



AL-Special - Shortcut Fibers for Wetlaid Processes

In response to the growing need for bonding power from bicomponent fibers for paper and nonwoven products *ES FIBERVISIONS* presents:

AL-Special-C fibers

Compared to most standard bicomponent fibers, this fiber represents a major improvement in its ability to bond to other fibers and materials.

The fiber is designed in such a way that the ratio between the sheath (polyethylene) and the core (polypropylene) has been altered to maximise the bondability of the fiber. The AL-Special fiber consists of 35% core material and 65% sheath material. During oven bonding the polyethylene sheath will melt and bond to cellulose fibers and other fibers/materials, thus ensuring sufficient strength in the material

composition.

The polypropylene core remains unchanged and ensures the product integrity.


In blends with wood pulp the AL-Special fiber functions as a binder and forms a strong three-dimensional reinforcing network in the final product. *ES FIBERVISIONS* AL-Special thus has a major impact in obtaining products with good integrity, low density, high bulk and high strength properties.


The fiber is developed to match the needs of the paper manufacturing industries, where thermal bonded products are required. It is available for airlaid paper processes as well as the traditional wetlaid paper processes.

Bicomponent Fiber Advantages

The fiber has the following advantages:

- The AL-Special fiber is unaffected by moisture (water, acids or alkalis), which ensures high wet strength of the final product.
- With the AL-Special fiber chemical bonding is not necessary, which makes the product environmentally friendly.
- The network of AL-Special fibers ensures good web integrity which minimises breakage problems later.
- The final product will have a more textile-like surface due to the softness of the AL-Special.
- The fibers disperse easily in the paper manufacturing process.
- The AL-Special is furthermore characterized by a low shrinkage level, giving the final product a better dimensional stability.

 **AL-Special consists of 65% sheath material (polyethylene) which will bond easily to other materials.**

 **A standard bicomponent fiber typically consists of 50% sheath material and 50% core material, thereby having lesser bonding power.**



Typical data for *ES FIBERVISIONS* AL-Special fibers

Fiber properties (typical values):	Thermal Properties:
Dtex: 1.7, 2.2 and 3.3 dtex	<u>Softening point:</u>
Tensile strength: 2.8-3.6 cN/dtex	- of polyethylene sheath: 110-120 °C
Elongation: 80-150%	- of polypropylene core: 140-150 °C
Fiber length: 3, 4, 6, 12 mm	<u>Melting point:</u>
Crimp frequency: 0-100 (acc. to customer's requirements)	- of polyethylene sheath: 131 °C
Spin finish (durable): 0.3-0.5%	- of polypropylene core: 162 °C

Polyolefin fibers consist of 99% carbon and hydrogen. The remaining 1% consist 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. Inhouse 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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