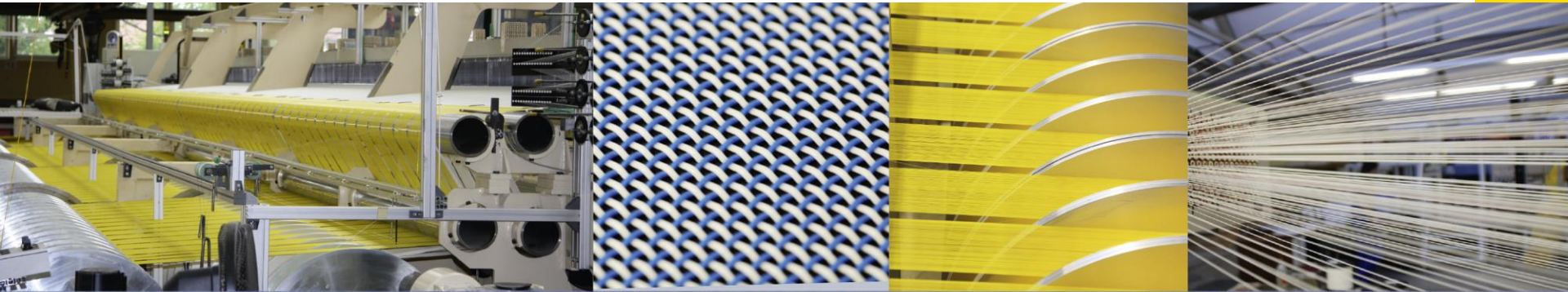


VILLFORTH

Siebtechnik GmbH



Forming Fabrics for Tissue Machines

Optimum solutions for the production of tissue grades

VILLFORTH – family business since 1870

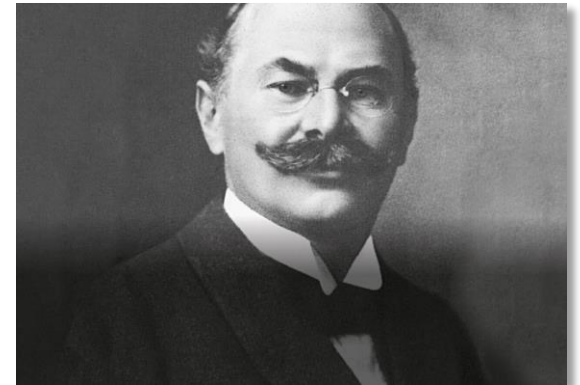
- Villforth Siebtechnik, located in Reutlingen, can look back on 150 years of company tradition, now managed by the fourth generation
- CEO and owner Thomas Villforth operates the company which employs 93 staff
- Our fabrics - raw materials and production process - are 100 % **Made in Germany**



CEO and owner
Thomas Villforth



Company building in
Reutlingen



Founder
Peter Villforth Senior

VILLFORTH – world technology leader



Thomas and Lukas Villforth



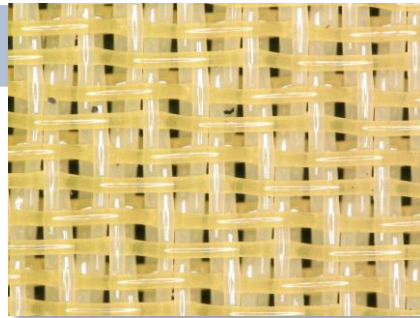
Most modern weaving machine in the world

- We work hard to remain a leading global manufacturer of high-tech fabrics for the pulp and paper industry
- Our R&D department is working on new products and the optimisation of fabric properties to get the best out of your paper machine

Our product range for tissue applications includes...

