

**Nitto**

Innovation for Customers

# Breathable Films



[www.nitto.com](http://www.nitto.com)

# Breathable Film Solutions

## A breath of fresh air



**Nitto developed a breathable film, high in comfort, affordable to the end consumer and highly processable for our customers.**

### Benefits & Characteristics

#### For our customers



##### **Performing**

Efficient & processable on multiple converting lines



##### **Pattern optimized**

Cross direction (CD) and machine direction (MD), tailored pattern designs



##### **Flexible**

High flexibility for shape orientation, size, density and pattern design

#### For end customers



##### **Breathable**

Even in functional parts of the diaper - less skin irritations



##### **Comfortable**

Breathability increases comfort for the wearer



##### **Reliable**

The perfect and comfortable fit stays unchanged



##### **Affordable**

Thinnest substrates for the consumer

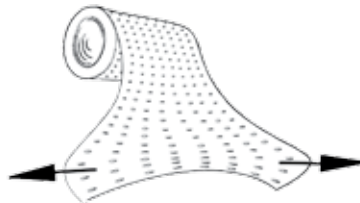


##### **Sustainable**

Reduction of material use, saving production resources

# The Products & Highlight features at a glance

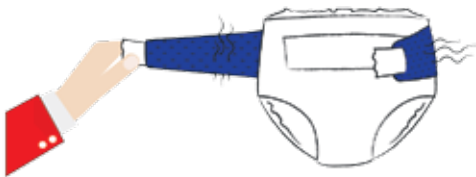
**Breathable solutions  
for 180° open diapers and 360° pants.  
Discover our Breeze product range.**



**cross-direction**

## Premium **StretchEarBreeze**

Use: Baby care, adult incontinence  
Product options: PSE I - III, Evo, Lite



- 80 - 100 g/m<sup>2</sup>
- Identical extension performance 100 [%]
- Same or similar mechanical performance  
Permanent Set: < 5 [%]  
Elongation @ break 750 [%]

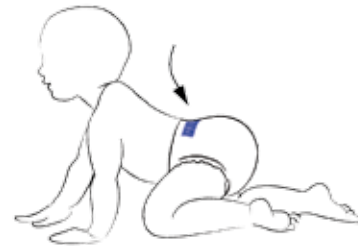
### **Breathability**

Air permeability [m<sup>3</sup>/m<sup>2</sup>/min]  
acc. PA\_256



## **WaistbandBreeze**

Use: Baby care, adult incontinence  
Product options: Solastic-CD & Activated Waistband



- 40 or 50 µm film
- Multiple colors
- Identical unload performance  
[2nd @ 75 % = 1,1]  
Same or similar mechanical performance  
Permanent Set: < 5,5 [%]  
1st load force  
@ 120% cycle 2,8 [N/25 mm]

### **Breathability**

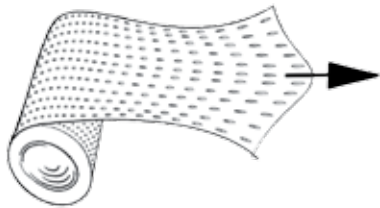
Air permeability [m<sup>3</sup>/m<sup>2</sup>/min]  
acc. PA\_256



**With our high-end stretch films, performance and comfort go hand-in-hand.  
For the ultimate product experience, contact us and ask for samples.**

# The Products & Highlight features at a glance

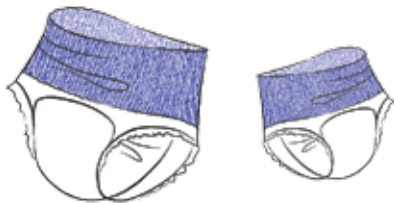
**Breathable solutions  
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**machine-direction**

## MD Elastic FilmBreeze

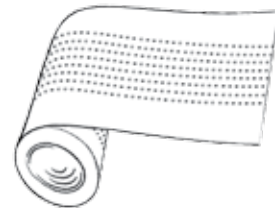
Use: Adult incontinence, femcare  
Product options: Soft, SuperSoft



- 30 or 40 µm film
- Transparent, translucent, opaque
- Identical 2nd unload performance  
@ 300% ~ 3 [N]  
similar converting performance, ~ 250 [%]  
MD pre-stretch ~ 250 [%]  
CD neck-in rate ~ 30 [%]

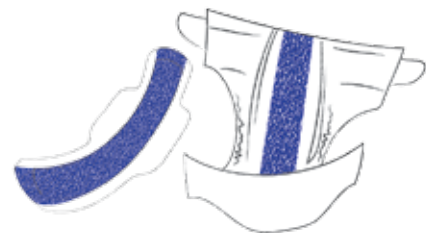
### Breathability

Air permeability  
acc. PA\_256

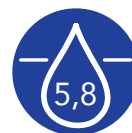


## TopsheetBreeze

Use: Baby care, adult incontinence, femcare  
Product options: ATB Loft 20 HI UW, CTB 22 HI



- 20 or 22 g/m<sup>2</sup>
- Perforation design:  
CD registered for functional area
- Concept study



