Instruction for correct mounting and grinding
of Accotex cots

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Mounting & Grinding of Accotex Cots

Technical information

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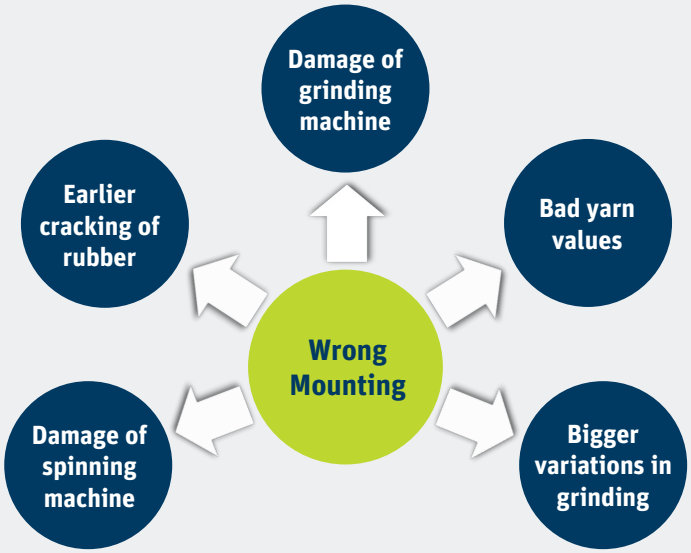
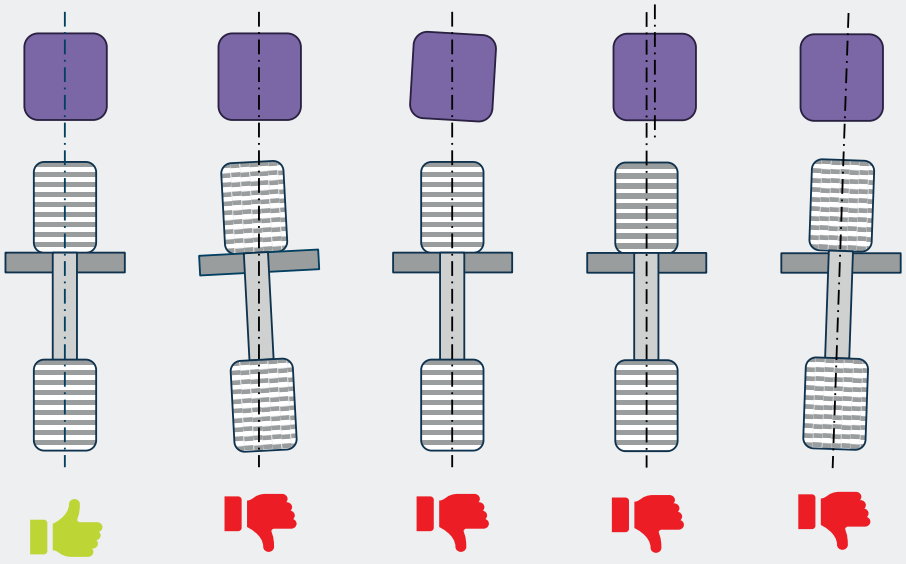
Mounting of Cots

Mounting recommendations help customers to use Accotex products without defects. Wrong mounted cots run off or negatively affect yarn quality.



Be sure to mount the cot straight to the arbor. All parts on the mounting press must be clean and attached straight. Use the correct plate. The arbor must fit on the plate without wobbling. Not every arbour fits on every plate.



