Woven Fabrics and their applications in Technical Segments

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Picanol Today: Key Figures

• Founded in 1936
• 466.95 million euros sales 2012
• 2000 employees
• >35 nationalities
• 14 sites worldwide
• Since ‘66 listed on Euronext
Picanol Today: Group Structure

- Picanol Weaving Machines
- Picanol Industries
  - Proferro
  - Psi Control
Evolution Salesfigure

* In ‘000 euro

- Turnover Industries
- Turnover Weaving Machines

<table>
<thead>
<tr>
<th>Year</th>
<th>Turnover Industries</th>
<th>Turnover Weaving Machines</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>250,000</td>
<td>150,000</td>
</tr>
<tr>
<td>2010</td>
<td>300,000</td>
<td>200,000</td>
</tr>
<tr>
<td>2011</td>
<td>350,000</td>
<td>250,000</td>
</tr>
<tr>
<td>2012</td>
<td>400,000</td>
<td>300,000</td>
</tr>
</tbody>
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Picanol Today: Worldwide presence

- **Belgium (HQ)**: (R,P,M,S)
- **China**: (P,M,S)
- **Mexico**: (P,M,S)
- **USA**: (M,S)
- **Brazil**: (M,S)
- **France**: (P,M,S)
- **Romania**: (R,P)
- **Turkey**: (R,M,S)
- **India**: (R,P,M,S)
- **Indonesia**: (M,S)

Legend:
- R = Research & development
- P = Production
- M = Marketing
- S = Service
Picanol Today: Fit to Win at work

New Picanol of America

Expansion in Belgium

New offices India Delhi

New PCB-production-line in Risov, Roumenia
Market-situation

• The growth in Technical Textiles is driven globally by economic growth, rather than population-growth.
• Biggest consumers are the USA, China and the EU-27 (together 80% of total)
• Technical textiles now represent 10 to 12% of total in Tons/year.
Woven vs Non-woven and Knits
In Technical Textiles
Weaving is the most accessible, affordable and flexible way of turning yarns into fabrics. Densities and materials can be chosen almost freely and changed over at relative low cost.

Therefore it is the most widely spread technology in fabric-production, also in the field of Technical Textiles.
Different weaving-systems

Rapier insertion

Airjet-Insertion
Energy-reduction also leads to more robust design

Each motor, bearing, seal, printed circuit and cooling-fan consumes Power!
Weaving machine range for Technical Fabrics

Rapier-Machines

OptiMax

Airjet-Machines

OMNIplus Summum

OMNIplus 800 TC
Testcenter Technical Fabrics
Application-fields according to Techtextil

- Protech
- Sporttech
- Clothtech
- Geotech
- Mobiltech
- Packtech
- Indutech
- Buildtech
- Oekotech
- Medtech
- Agrotech
- Hometech
Approach of the market

- **Target**: Picanol serves **middle and high-end** niches

- **Segmentation**: Categorisation of niches by **segments** in application-fields as indicated by Techtextil

- **Modular machinery**: Using **standard machine platforms** and adding **segment-specific “modules”** rather than building taylor-made machines.
  - Global service-network can handle all calls
  - Spareparts-availability can be guaranteed
  - Software remains “standard”
  - Engineering efforts focus on the “modules”
Application field: Automotive

- Tyre-cord (carcass, cap-ply, shafer)
- Carseats (seats, trimmings)
- Airbags
- Trunc-covers (SUV, 5-door-cars, ...)
- Drive-belts (V-belts, timingbelts)
- Hoses (flexible pipes)
- Filters (fuel – oil – air)
- Convertable Tops
- Floorcoverings (carpets)
- Roof-liners
- Safety belts
World-wide PICANOL-references

Hyosung: Korea, Vietnam, China, USA
Performance-fibres: USA, Mexico, China,
KordSA: Turkey, Iran, Egypt, USA, Indonesia, Thailand
Kolon: Korea, China
SRF: India, Dubai, South-Africa
Firestone: Japan, Spain, USA, Canada
Shenma: China
Arta Wheel: Iran
Kian: Iran
...
World-wide PICANOL-references

Hyosung (Ex Berger-Seiba): Germany, China
Key-Safety: USA
Kolon: China
Huamao: China
SIOEN: Belgium

...
Seat fabrics

World-wide PICANOL-references

AundE : Germany, Turkey, Brasil, China,
Kolon Glotech : China
SAGE ( ex Milliken ) : USA, Poland, Brasil
Il Jueng : Korea
Johnson-Controlls : France
Polyfier : Russia
Bullet-proof Para-Aramiddes
Testing of Bullet-Proof Fabrics

- **Textile-parameter testing**
  - Weight of fabric
  - Warp / weft thread count
  - Warp / weft tensile strength *
  - Crimp in warp and weft-direction.

- **Ballistic testing**
  - V 50 – Stanag * (Ballistic test According to NATO-standards)

- **All parameters need to be compared to:**
  - Standard specification, supplied by customer
  - Historical data (when introducing new procedures)

* Special Lab-equipment needed
Coating fabrics

World-wide PICANOL-references

Obeikan : Saudi-Arabia
Mehler Technologies : Germany, Czech Republic
SIOEN – Veranneman : Belgium
JINDA : China
SRF : India
Dogusan : Turkey
Naksan : Turkey
...

Buildtech
Carpet-Backing 430 cm
Light Conveyorbelts

- PVC coated
  - Transport-belts
  - Cash-registers
  - Fitness-equipment
Agro Textiles

- Anti-Hail-nets
- Shading net
- Ground-cover
- Hail-damage
- Shading net
Medical fabrics

- Wound-dressing
- Bandages
- Surgical gowns
- Anti-allergic sheets
Thank You!

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