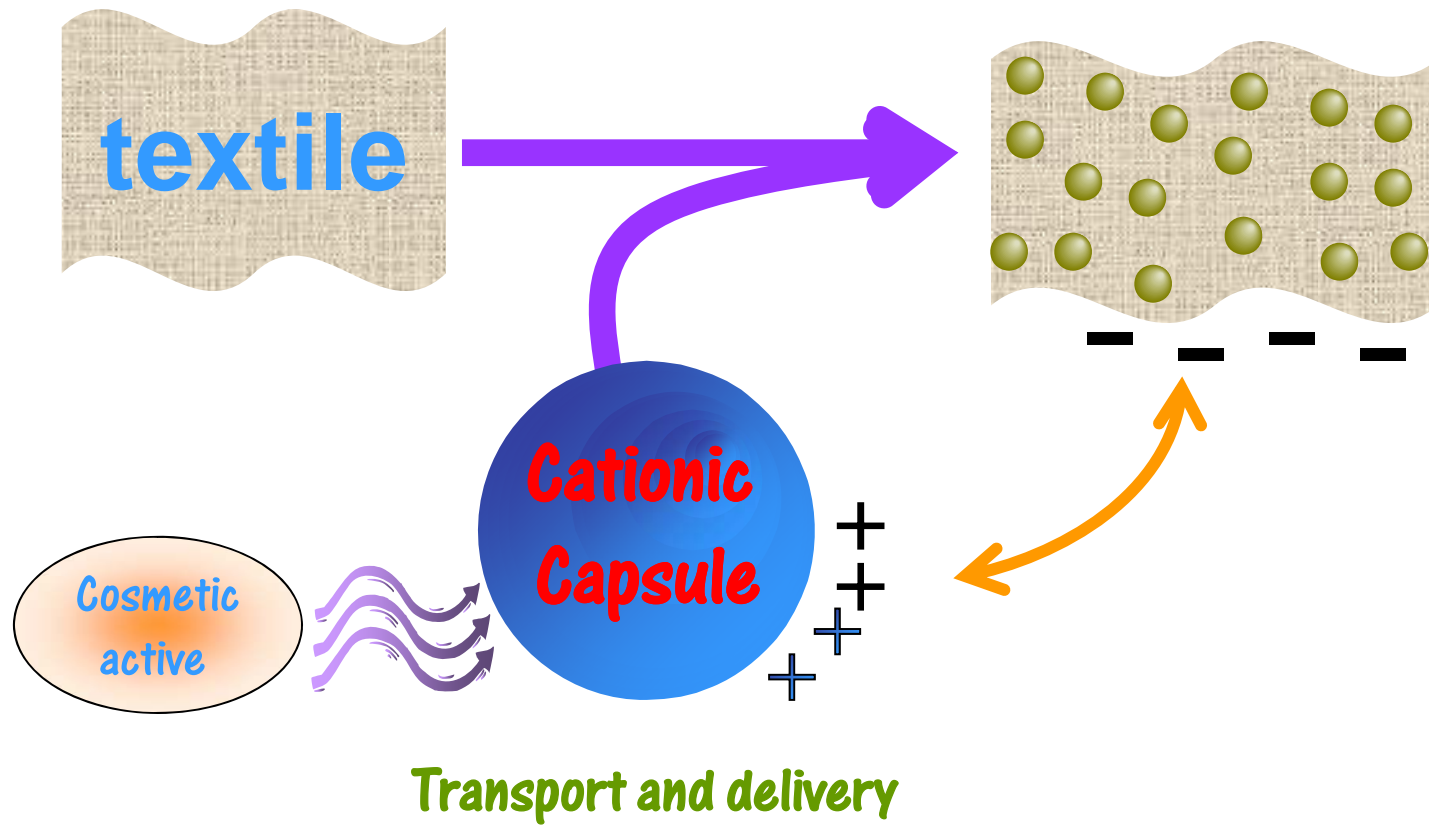


Principle

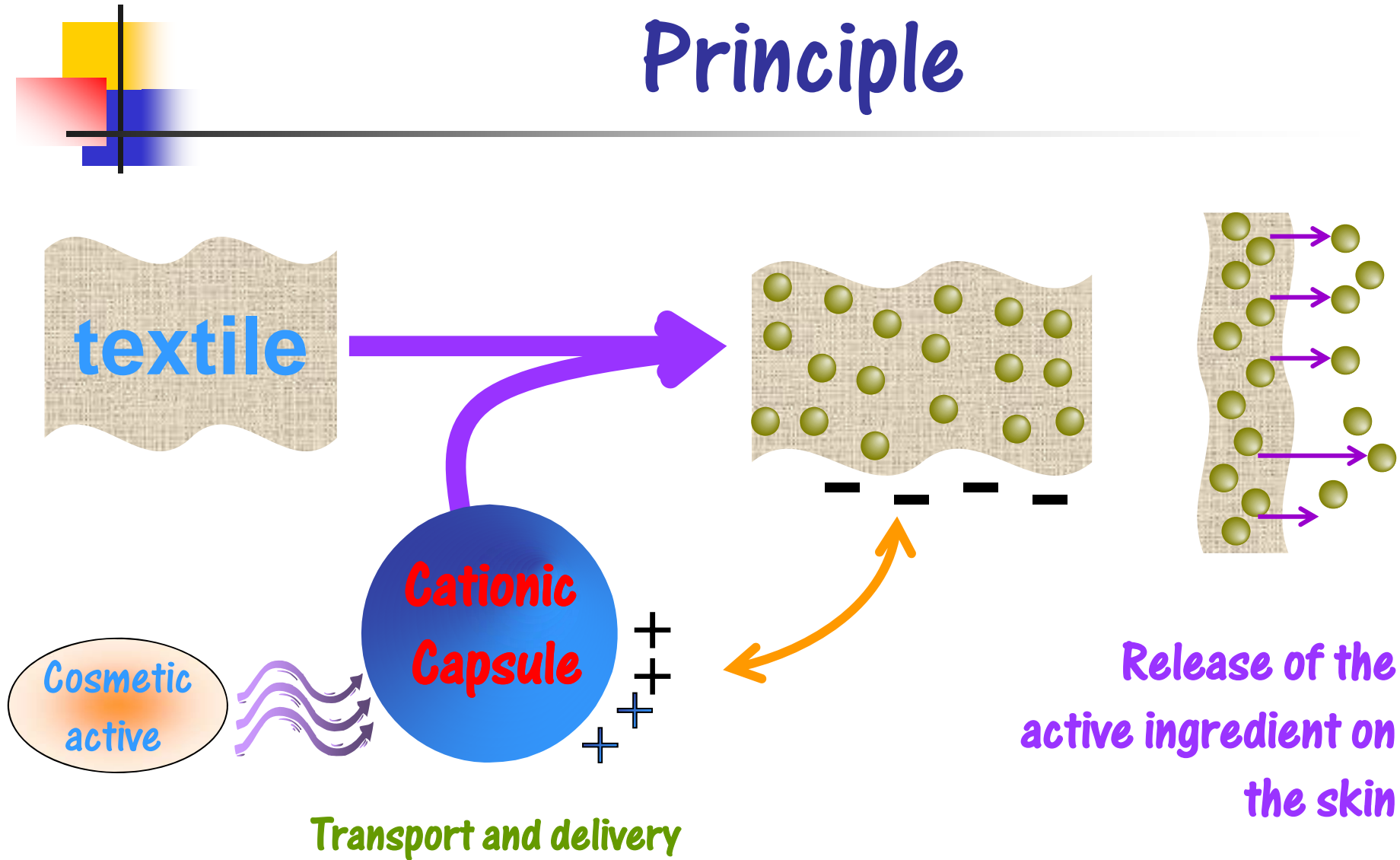


Transport and
delivery

Principle



Principle

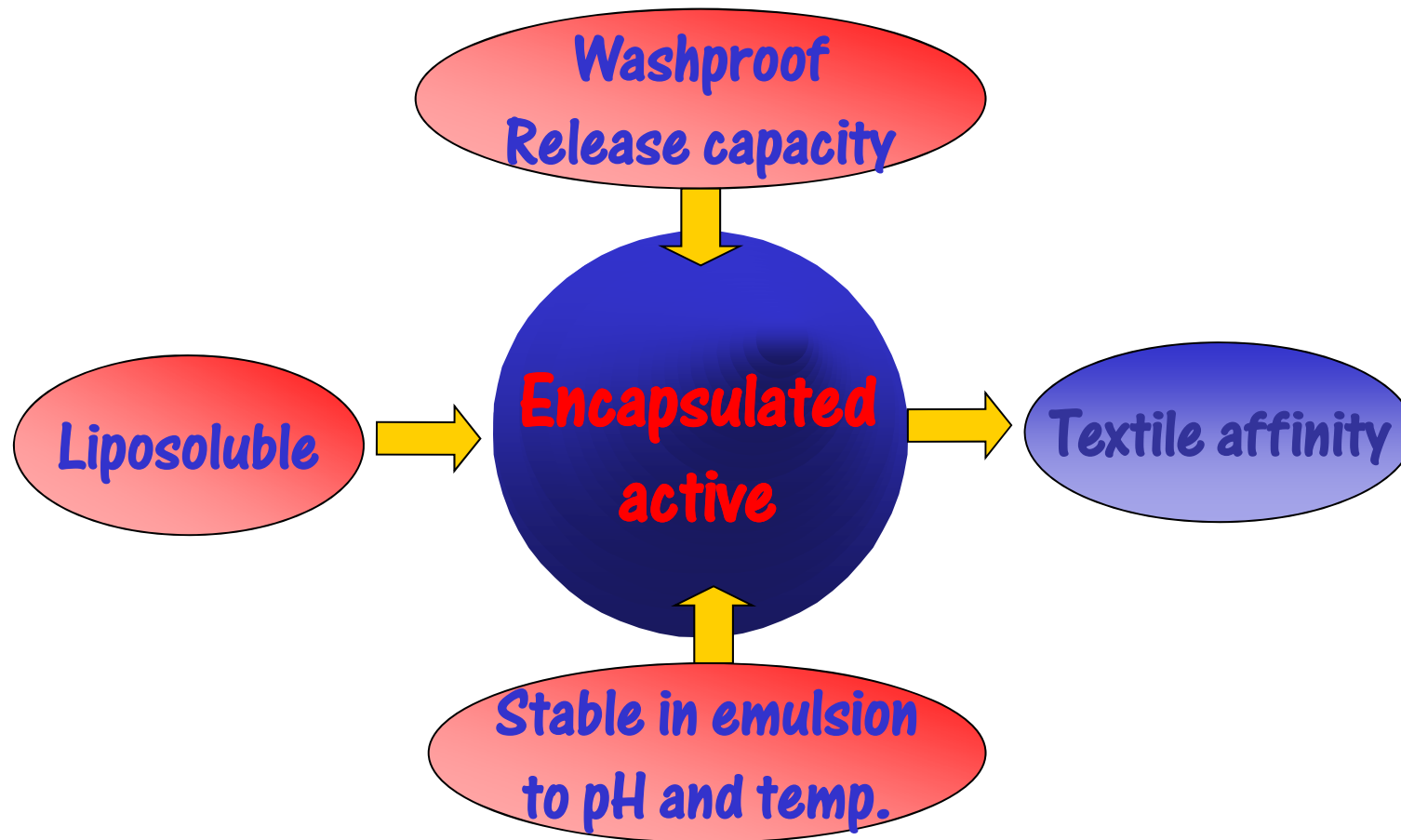




Principle

