PRESS RELEASE

Alpex: European manufacturer of laminated fabrics,
specialist in waterproof and breathable technical textiles.
Protection & comfort

ALPEX®
LAMINATED TEXTILES SOLUTIONS

SUMMARY:

1. Know-how

The manufacture of laminated materials:

A laminated textile is a complex that combines (by lamination) a textile support with a film called a “membrane”.
The membrane is made from a specific polymer, which will allow the laminated textile to be impervious to liquids, and allow a certain amount of water vapour (sweat) to pass through in order to “breathe”.
ALPEX manufactures soft materials that are both waterproof and breathable, providing protection while being comfortable to wear.

The delicate lamination operation:

The membrane and the textile are bonded to each other by a network of glue dots. The choice of glue mixture, its weight, the configuration (number of points per cm²) and the geometry of the points (in the shape of a tube, pyramid, etc.) are the main parameters that will have a huge influence on the laminate obtained (noisy or silent, soft or stiff, little or very breathable, etc.).

The membranes:

With their different compositions and structures, they are at the heart of ALPEX’s know-how, which will enable the company to optimise the choice of membrane in relation to a customer’s requirements or specifications: should priority be given to waterproofing, breathability, durability, cost, recyclability, resistance to certain chemical aggressions, behaviour in hostile environments (cold or hot, for example), etc.?

Innovations:

Alpex creates **more than 100 new products** per year!
You can discover some examples of innovations in the “achievements” section of this press release.

Tests and quality controls:

The company has its **own laboratory**, where all our materials are tested. Before delivery, the rolls are inspected in detail by our quality team.
We also sometimes call on independent laboratories to obtain specific certifications or approvals.

2. Lamination in detail

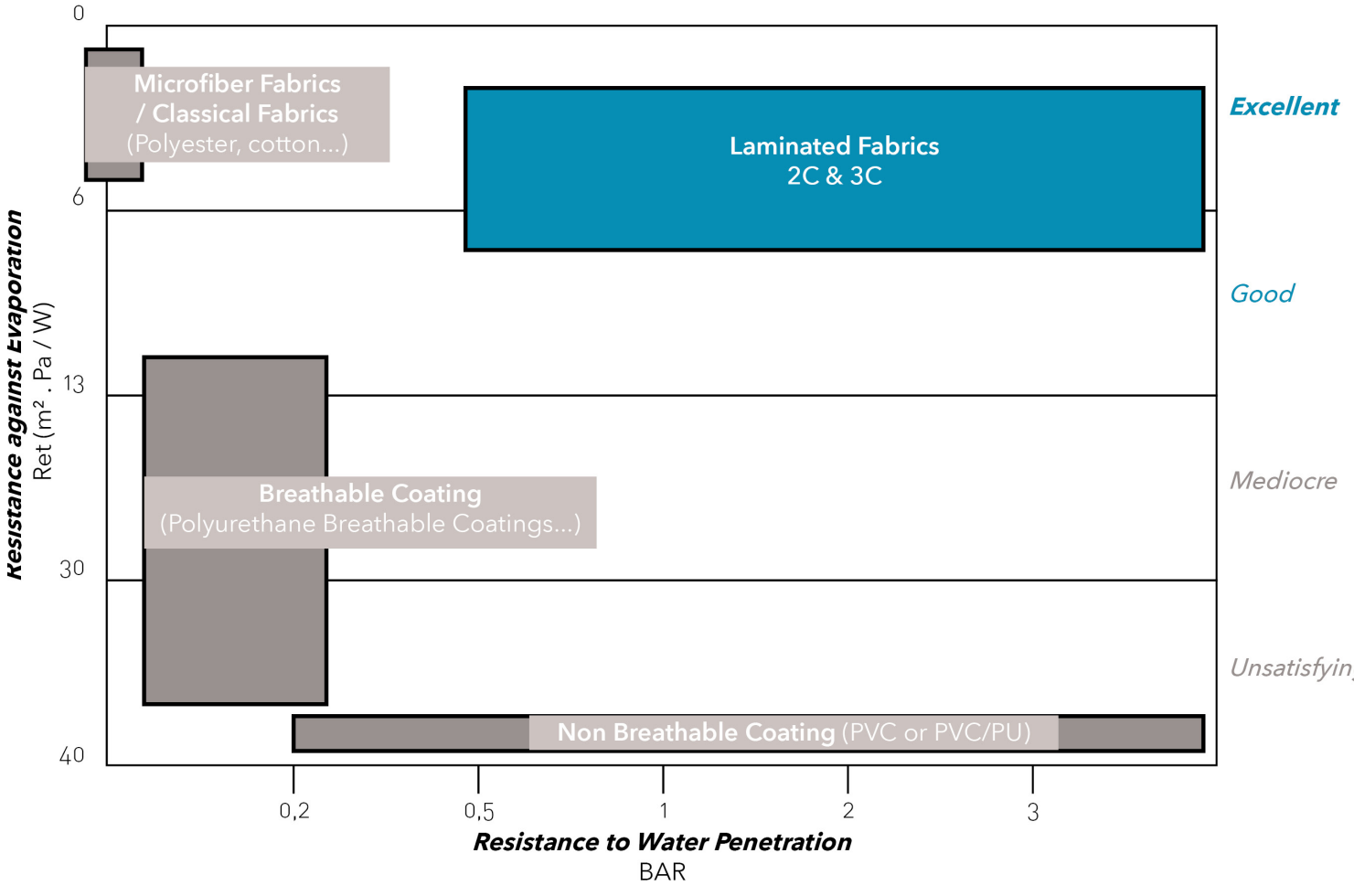
Comparison of materials used in protective clothing:

A garment made of basic material that is not waterproof and water-repellent will become heavy in the rain: it lets water but also air through and is therefore breathable.

A garment simply treated with a water-repellent coating is breathable but not waterproof:
the water slides off the surface but will eventually penetrate / soak the fabric.

A waxed-type garment made of rubber or PVC coated fabric is totally waterproof but has no breathability and is therefore uncomfortable to wear.

A waterproof/breathable garment with Alpex membrane combines the qualities: it is durably **completely waterproof**, **breathable** and **windproof**.



The advantages of laminated textiles:

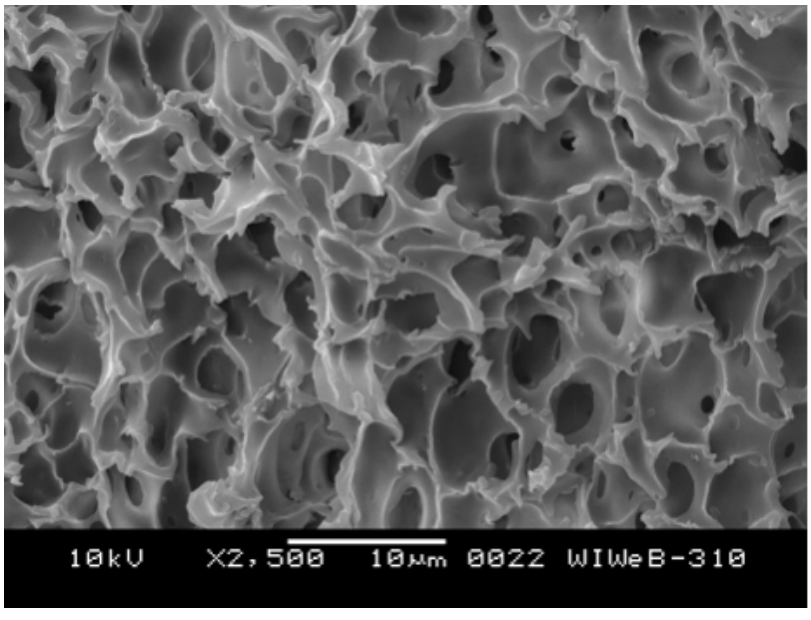
Laminated textiles coexist with coated textiles, but offer much higher performance, versatility and flexibility:
Membrane technology is the only technology that allows us to achieve the best compromise, i.e. to get closer to the role played by the skin.

