

POLYOLEFIN (LOW) MELT FIBERS

EXELTO® alternative to Bicomponent fibers
a perfect adhesive

EXELTO® Low Melt Staple Fibers are synthetic fibers specifically developed with one main goal: managing the melting point. These 100% polyolefin fibers consist of a variety of plastomers whereby the melting point of the fiber can differ. As traditional PP staple fibers melt at 163°C, EXELTO® offers with these fibers a range of melting points, depending on customers demand, and can be between 110°C and 130°C. The potential benefits are huge: reduced energy costs, advantages in processing the felt, recyclability...

Main suggested applications

EXELTO® Low Melt Fibers offer some guaranteed successes in carpet and technical textiles in a number of applications.

Carpet: A major concern for the exhibition carpet producers and users is recyclability. As the exhibition needlefelt is traditionally composed of a synthetic carpet but with a latex backing, the product cannot be recycled 100% without big costs. Adding a small percentage of EXELTO® low melt fiber, acting in this case as a glue, the latex backing can be omitted and the result is a 100% polyolefin product, thus 100% easy recyclable. Second, adding 5 - 10 % of the fiber to a needlefelt reduces the well-known peeling effect.

Automotive: Fiber processors are concerned with processing costs, especially energy cost. EXELTO® low melt fibers allow the temperature of the processing machine to be set lower, resulting in lower energy costs. Today the EXELTO® low melt fiber is used by several automotive customers in discontinue thermofixation processes where the fiber is added between 10 and 30% and again used as some kind of gluing function.

Composites: In composites a percentage of low melt fiber is added where the melting point of this fiber is substantially lower than that of the other fibers in the felt, resulting in better cohesion of the final felt. Applications can be with glass fiber, polyester ... In this case a high percentage of costly bicomponent fiber is replaced with a much lower percentage of the lower cost low melt fiber.

High volume structures: Volume structures and mattresses for e.g. geo-textiles and agro-textiles are built up with a limited number of connections that ensure stability. EXELTO® low melt fibers, used in/as these connections, thanks to their excellent gluing performance, help in increasing this stability.

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Product Data Sheet

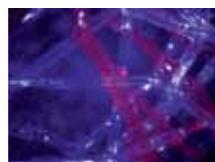
Performance of fiber and felt

In many applications of bicomponent fiber (sheet/core), the process is to use 100% of the bico fiber and make a felt that is then calendared between two hot rollers (with temperature between the two melting points of the two polymers in the bico fiber) in order to melt under pressure. In this case only a small fraction of the fiber (the sheet, i.e. only the "surface" of the fiber) is melted and the strength of the original bico fiber (which has already less tenacity than monofibers) only partly remains.

Using EXELTO® low melt fiber a small percentage is added to the normal (and stronger) fiber. In the calendaring or thermoforming process the low melt fiber melts completely and acts 100% as glue in the non woven. The result is a much better effectiveness of the gluing function and a stronger felt at a lower cost (as instead of 100% bico, only a fraction of low melt fiber is used and the rest is standard fiber e.g. high tenacity PP fiber, thus saving substantially while gaining tenacity).



After carding 10 % low melt fiber
(EXELTO® Low Melt Fiber in red)



After thermoforming at 135 ° C
(EXELTO® Low Melt Fiber in red)

Technical data

EXELTO® proprietary composition of the low melt fiber consists of a mix of plastomers, depending on the requested melting point and ranging from 100% PP to 100% PE.

Titer	6 dtex and up
Cutlength	40 – 120 mm
Melting point	110°C - 120°C - 130 °C
Crimps	2 – 5 / cm

Packaging

Bales:
net weight 170 – 240 kg
Dimensions 115 x 110 x 60 cm
PP or PE wrapping with PES Plastic binders (straps)

Loading daily, for worldwide delivery,
in full trucks (approx. 96 bales = 20-22 Tons)
20 ft containers (approx. 40 bales = 8-9 Tons)
40 ft containers HC (approx. 86 bales = 17-19 Tons)