



An Unique Technology in Down Proof Fabrics

ITE 

An Unique Technology

Down Proof

**Air
Permeability**

Water Proof

**Garment
Washing**

**Dry
Clean**

**Machine
Wash**

**Quick
Drying**

**Non-
elastic
Fabrics**

The Principle of Permeability

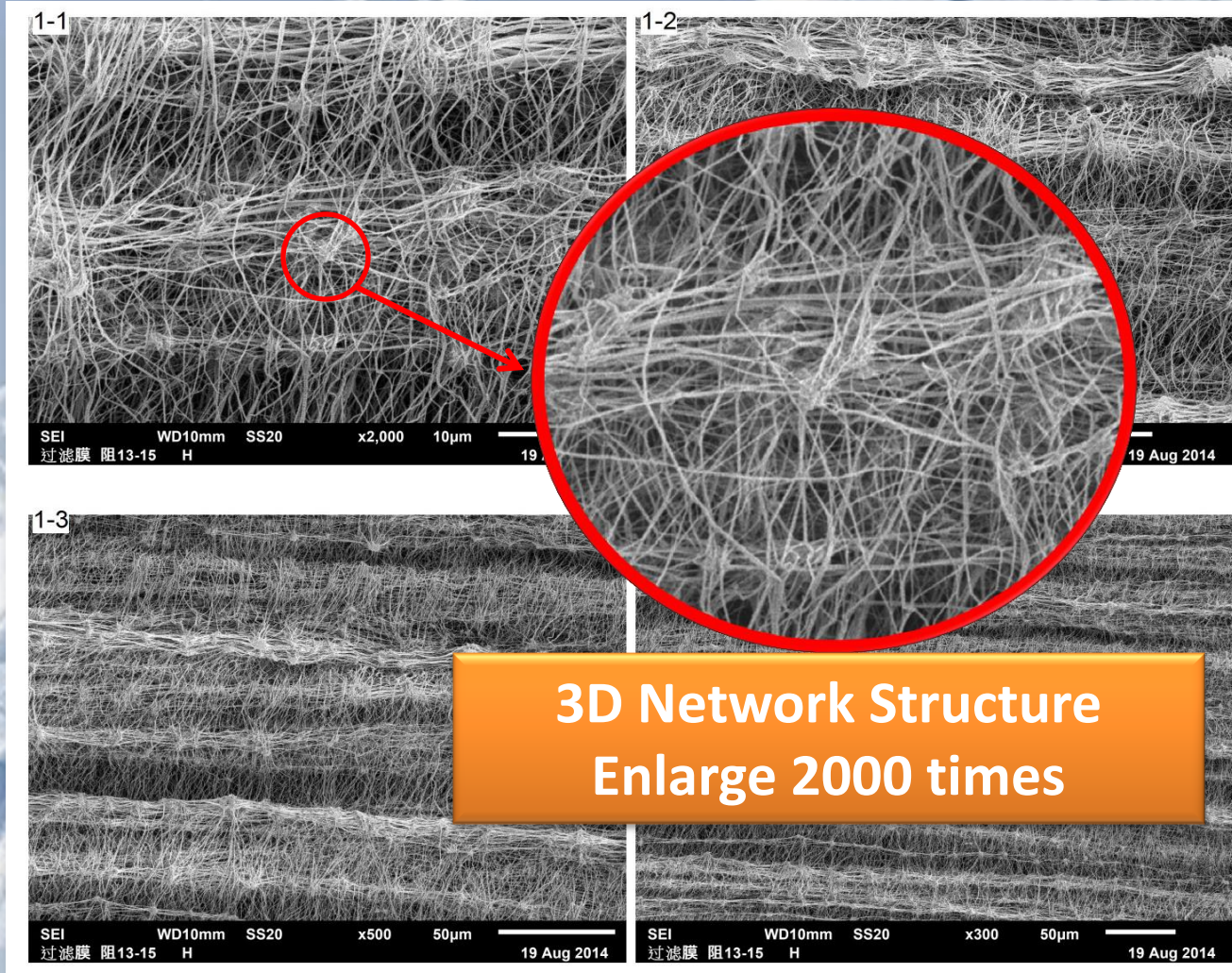