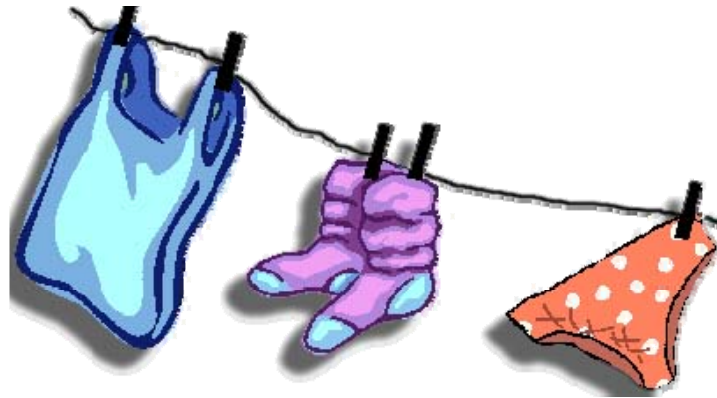
The microcapsules are then incorporated into the desired substrate (woven or non-woven material) in which the active substance will be released gradually under the effect of mechanical action or under the effect of heat.

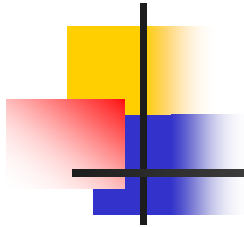
Properties of the microcapsules



Applications

- Cosmetics Actives





Cosmetics actives

Encapsulated Actives : What for?