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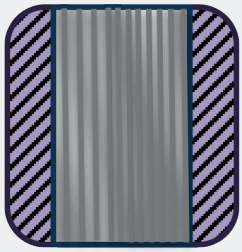
Mounting of Cots

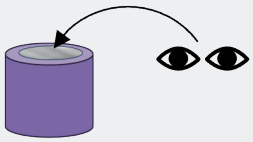
Check the correct mounting with dismounting.

new



dismount

dismount



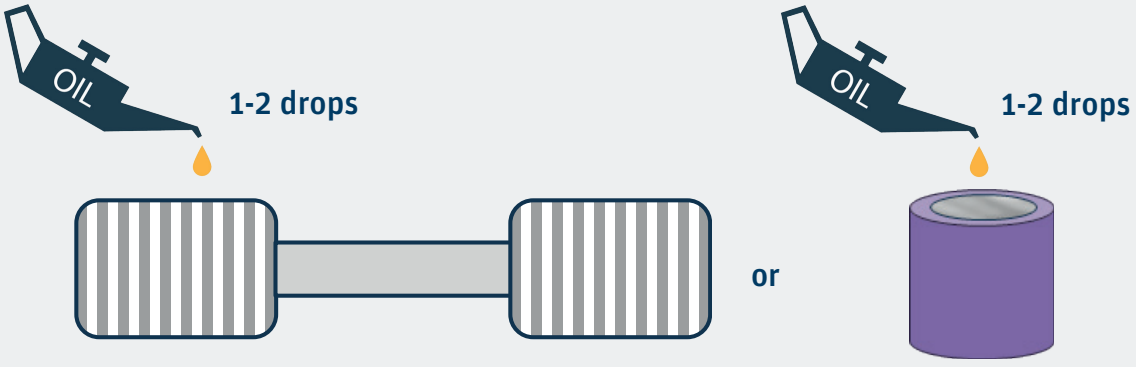
Straight

You can see constant grooves around the whole circumference after dismounting the cot from the arbor

Not Straight

You can see shi-ning aluminum after dismounting the cot from the arbor.

If you use older arbors, one drop of machine oil at the arbor before mounting can help to reduce the mounting forces.



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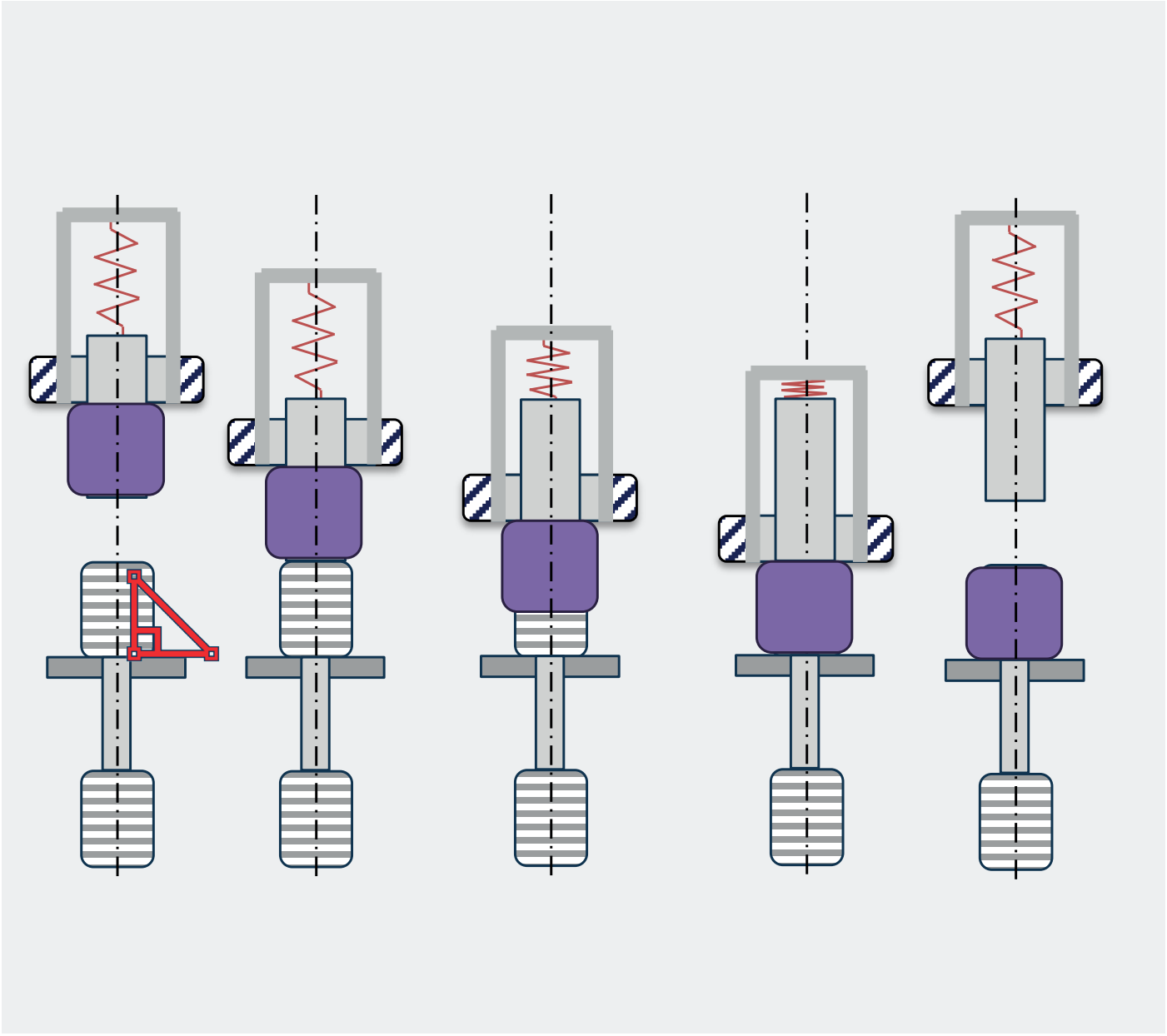
Mounting of Cots