Use an unique composite technology

Thick of the fabrics is only 3-4 μm ,
gram weight is only 3-5 g/m²

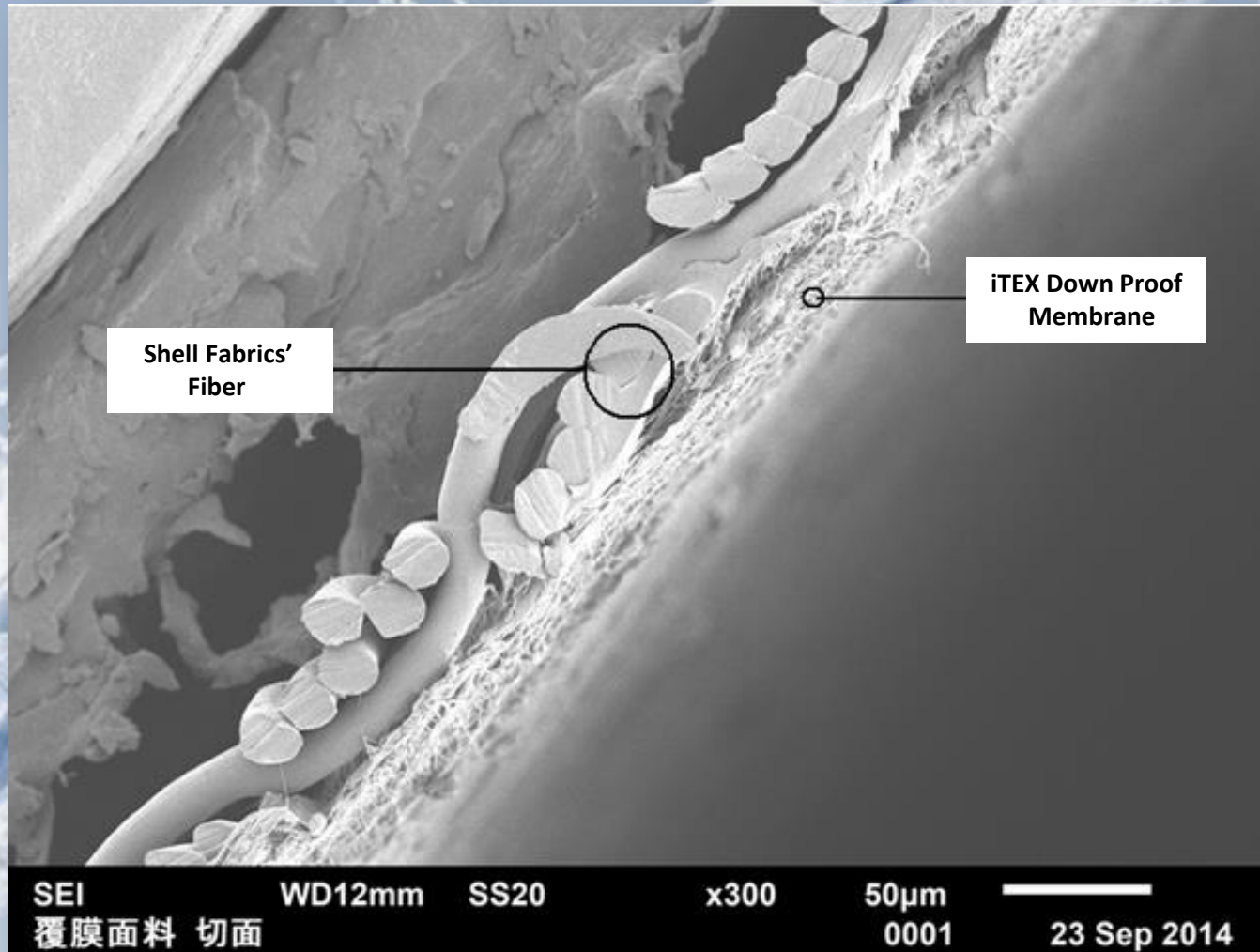
Diameter of microspores is only 1-
3 μm , smaller than down's diameter

Porosity is over than 80% to achieve
permeability.