### Strike through / wetback

average strike through  
[S] acc. WSP70.3(08)



average wetback  
[g] acc. WSP80.10(09)

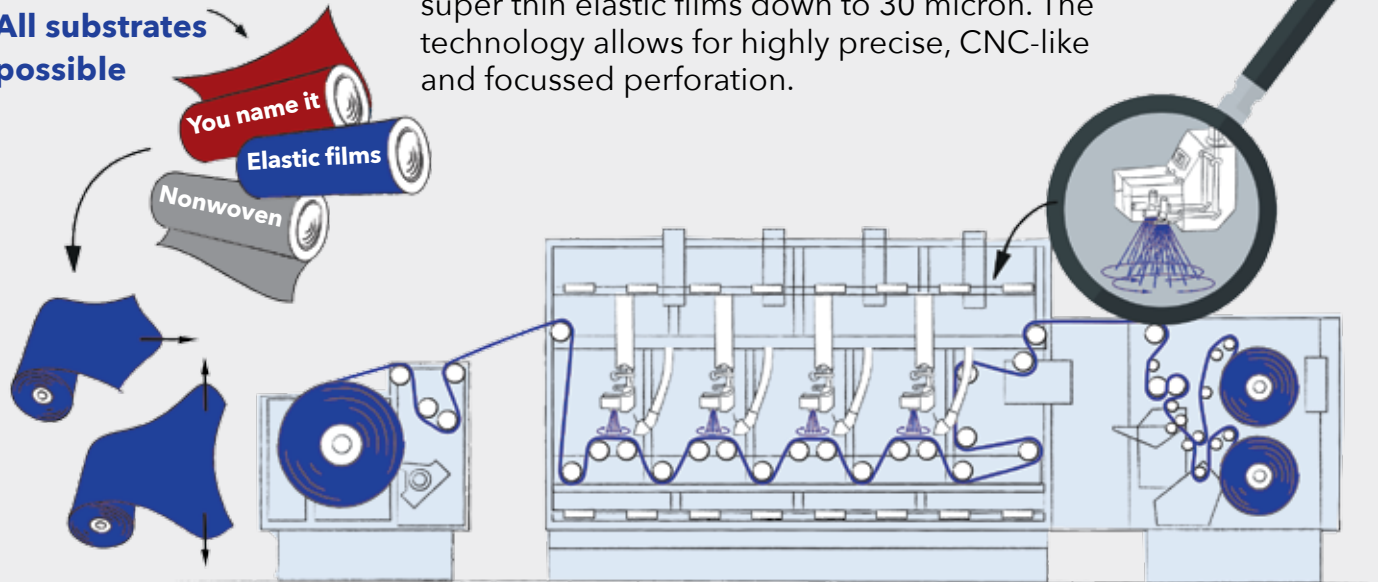
**For samples and  
technical data sheets:  
Contact us! [www.nitto.com](http://www.nitto.com)**

# The Technology

## Lite Film Perforation (LFP)

**Lite Film Perforation is a unique innovation by Nitto:** The highly flexible laser system works with any substrate and film thickness - even with super thin elastic films down to 30 micron. The technology allows for highly precise, CNC-like and focussed perforation.

All substrates possible



Flexible perforation patterns are just one click away now!

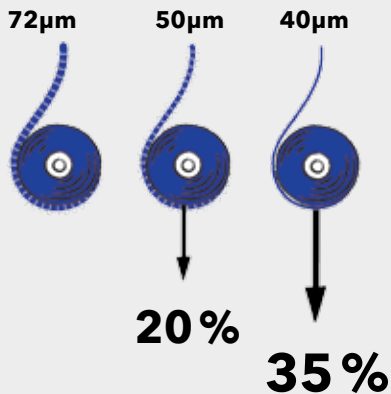


## Sustainability without compromise

With Lite Film Perforation, we can perforate even super thin substrates, saving material and production resources - with no compromise in film performance and comfort.

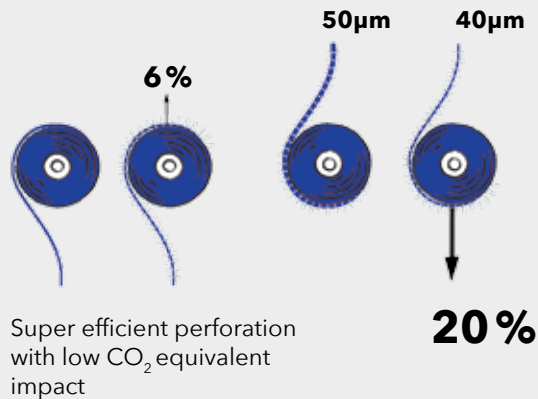
### Elastic film

Perforated thin film with - comparable performance - lower CO<sub>2</sub> footprint - lower CO<sub>2</sub> footprint - no loss in comfort.



### Waistband

Perforation of waistband leads to +6% CO<sub>2</sub> impact only. Waistband Solastic CD 50µm vs. 40µm saves ~ 20% CO<sub>2</sub> equivalent.



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