Refreshing



Firming



Moisturizing





Refreshing Active : **Nearfresh MC196**

Function: Refreshing effect, comfort and well-being

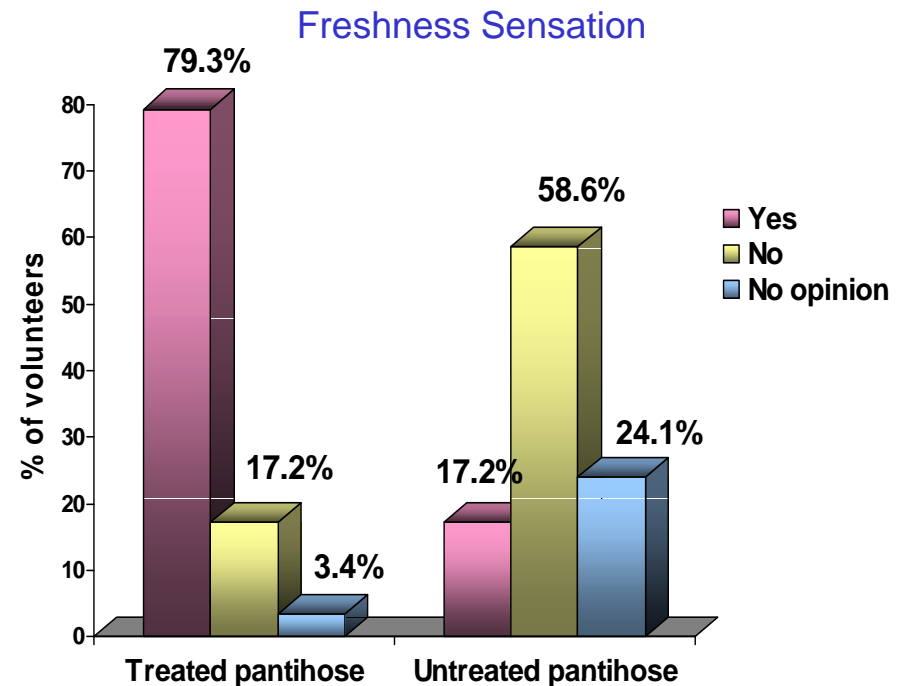
Definition: 5 μm microcapsules containing:

Menthol, *brings a great refreshing sensation*

*Applications: Tights, socks, underwear, handkerchiefs,
T-shirts, non-wovens*

Nearfresh MC196 : sensory evaluation

29 volunteers
tested Pantihose
over
5 days
Knit construction:
17 dtex,
84.5% polyamide,
15.5 % elastane



The freshness effect is perceived by 79% of panellists

This feeling continues all the day for 65% of panellists



Moisturizing Active : Nearmoisturize MVE

Function: Moisturising and nourishing effect

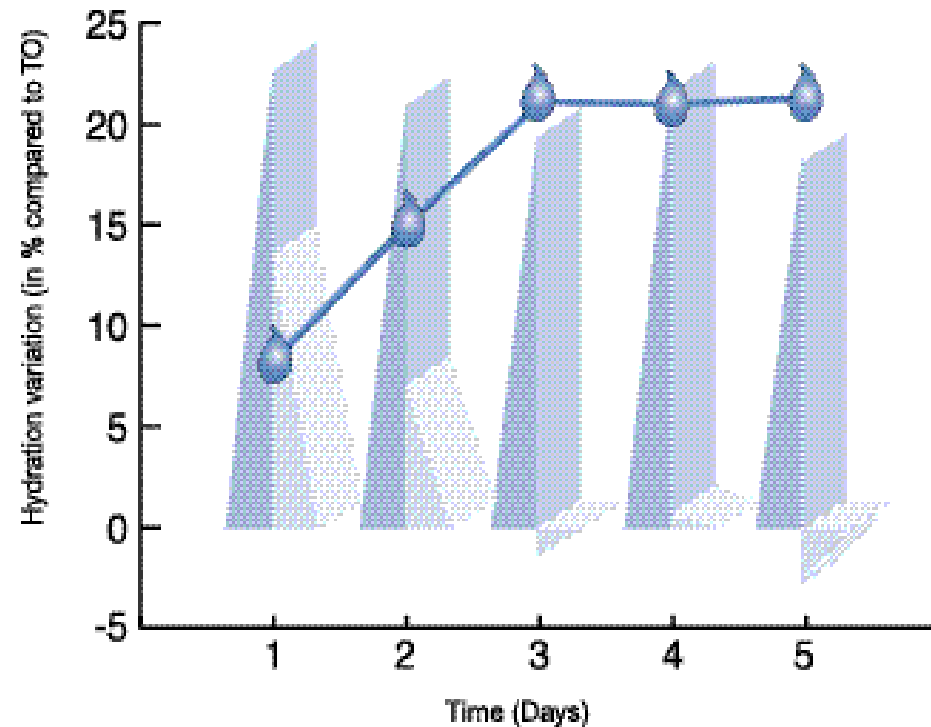
Definition: 5 μm microcapsules containing Vitamin E and phytosterol esters, provides a cutaneous structuring effect



Applications: Tights, socks, underwear, handkerchiefs, T-shirts, non-wovens

Nearmoisturize MVE: sensory evaluation

- 10 panellists – Tights (20den/17dTEX)
Knit construction:
 - 76.5% polyamide
 - 23.5% elastane)treated with 10% microcapsules 5 μ m –
Treated side versus non-treated side.
- 5 days of wearing
- Daily hand wash of the tights
- Measurements with corneometer performed daily.