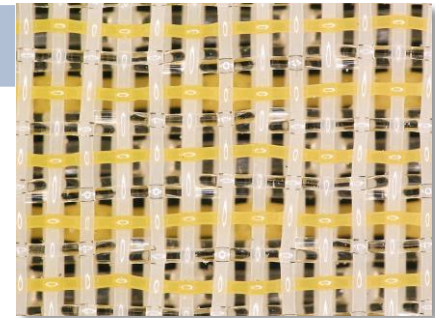
TissueTec P3

- 3-layer
- Low caliper and void volume



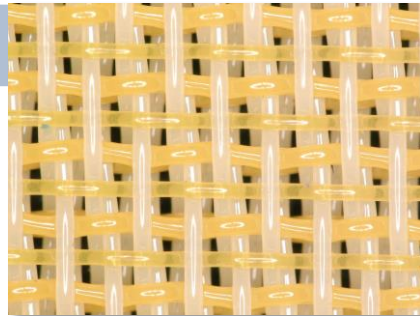
TriplexTop SY

- 3-layer
- Weft bound SSB
- Super fine paper side



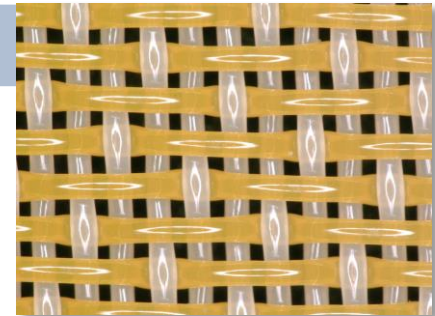
TissueSpeed P7

- 3-layer
- Warp bound SSB
- Excellent drainage



Powerflex

- Single layer
- For inner position applications

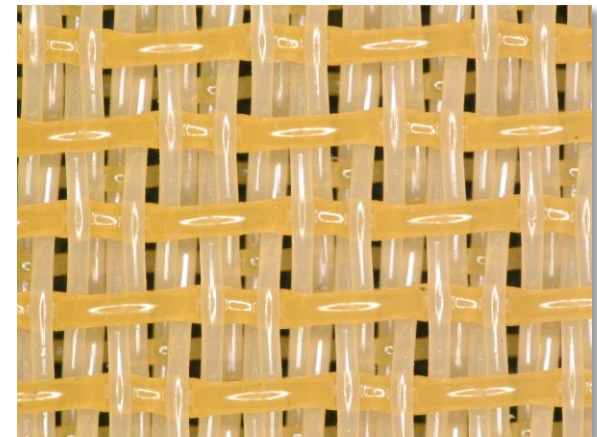
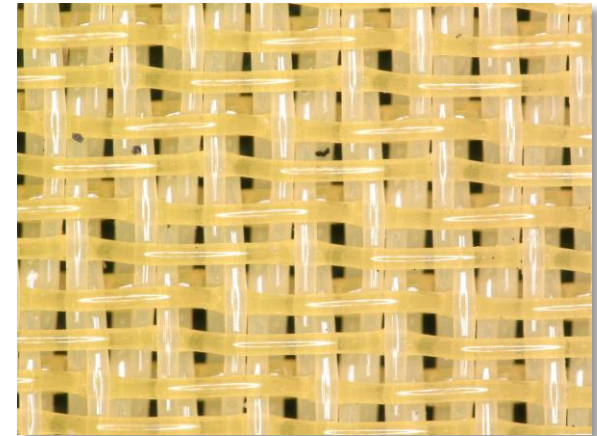


TissueTec P3

- Higher fibre support , increased tissue bulk and retention with primary CMD-oriented yarns on the paper side
- Lower void volume due to reduced caliper and increased weft count
- Low tendency towards fibre and water carrying
- Easy to clean fabric design + including TOPAZ[®]NT coating

Benefits for the Papermaker:

- Very good **cleanliness** of fabric and former over the whole lifetime
- Cost savings with increased **retention** values

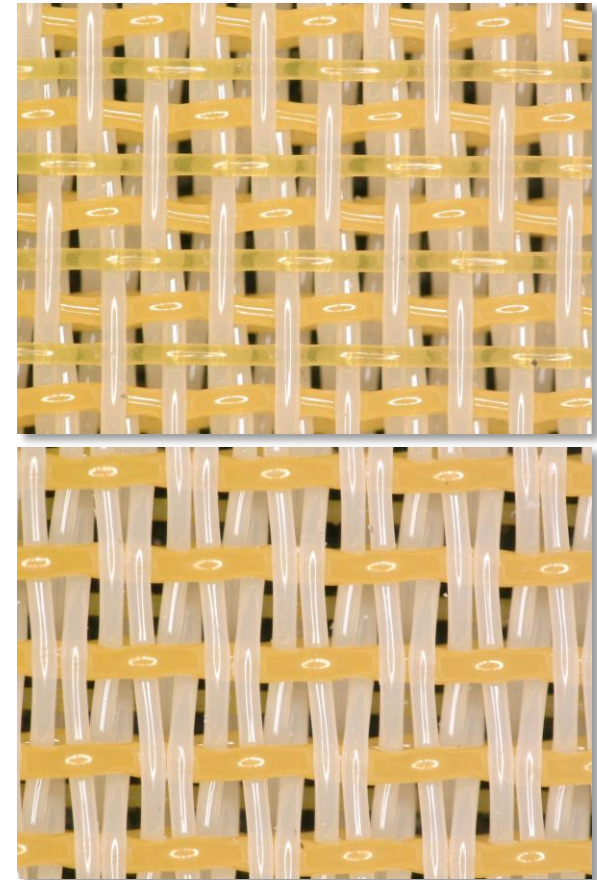


TissueSpeed P7

- Low tendency towards fibre and water carrying
- Less sticky contamination due to paper side fabric design + including TOPAZ[®]NT coating
- Provides good sheet support

