

NOT ALL EXCELSIOR EROSION CONTROL BLANKETS ARE CREATED EQUAL

Tech Note

It is a common misconception that all excelsior fibers used in erosion control blankets (ECBs) are the same. When considering manufacturing expertise, quality control measures, and ASTM performance testing standards, it becomes evident that not all excelsior erosion control blankets are created equal.

If a design will be held liable for compliance with erosion and sediment runoff guidelines under NPDES regulations, specifying the highest-quality, best-performing products by brand name is key. Don't accept imitators; require Curlex® by name.

Curlex – The Original Erosion and Sediment Control Fiber

For more than 60 years, Curlex erosion and sediment control products have set the industry standard through rigorous quality control and testing. The engineered Curlex fiber is the key component that drives performance. Developed specifically for erosion and sediment control, Curlex engineered excelsior fibers feature unique curls and barbs that interlock and cling together, improving effectiveness in the field. Unlike inferior imitator excelsior fibers, which are often straight and lack this interlocking capability, Curlex fibers provide superior performance (see photo 1).

In fact, Curlex fibers are engineered to interlock so well that **Curlex® NetFree™ contains no netting.**



1. Curlex excelsior blanket and Curlex® Sediment Log® technology protecting water resources.

**FIBER ENGINEERING MATTERS.
DON'T ACCEPT IMITATORS; SPECIFY CURLEX BY NAME.**



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THE MOST TRUSTED NAME IN EROSION CONTROL
Form #360 / W0625R0926

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Curlex – The Engineered Aspen Excelsior Fiber Manufacturing Difference

Curlex fibers are manufactured exclusively from Great Lakes aspen trees harvested by members of sustainable forestry programs. Curled and barbed Curlex fibers have exceptional water holding capabilities. They expand and contract, interlocking with each other and the soil to create an ideal “greenhouse effect” to support a quality vegetation stand (see photo 2). Unlike other excelsior fibers, Curlex aspen excelsior fibers have been documented via independent research to remove Polynuclear Aromatic Hydrocarbons (PAHs) from contaminated stormwater.

Some manufacturers use lower-cost softwood species such as pine, spruce, and fir. These excelsior fibers are flat and straight (see photo 3), which can form a denser matrix that may impede vegetation establishment. These are lower-cost raw materials, but they have several documented negative attributes regarding erosion control, sediment control, stormwater filtration, and vegetation establishment efforts. Softwoods generally contain terpenes that can be detrimental to establishing vegetation. Excelsior fibers from softwoods have entered and exited the market before because they fail to deliver consistent performance and vegetation establishment.



2. Quality vegetation aided by Curlex aspen fibers.



3. Competitor's inferior excelsior fiber blanket. Notice reddish brown fibers from softwood species.

FIBER SPECIES AND MATERIAL CHARACTERISTICS MATTER. DON'T ACCEPT IMITATORS; SPECIFY CURLEX BY NAME.

Curlex aspen excelsior fibers come from properly aged logs. Based on experience dating back to 1888, cutting green wood before proper aging can result in quality issues, including an inconsistent fiber matrix with straight (not curled) fibers and molding issues (see photos 4a and 4b).



4a & 4b. Mold growth in a competitor's excelsior blanket, including visible dark mold within the fibers. American Excelsior Company minimizes this risk through strict quality controls. Curlex ECBs with QuickGRASS® use an environmentally friendly, malachite-green-free pigment applied to naturally dried Great Lakes aspen fibers. The dry fibers promote even color distribution and help prevent mold growth when properly stored.

EXCELSIOR MANUFACTURING EXPERIENCE HELPS PREVENT MOLD. DON'T ACCEPT IMITATORS; SPECIFY CURLEX BY NAME.

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Curlex – The Engineered Aspen Excelsior Fiber Manufacturing Difference - Continued

ECBs manufactured with naturally interlocking Curlex fibers expand when wet, creating a high Manning's n (hydraulic roughness) (see photo 5). This allows them to dissipate energy, reduce flow velocity and encourage sedimentation during hydrologic events.

Inferior excelsior fibers are straight and allow water to move in a linear path, which increases water velocity and enhances erosion and the development of rills (see photo 6).

**FIBER EXPANSION
DRIVES
PERFORMANCE.
DON'T ACCEPT
IMITATORS; SPECIFY
CURLEX BY NAME.**



5. Curlex aspen excelsior fibers (left) expand more when wetted than competitor's excelsior fibers (right).



6. A competitor's inferior excelsior blanket failed to contain sediment, allowing runoff into the street and creating cleanup costs and potential fines. The fibers in this blanket do not expand or perform like Curlex fibers.

**DEMAND REPEATABLE QUALITY AND PERFORMANCE FROM THE
MANUFACTURER OF EXCELSIOR PRODUCTS YOU SPECIFY, BUY, OR INSTALL.**

Curlex Aspen Excelsior Fiber Specification

To ensure the quality and performance you would expect from an excelsior erosion control blanket or Sediment Log, the specification shall be:

Fiber: 100% Great Lakes aspen (naturally seed-free), curled, interlocking fibers with barbed edges that do not mold when colored green.

Note: Inclusion of softwood species is not permitted.

Matrix: $\geq 75\%$ thickness expansion after 20 minutes of even water spray;
 $\geq 95\%$ PAH removal; pH Buffering 8 $\pm$ 3 (ASTM D1117 modified).



**THE PRODUCT YOU CHOOSE MATTERS. PROTECT YOUR REPUTATION!
DON'T ACCEPT IMITATORS; SPECIFY CURLEX BY NAME.**

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Engineered Curlex Great Lakes Aspen Excelsior Fibers...	Other Excelsior Fibers...
Are engineered and designed specifically for erosion and sediment control products.	Are typically straight, flat, and thick.
Are produced exclusively from sustainably harvested Great Lakes Aspen.	Are produced from various species of wood, some of which may contain terpenes that are detrimental to vegetation.
Create a strong, continuous interlocking matrix because the fibers are curled and barbed.	Do not create a continuous interlocking matrix because the fibers are shorter, straighter, and smoother.
Expand and contract during hydraulic events, causing them to dig into soil and create a “Velcro-like” connection for optimal seedbed protection and soil erosion control.	Do not expand and contract as much during hydraulic events, causing them to lay flat and bridge over irregularities in terrain, leaving soil and seeds unprotected.
Expand $\geq 75\%$ and interlock when exposed to moisture, creating a “greenhouse effect” for optimum seed germination and vegetation establishment.	Have a less expansive and denser matrix that does not create an ideal “greenhouse effect” when exposed to moisture and may impede germination.
Provide a high roughness factor (Manning’s n) of 0.030 - 0.035 to slow water and reduce erosion potential.	Are straighter and tend to have a lower Manning’s n and therefore less ability to slow water and reduce erosion.
Have third-party documentation proving the ability to effectively remove Polynuclear Aromatic Hydrocarbons (PAHs) from contaminated stormwater.	Do not have documentation available showing the ability to remove Polynuclear Aromatic Hydrocarbons (PAHs) from contaminated stormwater.