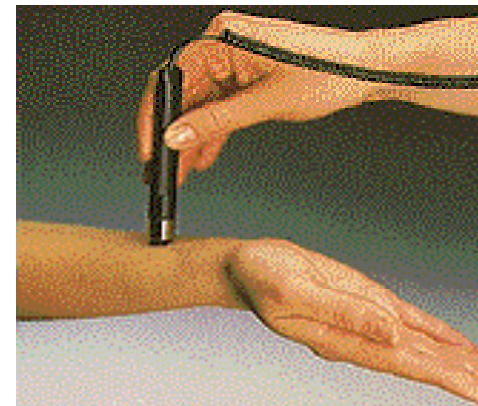
The panellists are satisfied by 100%

The product compensates for dehydration due to repeated wearing of tights. The product restores softness to the legs by conferring a real moisturisation

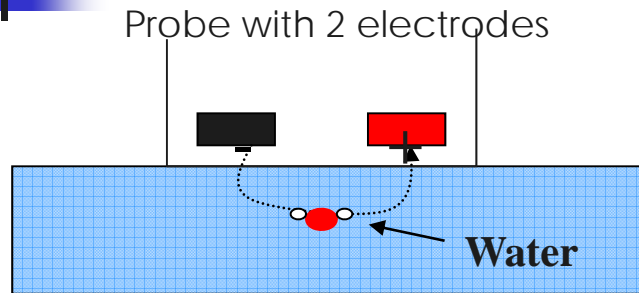
Moisturization with CORNEOMETER



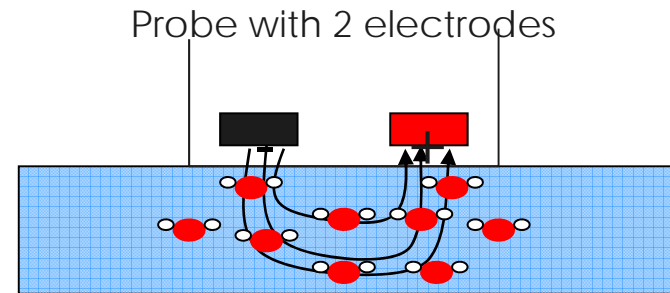
Electrical measurement of
MOISTURIZATION
on forearm or legs



CORNEOMETER Principle



Dry Skin



Hydrated Skin

The higher the water content, the more current can pass

Value with dry paper :

Value with wet paper :

0

Corneometer values

130

Dry Skin

Hydrated Skin



Firming Active : Nearfirm MC175

Function: Firming and anti-fatigue effect

Definition: 5 μm microcapsules containing:

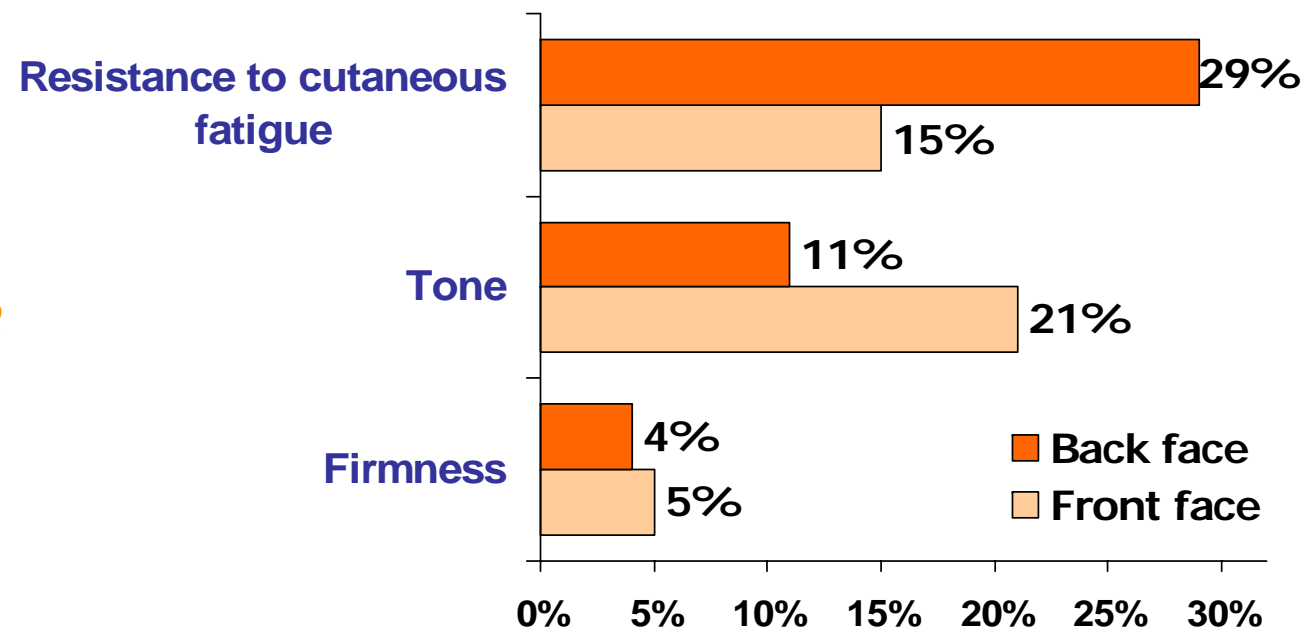
- based on Caffeine for the mobilisation of fats*
- Vitamin E*