Use centering pin for correct, stable positioning to ensure correct mounting.



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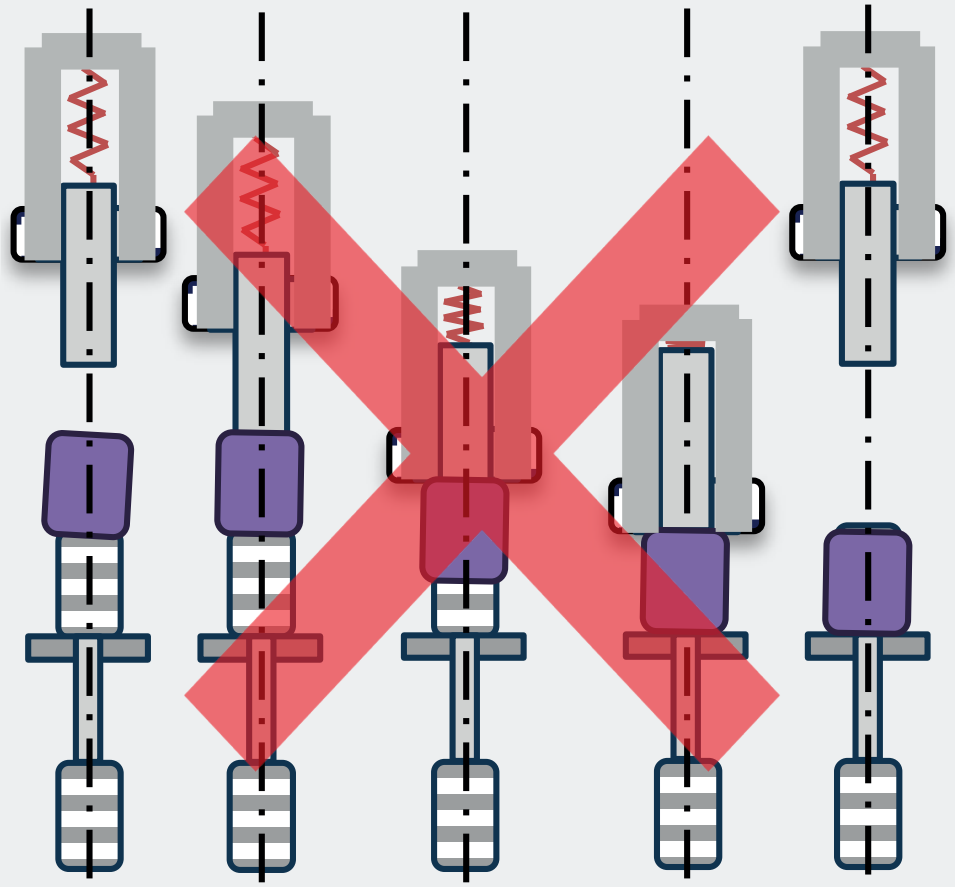
Mounting of Cots



