solution in spirals
Württembergische
Spiralsiebfabrik GmbH

SPUNLACE NON-WOVENS PRODUCTION

- spiral fabrics by WSF uniquely qualified -

December 2016

Spunlace
Definition

solution in spirals
Württembergische Spiralsiebfabrik GmbH

Method, by which dry- or wetlaid nonwoven webs are interlaced and patterned against plain or structured suction-drum surfaces by means of hydroentanglement, high pressure water jets up to 400 bar, and machine speeds of up to 400 m/min.

e.g. Andritz Jetlace or Trützschler Aquajet systems

Spunlace nonwovens are used in applications such as surgical gowns, cotton pads, hygiene, substrates for artificial leather, filtration, and automotive.

Grammages produced:
20 - 120 g/m² via direct feed
30 - 400 g/m² via crosslapping

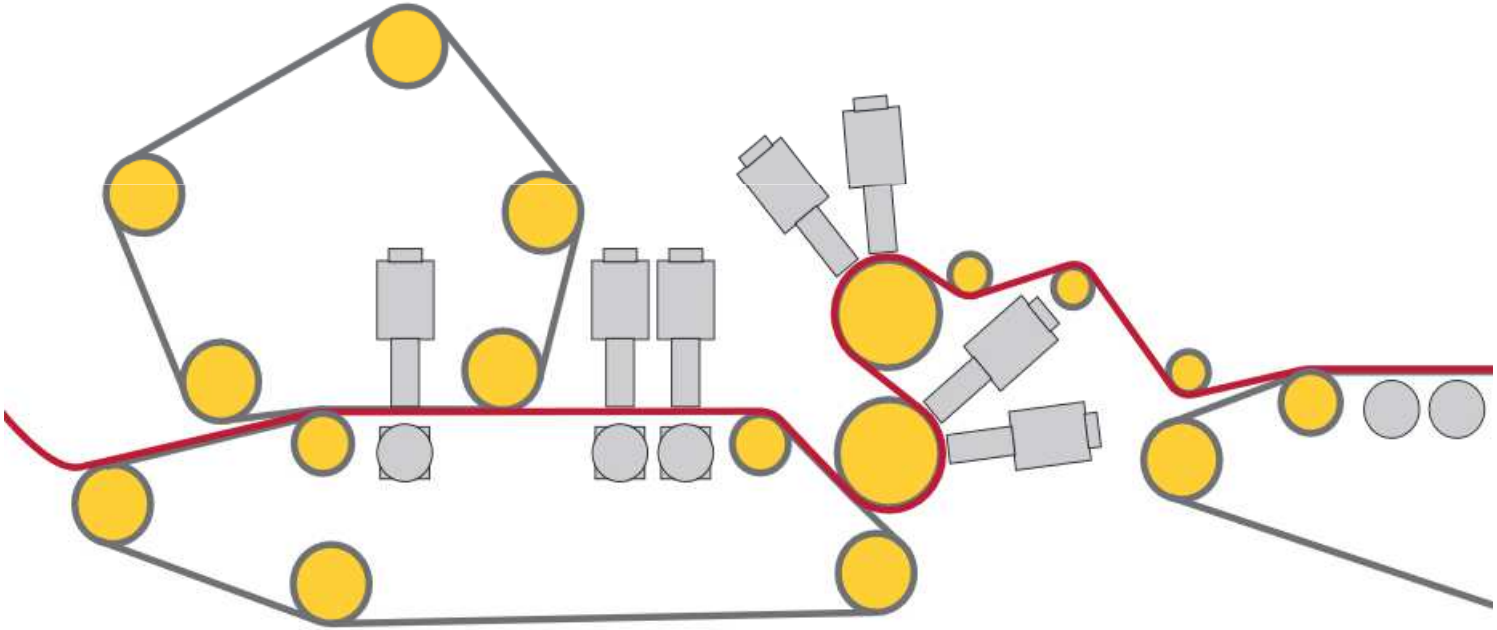
Structured (top) and perforated web (below)