Applications: Tights, socks, underwear, non-wovens

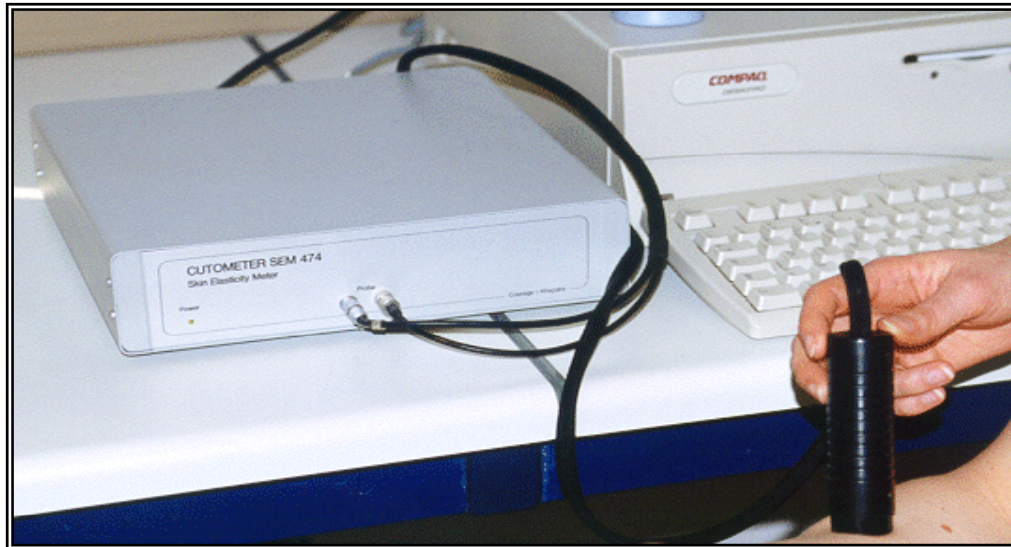
Nearfirm MC175 : sensory evaluation

- 18 panellists – Tights (15den/17dTEX - 88% polyamide – 12% elastane) with gradual mild elastic support treated with 10% microcapsules 5 µm
- 21 days of wearing
- Tights replaced every 3 days
- Measurements of firmness with Cutometer on the front and back of the thigh
- Measurements of thigh circumference

Skin firmness



Firming Evaluation with CUTOMETER



To evaluate biomechanical properties of the skin :

ELASTICITY

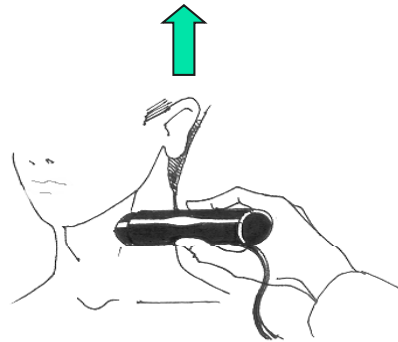
FIRMNESS

TONICITY

FATIGUE



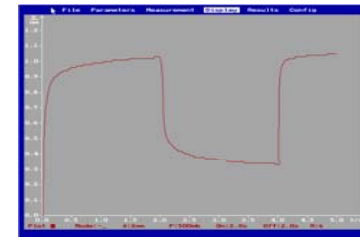
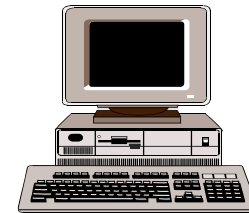
CUTOMETER : Typical Trial