Scan the QR code to watch the video tutorial on how to mount the cots correctly.

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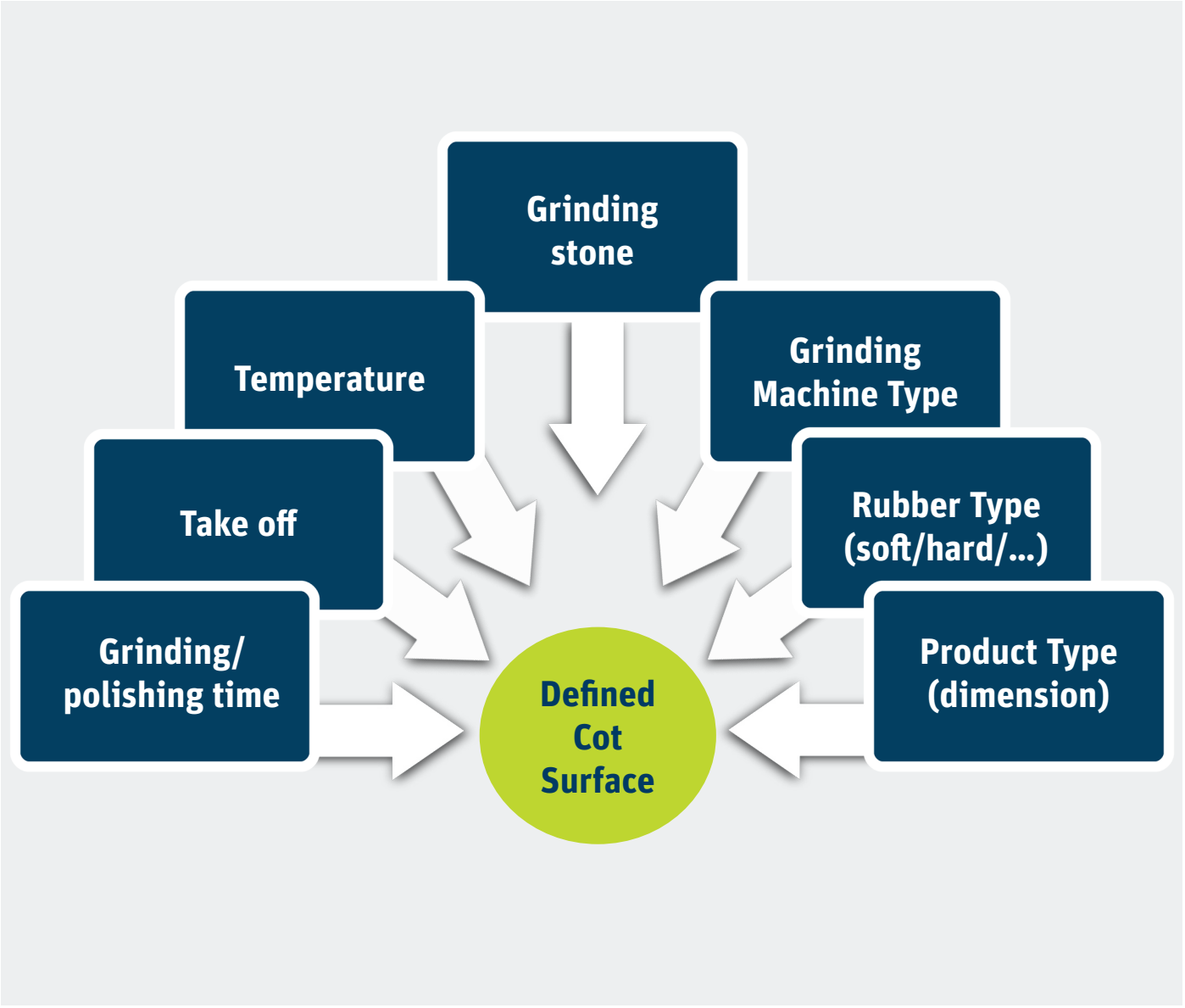
Grinding of Cots