Benefits for the Papermaker:

- Good **formation** and even paper profiles
- Optimum **drainage** for improved dryness after the forming section
- Increased **fabric life** due to excellent abrasion resistance properties



TissueTec P3 / TissueSpeed P7

	TissueTec P3		TissueSpeed P7	
specification	<u>Diam.</u> [mm]		<u>Diam.</u> [mm]	
Upper Warp	0,13	PET	0,15	PET
Lower Warp	0,13	PET	0,15	PET
Upper Weft	0,13	PET	0,17 / 0,13	PET
Lower Weft	0,20	PET	0,20	PET

- The values listed above are nominal figures.
- The exact parameters of the manufactured forming fabrics are set individually according to the specific requirements of each paper machine.

TissueTec P3 / TissueSpeed P7

	TissueTec P3	TissueSpeed P7
Warp	70 /cm	72 /cm
Paper side	35 /cm	36 /cm
Machine side	35 /cm	36 /cm
Weft	56 /cm	50 /cm
Paper side	37,3 /cm	33,3 /cm
Machine side	18,6 /cm	16,6 /cm
Air permeability		
at 125 Pa	480 cfm	480 cfm
Elongation (100 N/cm)	0,93 %	0,7 %
FSI	174	130
DI	45,4	33
Caliper	0,59 mm	0,64 mm
Final Caliper	0,43 mm	0,48 mm

including: **TOPAZ[®]NT**

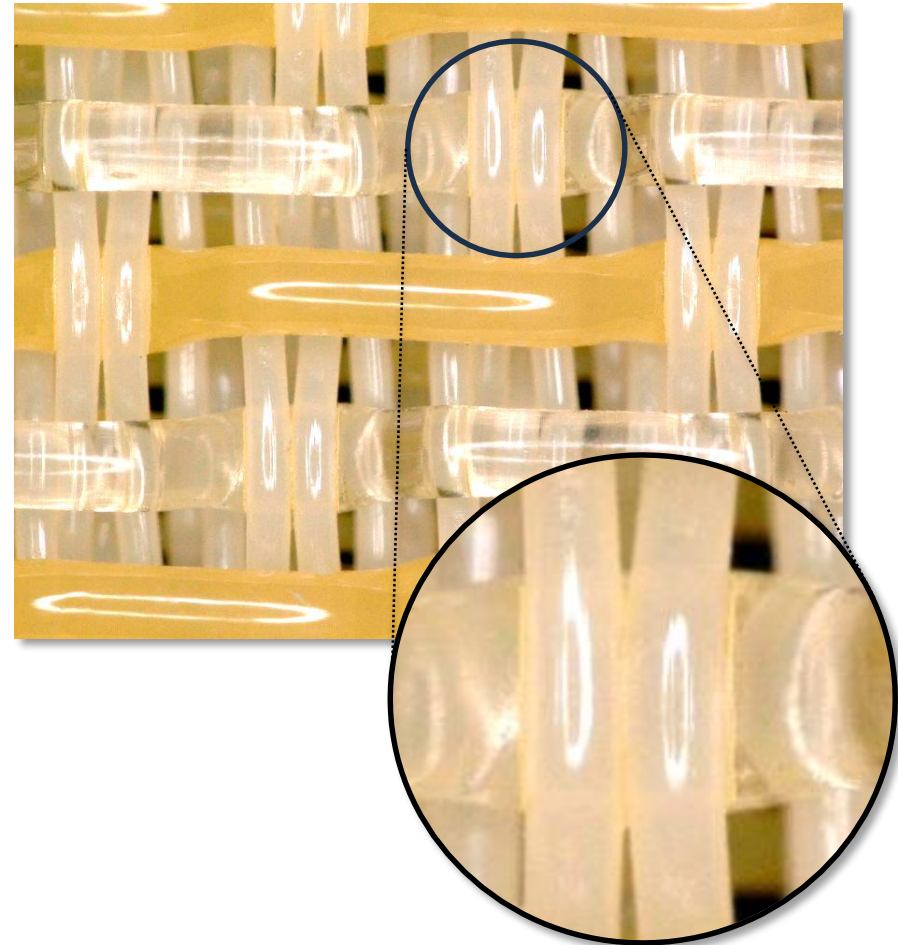
including: **TOPAZ[®]NT**

- The values listed above are nominal figures. Exact parameters are set individually.