Test site

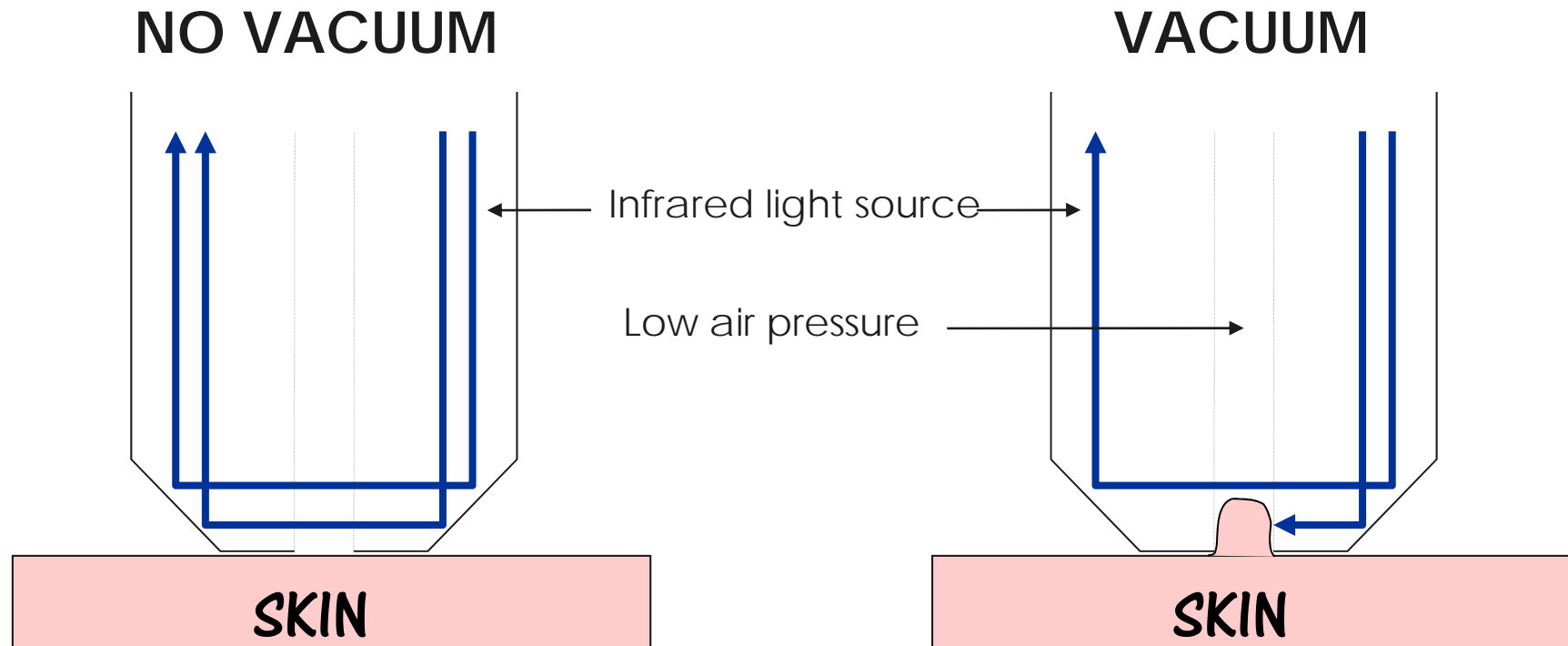


Cutometer / air pump



Curve

CUTOMETER : How does the probe work?

