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§ What is the difference between Texparts® RoCoS and other systems?
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Technology Basics Compact Yarn - Basic Principle

The objective of every compact spinning system is:

§ Elimination of the spinning triangle.
§ Integration of protruding and non-parallel fibre ends.
§ Peripheral fibres are integrated without overstretching.
§ Controlled relaxing of the fibres.
The Texparts® RoCoS System can be used under several perspectives:

- To increase the yarn quality:
  - Higher tenacity and elongation
  - Less hairiness

- To increase the productivity in spinning:
  - By reducing the twist level
  - Increase ring spindle speed
  - Having less end breaks during spinning

- To reduce raw material costs:
  - Over half of the yarn production costs arise out of raw material costs
  - It is possible to purchase lower-priced cotton and attain the same quality level by compacting
  - Lesser fibre loss

- To achieve a new yarn structure

- To achieve higher yarn sales prices
Technology basics Compact Yarn - Fields of Application

The Texparts® RoCoS System can be used under several perspectives:

§ To increase productivity in downstream process:
  § Reduction of maintenance (less flying fibres during weaving and knitting)
  § Improved warping performance (better unwinding performance)
  § Less sizing stuff
  § Less dye stuff amount
  § Reduction of fabric singeing

§ To have better fabric performance:
  § Greater brilliance of color
  § Better pattern appearance
  § Higher abrasion resistance
  § More precise printing result
  § Less fabric contraction by knitting
  § Reduction of fabric shrinkage
## Technology basics Compact Yarn - Fields of application

### All advantages along the textile chain

<table>
<thead>
<tr>
<th>Advantage</th>
<th>Use of low grade cotton</th>
<th>Increase of yarn quality</th>
<th>Potential of reducing twist level</th>
<th>Decreasing of ends down</th>
<th>New yarn structure</th>
<th>Higher sales price</th>
<th>Less lubricant consumption</th>
<th>Better fabric appearance</th>
<th>Flying fibre during processing</th>
<th>Increase of unwinding properties</th>
<th>Reduction of shrinkage</th>
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</thead>
<tbody>
<tr>
<td>No or less advantage</td>
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Technology basics Compact Yarn – Compact Yarn Sales prices

Yarn prices are depending on law of supply and demand.

$ A compact yarn can reach up to 60–70% higher sales price than a conventional yarn.
Technology basics Compact Yarn - Fields of Application

§ Textile Applications:
  § Texparts® RoCoS yarns are used in a wide range of applications
    § Denim
    § In combination with slub yarns
    § For knitting articles
    § For shirting’s
    § Home textiles
    § Also for technical applications (e.g. medical application)
Texparts® RoCoS - The Premium Composition for Compact Yarn

The greatest composers already said: “It is easy to compose you only need the right arrangement of notes to orchestrate a perfect harmonious melody.”

The same with Texparts® RoCoS:
The perfect composition of premium components is the basic for a perfect compact yarn.

| Texparts® RoCoS | Texparts® PK 2130 | Accotex® J 463 |
Texparts® RoCoS - The Premium Composition for Compact Yarn

Four notes of the composition:

1. **Compacting - plug and spin**
   - Easy to retrofit
   - Lower initial investment costs compared to other compacting systems
   - No technicians needed for installation
   - Retrofitting down time per frame less than 8 h (1,000 spindles)
   - Immediate delivery of spinning result.

2. **Compacting - every inch**
   - Consistent compacting results for each spindle on a high equal level due to the mechanical weighting arm PK 2130 with smaller load tolerances.
   - Constant load at individual spinning position is a must for a constant compacting result.
   - Non compacted yarn zones are not possible. No drum or apron hole with blinding potential.
Texparts® RoCoS - The Premium Composition for Compact Yarn

Four notes of the composition:

3. **Compacting – costumer friendly at all times**
   - Less maintenance - no additional cleaning required
   - Less maintenance - no additional cleaning required
   - Lower costs for wear and tear parts
   - Lower costs for wear and tear parts
   - Outstanding life time of soft cots with Accotex® know-how
   - Outstanding life time of soft cots with Accotex® know-how
   - Improved yarn quality with the right accurate cot
   - Improved yarn quality with the right accurate cot
   - Soft cots typically have higher frictional properties than hard cots
   - Soft cots typically have higher frictional properties than hard cots
   - Combination of higher friction and larger foot print allows increase of fibre control
   - Combination of higher friction and larger foot print allows increase of fibre control
   - Better grip and excerpt achieves most uniform fibre control
   - Better grip and excerpt achieves most uniform fibre control
Texparts® RoCoS - The Premium Composition for Compact Yarn

Four notes of the composition:

4. Compacting - respect for resources
   § No air suction
   § No air pipes
   § No ventilators
   § No extra power
1. Bottom roller
2. Front roller
3. Delivery roller
4. Compactor equipped with magnet
5. Supporting bridge
6. Roving guide
7. Top roller holder
8. Weighting spring
9. Weighting arm
10. Cradle OH 2022
To Texparts® RoCoS belongs:

- The Rocos Unit
  - Top Roller Holder
  - Weighting Spring
  - Accotex® Top Roller
  - Accotex® Delivery Roller
  - Compactor
Texparts® RoCoS - Technical Description

To Texparts® RoCoS belongs:

- The roving guide
- The supporting spring
Texparts® RoCoS – Working Principle

- Above the clamping line A a normal ring spinning drafting system is existing.
- After clamping line A the fibres are guided into the compacting slit - called trumpet of the compactor.
- Inside the compacting slit, the fibres are compacted mechanically.
- After the fibres have been compacted, they pass the clamping line B. The twist coming from the ring and traveller, will directly translate into the fibres and solidify the compacted state.
- No twist and draft between line A and B.
Texparts® RoCoS – Material and Yarn Count Range

- **Cotton combed**
  - Ne 6 – Ne 80

- **Cotton card**
  - Ne 6 - 40

- **Manmade Fibres**
  - Ne 6 – Ne 80

- **Blends**
  - Ne 6 – Ne 80

_Yarn Count_
Hairiness by Zweigle S3
(Hairs / 100 m)

Summery of results

§ Decrease of hairiness S3 up to 80 %
§ Increase of tenacity up to 15 %
§ Increase of Elongation up to 7 %
To keep in mind:

§ The extent of improvement depends on the quality of the raw material and the running environment in the mill.

§ If the quality of the conventional yarn is already on a high level the percentage of the quality improvement will be less.

§ A compact yarn can never be substituted one-to-one by a conventional yarn. The yarn behaviors are too different for using the same settings for weaving and dying.

§ You have to adjust the travellers according to the compact yarn needs.

§ The higher the draft on the ring frame, the more accentuated the spinning triangle with conventional yarn and therefore the greater the benefit of compacting.
Texparts® RoCoS – Easy to Install

**Preparation phase:**
- Check whether:
  - the spindles are centric to the ring
  - the pig tail is centric to the spindle and undamaged
  - the life time of aprons and cots
  - the pressure of the top arms must be checked and should be 18 daN minimum.

**Installation phase:**
- Insert supporting spring
- Install Texparts® RoCoS Unit
Texparts® RoCoS – Easy to Install

**Installation phase:**
- Install the roving guide onto the cradle
  - only plastic cradles can be used

Roving guide must be fixed at this position
Installation phase:

- Top arm with Texparts® RoCoS unit has to be closed
  - No dropping of top arm
  - Avoiding of damaging the compactor
Texparts® RoCoS – Easy to Install

**Checking phase:**

§ Distance checking of suction tube

**Correct position**

**Wrong position**

Suction too close
Checking phase:
§ Position check of compactor

Correct position

Wrong position
Texparts® RoCoS – Easy to Install

**Checking phase:**

§ Position check of Accotex Apron and Texparts Top Roller

It is important to have no contact between top apron and top roller
**Texparts® RoCoS – Comparison**

§ What is the difference between Texparts® RoCoS and other systems?

<table>
<thead>
<tr>
<th>++ very positive</th>
<th>Texparts® RoCoS by Oerlikon Textile Components</th>
<th>ELITE by Suessen</th>
<th>Com4 by Rieter</th>
<th>CompACT3 by Oerlikon Schlafhorst</th>
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<tbody>
<tr>
<td>Investment cost</td>
<td>++</td>
<td>+</td>
<td>--</td>
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<tr>
<td>Retrofitable</td>
<td>++</td>
<td>+</td>
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<tr>
<td>Time to install</td>
<td>++</td>
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<td>Handling</td>
<td>++</td>
<td>+</td>
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<td>+</td>
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<tr>
<td>Maintenance</td>
<td>++</td>
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<td>Labour cost versus self cleaning effect</td>
<td>++</td>
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<tr>
<td>Energy consumption</td>
<td>++</td>
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<tr>
<td>Control of suction</td>
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<tr>
<td>Spare part consumption</td>
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## Texparts® RoCoS – Comparison

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<td>Physical basic of system</td>
<td>Mechanical</td>
<td>Air stream</td>
<td>Air stream</td>
<td>Air stream</td>
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<tr>
<td>Compacting element</td>
<td>Compactor Stat of the art ceramic</td>
<td>Lattice apron</td>
<td>Perforate metal drum</td>
<td>Special top apron</td>
</tr>
<tr>
<td>Suitable for carded cotton and coarser than Ne 40</td>
<td>++</td>
<td>+</td>
<td>--</td>
<td>-</td>
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<tr>
<td>Yarn Count range for optimal compacting results</td>
<td>Ne 6 – Ne 80</td>
<td>Ne 7 – Ne 160</td>
<td>Ne 40 – Ne 160</td>
<td>Ne 40 – Ne 120</td>
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### Texparts® RoCoS – Comparison

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<td>Flexible reaction on market demands</td>
<td>++</td>
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<td>Quick change between compacted and conventional yarn production</td>
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<td>Not sensitive for climate condition</td>
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