

Celaire™ Non-Woven Materials

A Natural Solution for Wound Care



Concerns Heard in Wound Care Today

From Practitioners...

- Affordable wound care options often cause re-injury when bandages are removed or replaced
- Advanced solutions for wound care have complicated procedures – increasing treatment time
- Often the “best” solutions are not utilized because justifying the additional expense is too bureaucratic

“It is all about time – trauma bandages need to clot wounds quickly; non-adherence ensures it won’t open again and force a repeat of the procedure.”

Doctor of Emergency Medicine

- Wound care solutions need to work the first time *and* ideally minimize change frequency
- Materials need to be *trusted and understood* to gain acceptance for use in current practice
- High-priced, highly effective solutions are “nice” – but *are not practical* for use in broader wound care applications

From Manufacturers / Distributors...

- Differentiation in product offerings and brand loyalty drives a hospital’s choice for a supply partner
- Practitioner preferences and experience with materials drives the ultimate decision for product purchases
- Pricing pressures and increasing raw material costs are decreasing overall operating margins

“[Manufacturers / Distributors] have some customers who recognize and have the ability to pay for the brand ... and they have other customers who don’t have that ability or who aren’t willing to see the value. I would imagine that, as a manufacturer, you want to have a presence in both markets.”

Medical Products Industry Analyst

- Partnering existing channels-to-market with a differentiated *private label product* creates improved margin opportunities
- A *full portfolio of solutions* – offered to hospitals – drives savings along the value chain (i.e., single supplier, simplified logistics, bundling)

A Natural Solution for Wound Care...

Building on the advantages of cellulose acetate and novel production methods

A Cleaner, Limited Harm Wound Covering...

Celaire™ non-woven materials are made of continuous cellulose acetate fibers making them non-linting, non-fraying, and non-adherent – limiting harm caused at wound dressing changes¹



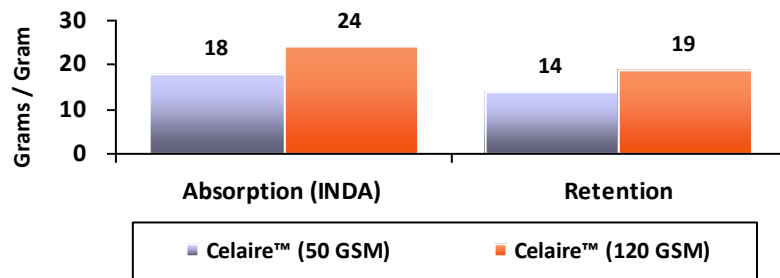
Celaire™ non-woven
at 100x magnification



8-Ply, woven cotton
at 100x magnification

An Effective Material for Managing Wounds...

Celaire™ non-woven materials benefit from the natural absorption and wicking characteristics of cellulose acetate² – a material used in multiple wound management solutions



... And Consider These Additional Opportunities

Flexible Production Capabilities

From a single line, would it be helpful be able to adjust width, length, thickness, and weight “on the fly?”

Small Manufacturing Footprint

Do you see value in being able to produce wound care solutions “on site?” Or...

Is it more important that manufacturers only need to provide limited space and support to run production?

Novel Product and Private Label Opportunity

Although cellulose acetate is accepted and used today, would there be value to be the first to bring a new wound care solution to the healthcare industry? Or...

Is there greater value in providing a single line of wound care solutions with a range of forms and options?

Naturally Sourced Solution for Customers

As a naturally sourced product – with limited manufacturing emissions or effluents – is there more value for hospitals or practitioners to offer a natural option?

¹ Based on tests of a prior Celanese cellulose acetate, non-woven bandage solution of 270 patients – the solution received the lowest pain and harm ratings

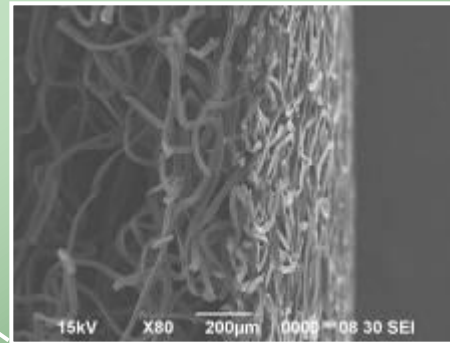
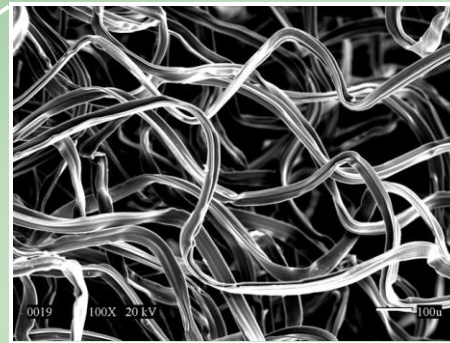
² Cellulose acetate is both chemotactic for attracting white blood cells and hydrophilic for removing excess fluids