2. Lamination in detail

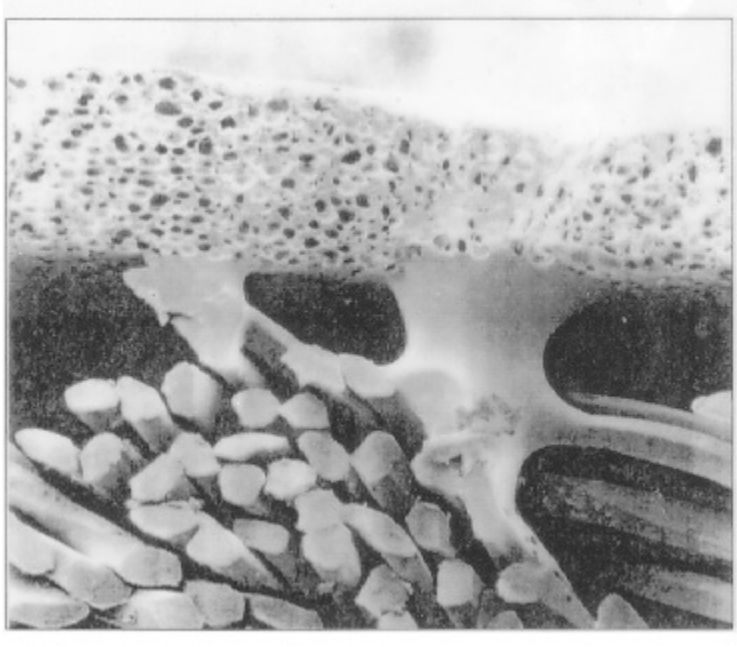
The different types of polymers used:

The polymers used can be of 3 kinds: either **hydrophilic**, which means that they will breathe through a phenomenon of osmosis (the membrane first absorbs water vapour or sweat and transfers it to the outside), or with a **microporous structure** (the membrane is filled with pores, 200 times smaller than a drop of water, but 700 times larger than a water vapour molecule), or a combination of these two structures (in this case we speak of a **bi-component** membrane).

Photo enlarged 2500 times of a microporous membrane:



Lateral section of a laminated fabric with a microporous membrane:



3. History

1998

Creation of Alpex protection. Launch of a range of laminated fabrics intended jointly for the sportswear and PPE (personal protective equipment) sectors.

2005

Acquisition of the company “Contre-collage techniques”.

2008

Oeko-Tex labelling.

Acquisition of Proline Textile, a French PPE specialist (subsidiary of the Chargeurs group). Installation of a second lamination line to group together all production on the Saint-Chamond (Loire) site alone.

2015

ISO 9001 certification.

2016

Acquisition of a new lamination line.

2019

ISO 14001 certification

Expansion of the workshop and modernisation of the lamination lines.

2020

Modernisation of the inspection workshop, which now enables sensitive products, fragile materials, hyper stretch, etc. to be handled with minimal tension. All done gently.
It is also more pleasant to use, a real gain in comfort for our technicians.

Development in partnership with the US company Dupont de Nemours of the “Nomex Nano Flex Laminate”, a particularly innovative fire-resistant nano-membrane that filters out fine particles.

In response to the COVID 19 crisis, development of protective mask complexes, Alpex being one of the very first companies to obtain DGA certification.

4. The Team

Alpex employs 45 people at its Saint-Chamond site, including 6 people in R&D, 6 people in the laboratory and quality control.

Commercially, the company is present on the 5 continents, either through its sales representatives or through a network of agents.

Alpex is an independent company. It is headed by a collegial management team including Hervé TIBERGHIEN (founding CEO) and Laurent COGEZ (Co-Director).

5. Achievements

Who wears Alpex?

Following the significant offshoring of sportswear manufacturing in the 2000s, ALPEX has strongly reoriented its offer towards **Personal Protective Equipment** (PPE) for professionals.
32% of our materials protect firefighters, 29% protect police forces, and 28% protect the military. The **extreme conditions** in which our materials are used require us to be constantly demanding and **always at the state-of-the-art**. In order to best meet our customers' expectations, we offer a **tailor-made development service.**

Over the years, ALPEX has built a **reputation for reliability** and **highly technical products** among users of high repute in France and abroad.

A few examples:

The French, German, Swedish, New Zealand, Portuguese, Swiss, etc., armies. Gendarmerie Nationale, the French, German, Swiss, Austrian, Italian, Belgian, Dutch, etc, police, the French, German, Australian, English, Swiss, Austrian, Belgian, Polish, Indian, Japanese, American, Brazilian, etc, fire brigade, the SNCF, ERDF, Red Cross, etc.