Improved yarn quality is a substantial competitive advantage for today's spinning mills. Accotex cots are standard front cots accepted by the machine manufacturers, on both the regular and the compact spinning frames. Improving yarn values (evenness, thin places, and thick places) require a high-quality soft cot; the performance of this cot however depends largely on the proper preparation of the cot surface.

For a good performance the cot needs the correct surface roughness. In special applications UV treatment of the cots surfaces can be suitable.



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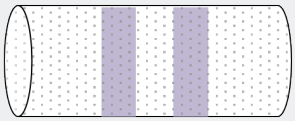
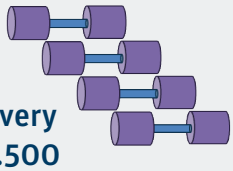
Grinding of Cots

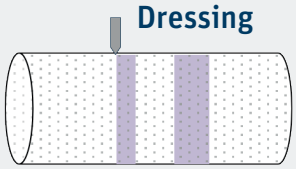
Independent of the type of grinding machine, we suggest ensuring the following:

- The grinding stone is dressed and maintained properly.
- The stone should be dressed with a diamond after every 1500 top rollers.



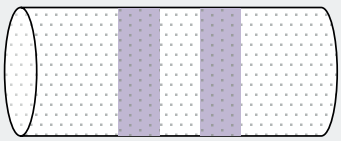


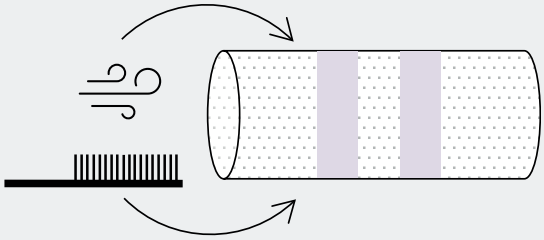
every 1.500 arbours



- Afterwards the stone surface has to be polished with a medium sandpaper to avoid grinder cuts – cuts in top to bottom direction.

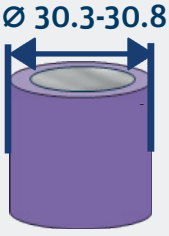
- The stone must be cleaned every 15 minutes, using either compressed air or a soft metal brush





Clean up with compressed air or brush

- New cots will be delivered with a certain wall thickness tolerance.