Opportunities with Cellaire™ Non-Wovens

Three-layer, three-dimensional non-woven material made from Celanese Acetate

Innovative production process creates a lofted structure with a smooth surface layer and a continuous fiber core

Flexibility in manufacturing forms with range of densities (25 to 900 GSM), thicknesses (0.1 to 25 mm), and widths (75 to 250 mm)



Superior non-linting, non-fraying properties due to physically bonded filament structure created within the production process

Ability to distribute ingredients into structure including carbon, absorbent polymers, and other active elements

Our Objective and Goals

Celanese is working to better understand **unmet opportunities for manufacturers, distributors, and GPOs** in the healthcare industry – specifically as it relates to wound care product development and manufacturing...

Our objective is to connect with those individuals who understand the **challenges in delivering new wound care solutions to practitioners** and who are interested in sharing their perspectives on **where the opportunities exist to create new options** for meeting wound care needs...

Who are we hoping to talk with...

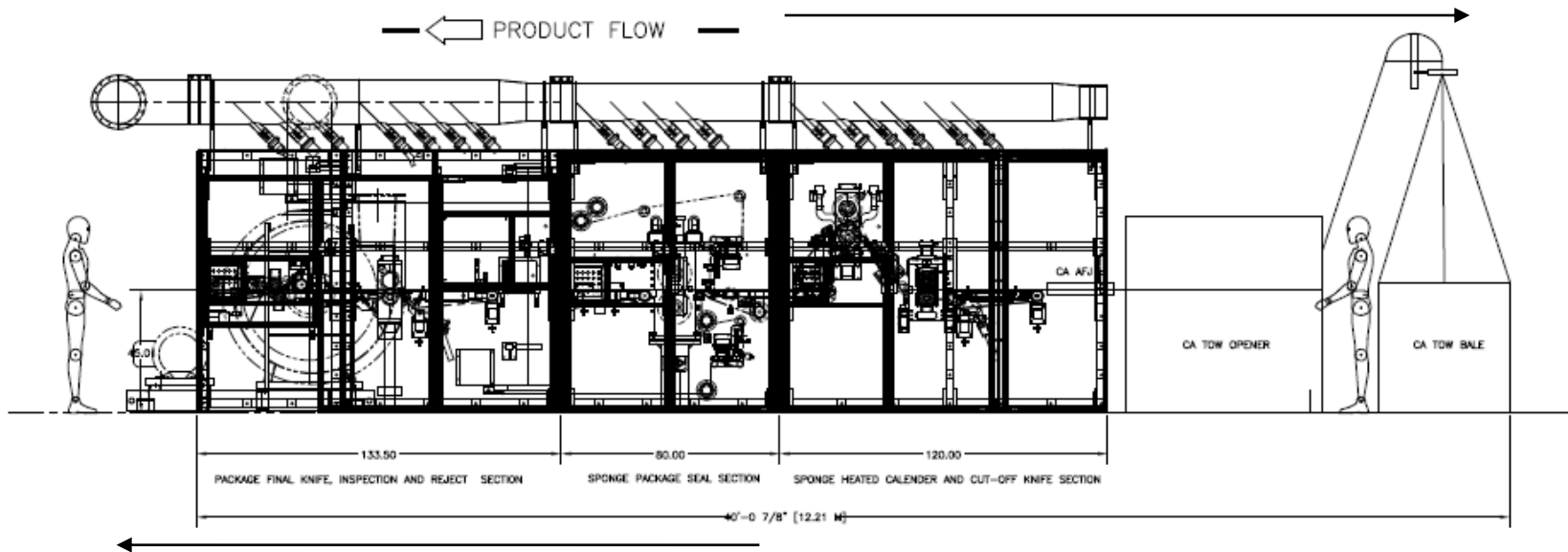
- ▶ Production / Manufacturing Teams
- ▶ New Product Development Teams
- ▶ Distributor and Private Label Marketers / Developers
- ▶ GPO Supplier Selection Teams
- ▶ *Anyone Interested in Innovative Wound Care Products and Production Options*

How Cellaire™ Non-Wovens are Made...

Continuous feed process from bale to product in ~150 square feet of space

Based on initial trials, a single Cellaire™ non-wovens line can produce 5 million m² of product annually – assuming 10 x 10cm, 100 GSM, 100m/min production, 95% utilization

Pilot facilities at Celanese



Cutting / Packaging Capabilities

Production process is a focus of continual development and improvement to bring new forms, new capabilities, and to meet specific customer product needs

Interested in Discussing Celaire™ Non-Wovens?

Please Contact...

Christopher Davie

Celanese Acetate Products

**222 W. Las Colinas Blvd. Suite 900N
Irving, TX 75039**

Phone – (972) 443-4643

E-Mail – Christopher.Davie@Celanese.com