Sources: Andritz, Trützschler

Spunlace
Hydroentanglement

solution in spirals
Württembergische Spiralsiebfabrik GmbH

Example of a Spunlace hydroentanglement machine section



Source: Trützschler

Spunlace

Belt application, example 1

solution in spirals
Württembergische
Spiralsiebfabrik GmbH

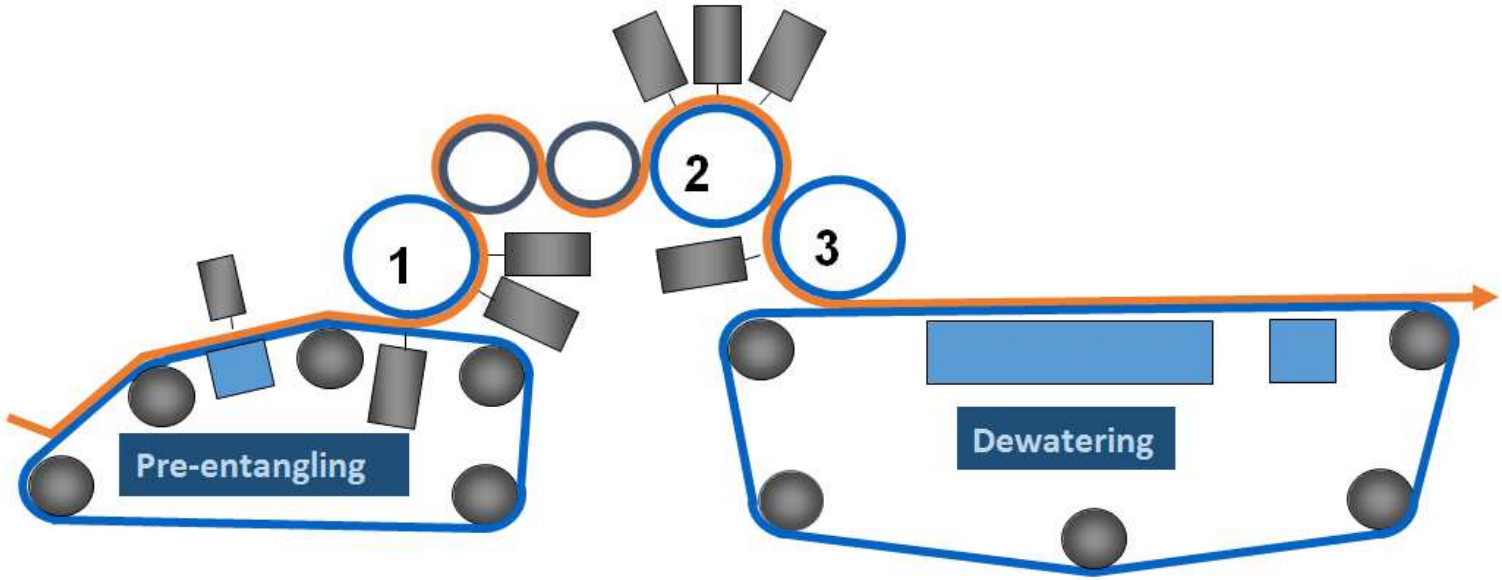
Dewatering belt

Spiral belt designed for **spunlace dewatering position**,

prior to flat bed oven or through-air-dryer (TAD)

No visible seam (delivered endless or with spiral pin seam)

No fibre-picking in the seam area (no interlocking) - thanks to spiral technology



Spunlace

Belt requirements, example 1

solution in spirals
Württembergische Spiralsiebfabrik GmbH

Endless feature, no apparent or elevated seam

Permeability, low flow restriction (air/water)

Dewatering performance:

Good web dewatering profile, uniformity

Dryness of web edges

Excellent dewatering properties

Good fibre support from large contact surface

Dimension:

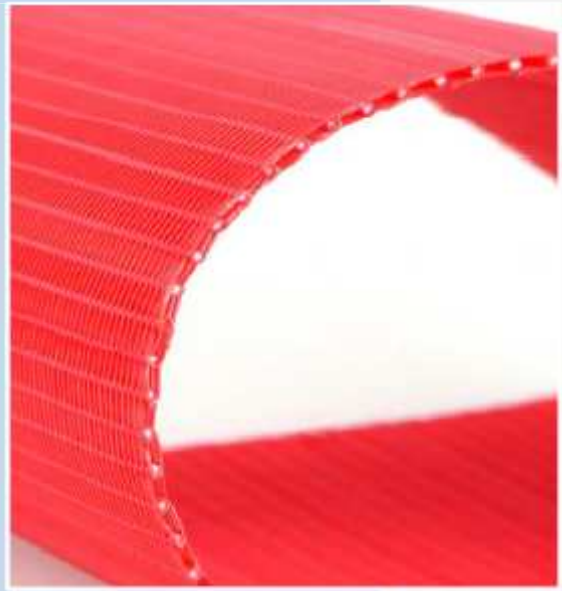
all widths and lengths to be available, without restriction

Spunlace

Spiralsolution 38000 FS

solution in spirals
Württembergische Spiralsiebfabrik GmbH

Technical Data		
Air Permeability:	(cfm)	900
Grammage:	(g/m²)	830
Thickness:	(mm)	1,70
Spacing:	(m-1)	336
Ø Monofilament Spiral:	PET	0,38 x 0,58
Ø Monofilamenet Pintle:	PET	0,70
Size of filler:		xxx



Characteristics

Fine surface, high fibre support

Thin, lightweight spiral fabric

Highly permeable, low flow resistance

Open-ended or endless

Benefits

No fibre-picking by seam (no interlocking)

Uniform dewatering, uniform profile up to the edges

No need for cantilevered frame

Excellent performance on high & low grammages

High airflow ➔ excellent dewatering properties

Homogeneous product ➔ no marking

Dryness increase

Energy savings

Spunlace

Spiralsolution 38000 FS, results example 1

solution in spirals
Württembergische Spiralsiebfabrik GmbH

In this case study:

- Vacuum level reduction from 0,42 to 0,34 bar
- Simultaneously increased dewatering efficiency by 30 - 40%, depending on fibres, type of web and grammage
- Energy savings obtained from shutting 130kW vacuum generator, operating only a 220kW unit in this case
- Expected annual savings: EUR 40-60.000

solution in spirals
Württembergische
Spiralsiebfabrik GmbH

Thank you for your interest!

December 2016