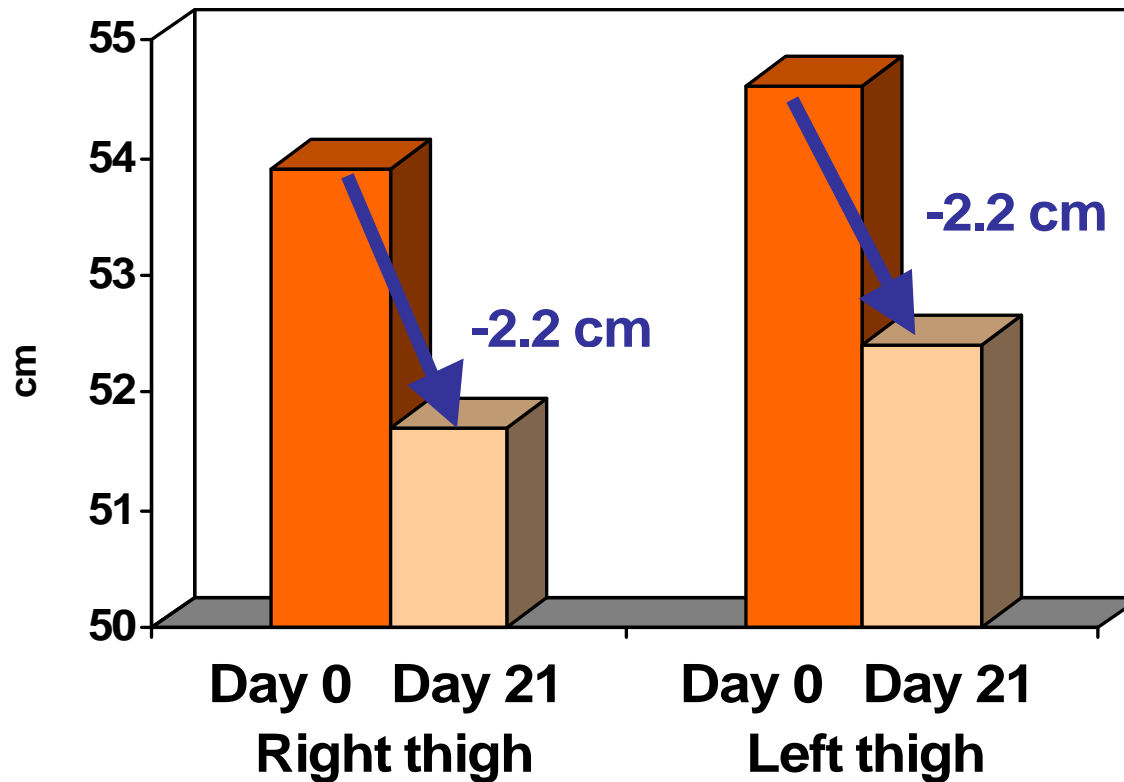


The deeper the skin enters into the probe, the lower the light intensity



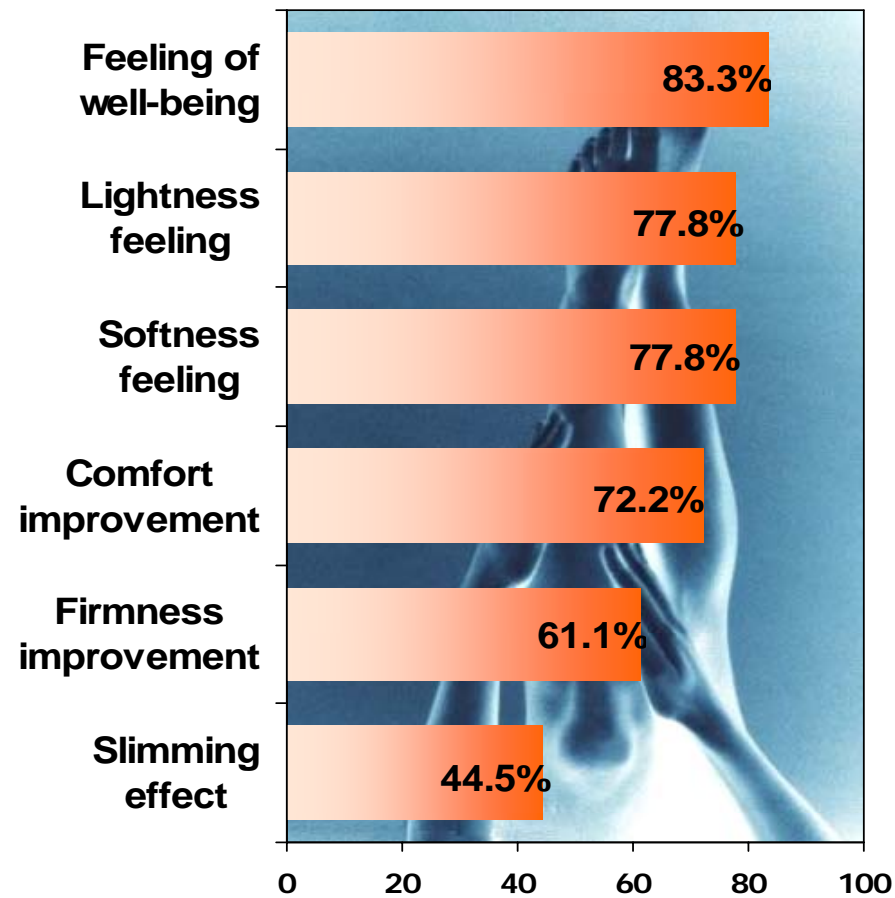
Nearfirm MC175 : sensory evaluation

Thigh circumference





Nearfirm MC175 : sensory evaluation



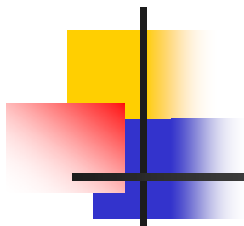


Nearfirm MC175 : sensory evaluation

*Wearing tights with Firming Active during 21 days
has shown:*

- A significant decrease in thigh circumference*
- A significant increase of elasticity and firmness of skin*
- An effect felt by the panellists on firmness, comfort and feeling of lightness*

Who are We?



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Nnearchimica