



ES-Adhesion-C - Fiber to Bond with Natural Fibers

The bicomponent fibers of *ES FIBERVISIONS* serve in a number of textile and nonwoven applications as the binder material (or the glue).

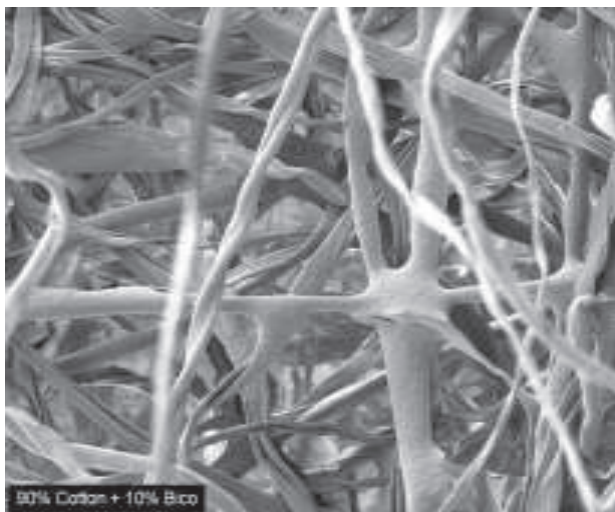
With a full range of bicomponent fibers, we are able to support the manufacture of disposable hygiene products, durable technical textiles, and composite materials.

The *ES FIBERVISIONS* ES-Adhesion-C fiber

has the following advantages:

- Excellent bonding capability with natural fibers (cotton, cellulose, hemp, flax, wool, etc.) thereby ensuring very high product tenacities.
- The built-in adhesive feature provides excellent attachment to the surface of other fibers, ensuring ease of production, no linting, no air/gas emission, and the opportunity to avoid chemical binders.
- The only bicomponent PE/PP adhesive fiber in the world.
- Patented fiber technology.

The fibers of *ES FIBERVISIONS* are especially suited for nonwoven processes: carded, airlaid and wetlaid web formations, and thermal bonding web consolidation, and our fibers contribute efficiently to the strength and integrity of many sandwiched products used as carrier materials in consumer products.



Microscopic photo of a nonwoven material consisting of 90% cotton fibers and 10% ES-Adhesion fibers from ES FIBERVISIONS.

During thermal bonding the bicomponent fiber sheath will melt, interact and adhere to the surface of the other fibers, and thereby effectively create a three-dimensional network throughout the nonwoven product

Nonwoven products using low-denier bicomponent fibers in blends with natural fibers allow the production of lightweight, strong, and soft personal care products.

When using higher dtex fibers composites with strength, stiffness, form stability, and good acoustic properties can be manufactured. These products are used in car interior parts, construction elements, furniture and housings.

ES FIBERVISIONS is always prepared for a close dialogue with the customers to ensure that fiber development matches their requirements. Often, this results in tailor-made fibers for the individual customer.

The ES-Adhesion-C is currently available in the following versions:

- Standard hydrophilic fiber surface
- Permanent hydrophilic fiber
 - especially well-suited for nonwovens where liquid transportation is needed (acquisition-distribution layers)
 - this fiber is called: ES-Adhesion-C Repeat

Typical ES-Adhesion Fiber Properties*

Dtex:	1.7 - 16.7 dtex
Tensile Strength:	3.0-4.0 cN/dtex
Elongation: 1.7 dtex	60-110%
Elongation: 2.2 + dtex	80-150%
Fiber Length:	40-80 mm
Crimp Frequency:	as requested
Spin Finish:	0.3-0.45%

Typical Nonwoven Fiber Properties (Based on a 100% ES-Adhesion Web)

NW-Weight:	20 g/m ²
MD-Strength:	30-40 N/5 cm
CD-Strength:	8-10 N/5 cm
MD-Elongation:	20-30%
CD-Elongation:	50-70%

Polyolefin fibers consist of 99% carbon and hydrogen. The remaining 1% consists of water and applied spin finish. The fiber bales are protected with polyolefin foil and closed with polyester straps. The product and the packaging materials are suitable for recycling and combustion. In-house waste should be kept clean to facilitate direct recycling. In disposal of any waste, be certain all applicable regulations are met. For further information contact your ES FIBERVISIONS representative.

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