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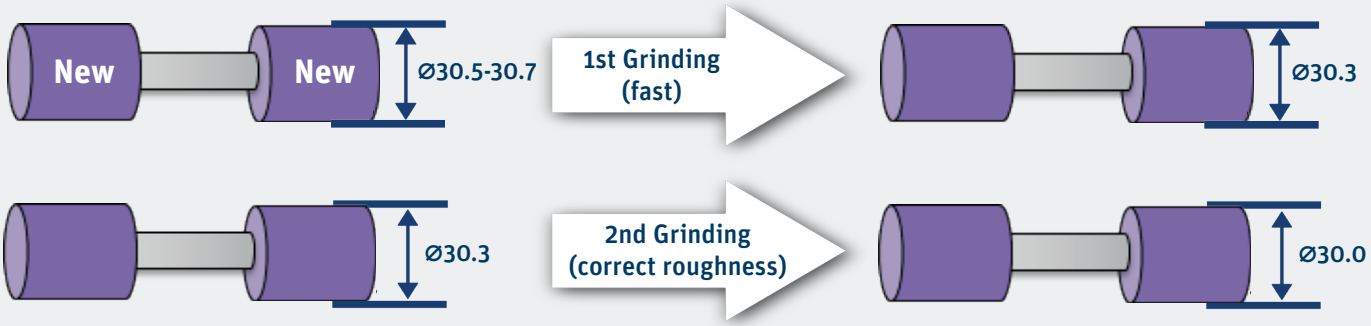
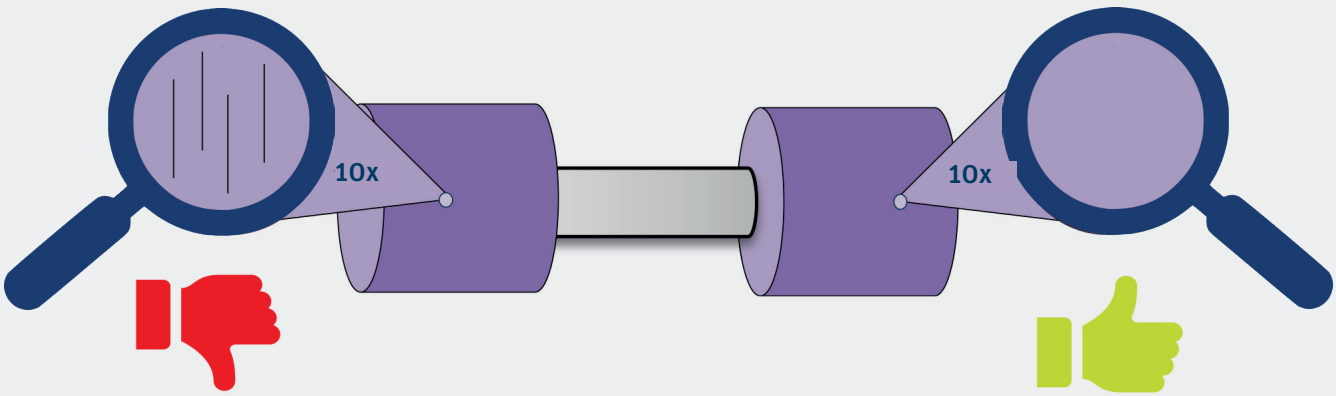
Grinding of Cots

After mounting all new cots must be buffed to the same outer diameter in a first grinding step. The cot can then be ground to nominal dimensions in a further step.



- The cot surface after grinding must be clean and free of grinding dust and grinder cuts.