5. Achievements

Examples of R&D projects:

- ***NOMEX NANO FLEX LAMINATE***: This material is used for firemen's hoods. Many studies have shown that firefighters' exposure to smoke increases the risk of cancer. In response to this problem, Alpex and its partner Dupont have created a range of laminates with a nano-membrane, a complex that filters out fine particles, but also viruses and bacteria, while possessing incredible breathability. This innovative material is currently being tested in Europe and has already been adopted by various brigades in North America.

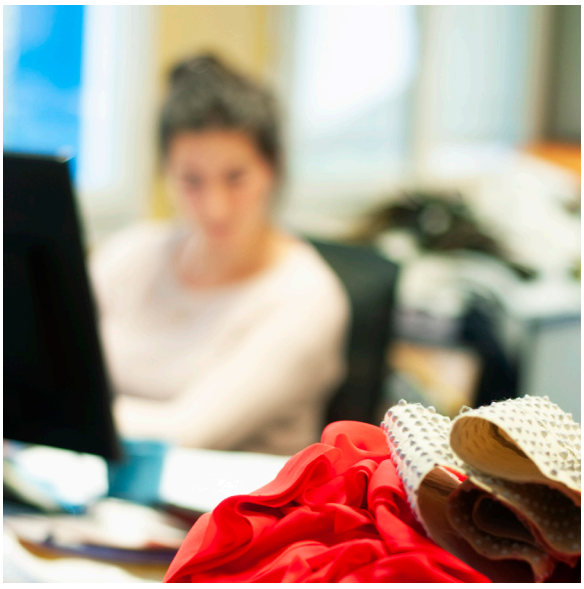
- ***FACE LINE DIABLO***: A material with impressive elasticity, which combines waterproofness, breathability and comfort in wear.

- ***COSMEEC***: Composting sites are becoming more and more numerous as they are fully in line with our ecological approach. Nevertheless, they represent an olfactory and sometimes visual nuisance. Inflation in land prices is also problematic, as available space limits capacity. The 3-layer COSMEEC laminate can increase rotations by accelerating composting cycles, while strongly reducing odour nuisances.

- ***WORK LINE*** used for military bivvy bags.

- ***CORD TUNNELS*** which can optimise the waterproofness of all the elements that make up the garment.

- ***FUI Projects*** (Fond Unique Interministériel - study partly supported by the state, due to the relevance and importance of the subjects): ALPEX is proud to be currently **involved** in two FUI projects with huge stakes:
  - ***Etincels2*** : is a collaborative project aimed at **improving the comfort of firefighter** clothing in general, and more specifically as far as we are concerned, by proposing **innovative materials** to reduce the thermal stress of wearers.
  - ***DEPERFLEX*** : collaborative project aimed at identifying **environmentally-friendly alternatives** to fluorinated resins, to achieve better environmental outcomes for water-repellent treatments.



For more information on a particular project, please contact:communication@alpex.fr

6. Commitment and values

Alpex is proud to have obtained **ISO 14001, ISO 9001** and **Oeko-Tex certifications.**

Our team of researchers is ahead of the imposition of new standards, already developing **solutions that are ever more respectful of man and his environment.**

Our suppliers are mainly **European,** and have generally been with us for years or even decades.

Our team has also developed a **repair kit,** distributed to the military who carry our materials, so that they can easily and quickly intervene in the event of damage to equipment in the field. This ensures the continuity of the protection of the agents and **increases the durability** of the products.

We offer our customers the possibility of working with **recycled substrates** and textiles, as well as with **100% recyclable membranes,** and also offer a water-repellent treatment that does not contain any fluorinated resins.

7. Alpex in a few figures

The company:

Production capacity > **4,000,000** ml/year
Production site of **3600** m2
Located in Saint-Chamond (**42**), in Auvergne Rhône-Alpes
45 employees
Turnover > €**18**m in 2020
5% of annual turnover is invested in R&D
120 studies conducted / year
15 projects carried out with end users (fire brigade, police, military, field officers, etc.)
60% of production is exported. Alpex materials, created in the Loire department, are taken to more than **38** different countries.

Our progress:

The company has **doubled its turnover** in a decade, thanks in particular to **strong international expansion**, with exports accounting for more than half of our sales. The workforce has followed the same trend, with **new hires each year**. Now commercially present on all **5 continents**, the company is also investing in the future by regularly renewing its installed base of machines and structuring its **R&D efforts** through **collaborative projects**.

Become global while remaining local!

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