Electron Micrograph of Down Proof Membrane



Electron Micrograph of Down Proof Fabrics



Down Proof Solution

Diameter of Microspores < Down Feather



100% Down Proof!

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0 Piece of Down Feather

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Excellent Permeability

No more coating or calendaring, excellent permeability depends on property of membrane. The permeation volume of membrane is 100–150 L/m²•s. According to different shell fabrics, varieties of requirements can be reached.

Fabrics	Specifications	Permeation Volume (L/m ² •s)
Nylon Taffeta	100% Nylon 20D/12F×380T 0.3×0.4 Rip Stop	11.38
TC Peach	85% Polyester 15% Cotton 150D+150D × TC 21/2	13.65
Nylon Taffeta	100% Nylon 15D 12F 380T	14.25
Nylon Taffeta	20D 12F 380T Rip Stop	16.75
Nylon DTY	20D 24F 380T Rip Stop	23.95
Voile	100% Cotton 60×60/90×88	28.73
Linen Viscose	53% Linen 47% Rayon 30/2×14/42×58	29.06
Chiffon	100% Polyester 30D 70 g/m ²	36.57

Comparison in Permeability

As a contrast, one down garment from domestic manufacture (Nylon Taffeta), one from EU manufacture (Polyester), and one from iTEX were chose to determine their permeation volumes. The results show as following:

Fabrics	Characteristic	Permeation Volume (L/m ² •s)
Nylon Taffeta	Four layers (Down proof bags)	0
Polyester	Four layers (Down proof bags)	5.96
Nylon Taffeta + iTEX	Two layers	14.59

More Textile options



Colored
Woven
Flannel

Denim

TC
Peach

Suede

Corduroy

Silk

Membrane

Down proof can broaden the fabrics selection to all non-elastic fabrics. Thanks to the iTEX-Down Proof , it makes new style garments without down proof bags come true.



More Textile options

- ✗ Traditional Down bags
- ✓ Non-elastic Fabrics



Water Proof

Thanks to hydrophobic of novel down proof membrane, water pressure resistance comes true.

Unique Fabrics: When water pressure exceeds its tolerance, water overflow through the fabrics without any damage.

Traditional Coating Fabrics: When water pressure exceeds its tolerance, the fabrics will be breaking up it, which can not be down proof any more.



Special Water permeability

Surface Tension

- Due to surface tension of water, fabrics' water proof comes true.

Surface Infiltration

- Surface tension reduces, when surfactant added to water.

Washable

- With surfactant, solution can freely cross through fabrics. So that garments can be washed easily.

Water Pressure Resistance

Fabrics	Specifications	Water Pressure Resistance (mmH ₂ O)	Water Pressure Resistance with Detergent ① (mmH ₂ O)
Linen Viscose	53% Linen 47% Rayon 30/2 × 14/42 × 58	986.3	81.0
Chiffon	30D 70g/L	1205.6	263.6
TC Peach	85% Polyester 15% Cotton 150D+150D × TC 21/2	1332.7	288.0
Nylon DTY	20D 24F 380T Rip Stop	1445.2	244.4
Nylon Taffeta	20D 12F 380T Rip Stop	1925.7	255.0
Voile	100% Cotton 60 × 60/90 × 88	1937.5	173.8
Nylon Taffeta	100% Nylon 20D/12F × 380T 0.3 × 0.4 Rip Stop	1963.0	657.3
Nylon Taffeta	15D 12F 380T	2839.5	838.8

① The solution contains 6 g/L household laundry detergent.

Machine Washing

Fabrics lose its water proof properties, when washing with surfactant.

Garments can be adequately cleaned and dehydrated by using laundry detergent.

Since a powerful centrifugal force exists during dehydration, garments with coating fabrics may explode. On the contrary, this situation is avoided by using our technology.

Quick Drying

Due to excellent air permeability

Quick drying after washing, save time and energy

Down garments can be easily household washing

Dry Clean

Chemically Stable
Membrane



Insoluble
Composite
Adhesives



Dry
Clean



**A REVOLUTION IN FEATHER DOWN
PRODUCT INDUSTRY IS COMING!
THANK YOU!**

— ITEX TEAM

ITE 