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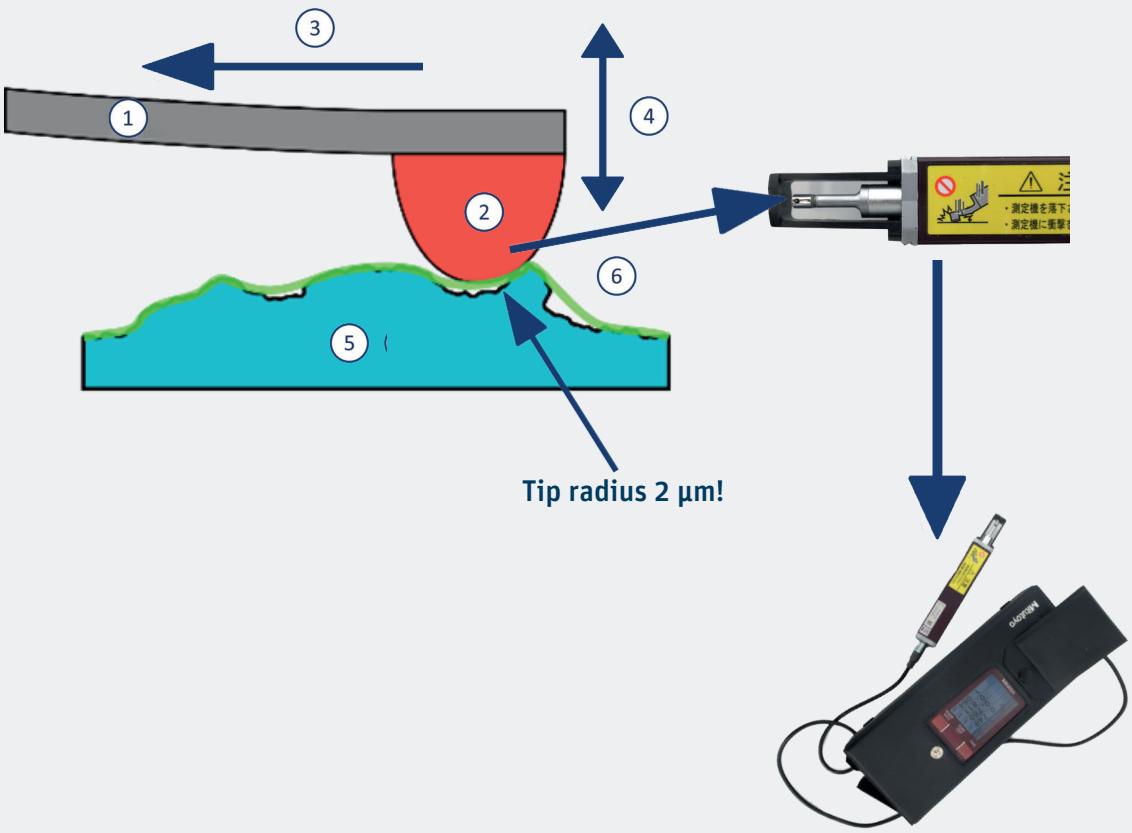
Grinding of Cots

Independent of the type of grinding machine, we suggest ensuring the following:

- **The cot has the correct surface roughness (Ra-value) after grinding.**



Use a measuring device which is calibrated

Check The devise:

- ISO1994
- Cut-Off: 3x0.8 mm or 5x0.8 mm
- Value in Ra

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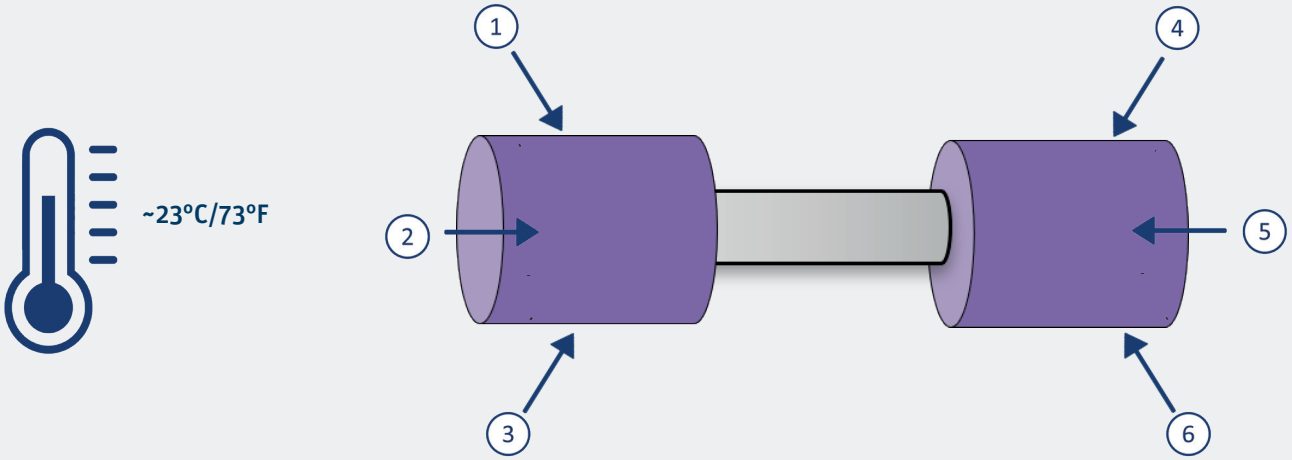
Grinding of Cots