TOPAZ[©]NT

For a cleaner fabric and increased fabric stability

- Covers the yarns and strengthens the cross-over points
- Increased dimensional stability by approximately 30 % in both machine and cross machine direction
- Easy fabric cleaning – prevents contaminants or fibres from becoming wedged in the gaps of fabric
- Reduces internal friction and abrasion
- Permanent for the whole fabric life. Resistant to chemical cleaning agents and hp showers





Successful test run!

We were able to successfully test a new set at **Hakle GmbH** in **Düsseldorf**.

After a Fabric design optimization at the outer position to **TissueTec P3** including our TOPAZ[®]NT coating in combination with our Powerflex design at the inner position, our fabrics showed excellent running characteristics.

The customer confirmed the following properties:

- Significantly less fibre carrying compared to the competitor fabrics
- Better machine hygiene
- High fibre retention
- Fewer web breaks
- Machine speed increase following an increased productivity
- No loss of running time

HIGHLIGHT
HAKLE, DÜSSELDORF

TissueTec



HIGHLIGHT
WEPA, MÜSCHEDE

TissueSpeed

Successful test run!

We were able to successfully test a new fabric design at **Wepa Müschede PM 07** (Crescentformer).

After a Fabric design optimization to **TissueSpeed P7** including our TOPAZ[®]NT coating, the forming fabric showed excellent running characteristics at 2000 m/min with a grammage of 15 g/m².

The customer confirmed the following properties:

- Significantly less fibre carrying compared to the competitor fabrics
- Better machine hygiene
- High fibre retention
- Fewer web breaks
- Machine speed increase following an increased productivity
- No loss of running time



Villforth achieves new record!

We are proud to inform you about a new run-time record we achieved with our **TAD fabric** at **Essity, Prudhoe, GB**.

With this new record we even doubled the run-time of the strongest competitor on site. Better yet, the samples examined afterwards were still in good condition.

HIGHLIGHT
ESSITY, PRUDHOE

maTADor

VILLFORTH

Essity Operations Mainz-Kostheim GmbH

Vendor / Lieferant: **Villforth**

Lieferantenbewertung

Datum: **17.02.2020**

Rating period / Bewertungszeitraum: **2019**

Products / Produktliste
Manufac. Maintenance

Merit-rating / Bewertungskriterium	1 unsatisfact / ungenügend	2 poor / mangelhaft	3 adequate / genügend	4 satisfactory / befriedigend	5 good / gut	6 excellent / sehr gut	Notes / Bemerkungen
Delievery accuracy/qnty / Liefergenauigkeit/Menge						x	
Delievery accuracy/date / Liefergenauigkeit/Termin					x		
Documents / Dokumentation						x	
Packaging / Verpackung						x	
Financial and Logistic Communications (z.B. Gutschriften, Ersatzware)						x	
Material Quality Communications (Kundenorientierung)					x		
Material Quality Consequences (Reklamationen)					x		
Verstöße gegen Fremdfirmen Richtlinie - Sicherheitsverstöße						x	
						Average / Durchschnitt: 5,57	

HIGHLIGHT
ESSITY, MAINZ-KOSTHEIM

TissueSpeed

Powerflex

To note / zur Kenntnis genommen
Unterschrift Lieferant / Vendor:

VILLFORTH
Siebtechnik GmbH
Betzenriedstraße 10
D-72764 Reutlingen

Essity Mz-Kostheim
Unterschriften:

Production / Produktion
A. 34
19.2.20

Sourcing / Einkauf

Einkauf - Kostheim
i.v. Anwandl
17. Feb. 2020

Angrund der aktuellen Beschwerdesituation gem. Anlage wird ein Maßnahmen-Katalog mit abgestimmten Aktionen festgelegt. Der Lieferant wurde darauf hingewiesen, dass der Vertrag bei einer ausbleibenden Verbesserung der Qualität nicht verlängert wird. Der Auftraggeber behält es sich vor, bei Vertragsverletzung den Vertrag vorzeitig zu kündigen und ggf. Schadenersatzansprüche geltend zu machen.

Your chance – our responsibility

- We will be happy to create a **specialised proposal** for a tailor- made **VILLFORTH** fabric.
- You will benefit with a **special trial discount**.
- We would be proud to **assist** you on site during the **installation** of your **VILLFORTH** fabric on the machine.