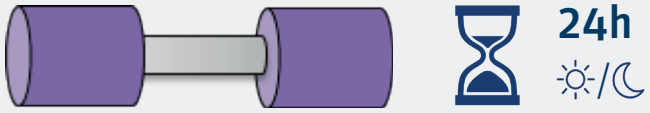
When the surface is cold, three single values should be measured around the circumference of the cot and should be averaged.



$$\text{Roughness [µRa]} = \frac{(1)+(2)+(3)+(4)+(5)+(6)}{6}$$

- With each grinding it is necessary to remove at least 0.3 mm in diameter to get a fresh rubber layer on the cot surface. If less material is removed surface cracks can occur after several grinding cycles.

- The freshly buffed cots should relax in the spinning climate for approx. 24h before they will be used.



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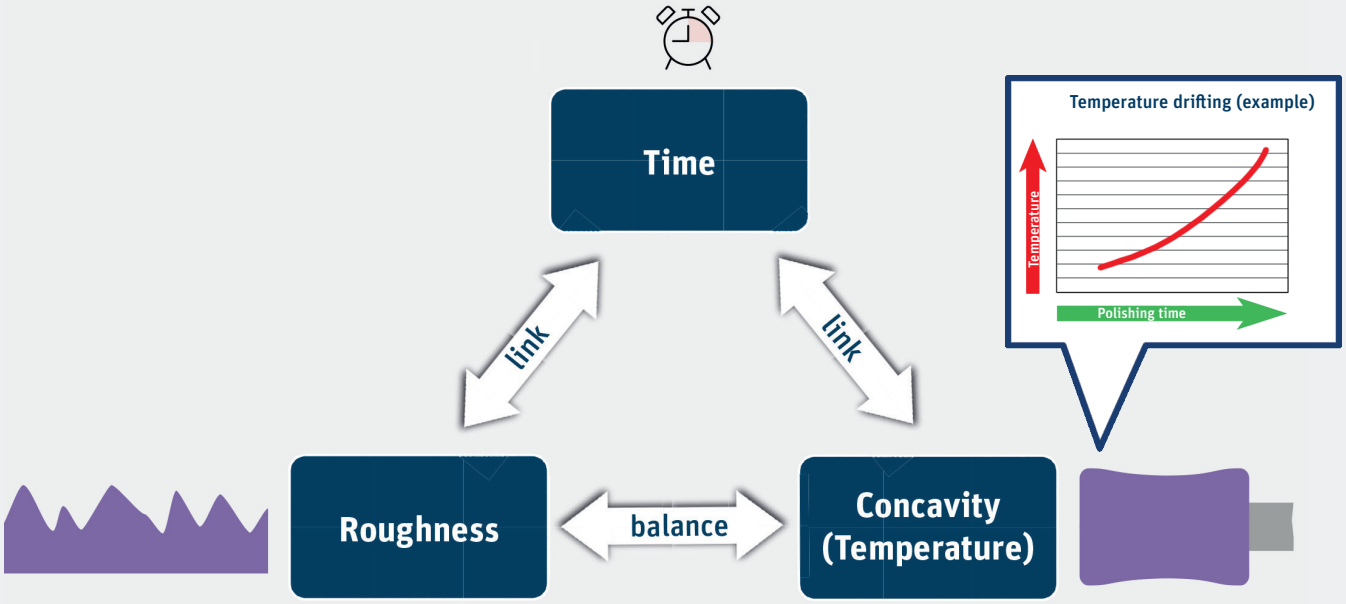
Grinding of Cots

- Grind as fast as possible and as long as necessary



- On a new installation of a spinning machine all new top rollers should be ground after approx. 500h running time.
- The lower grinding limit is 27.0 mm. It may be higher depending on the pressure arm generation.
  If in doubt, read the operating instructions for the spinning machine.

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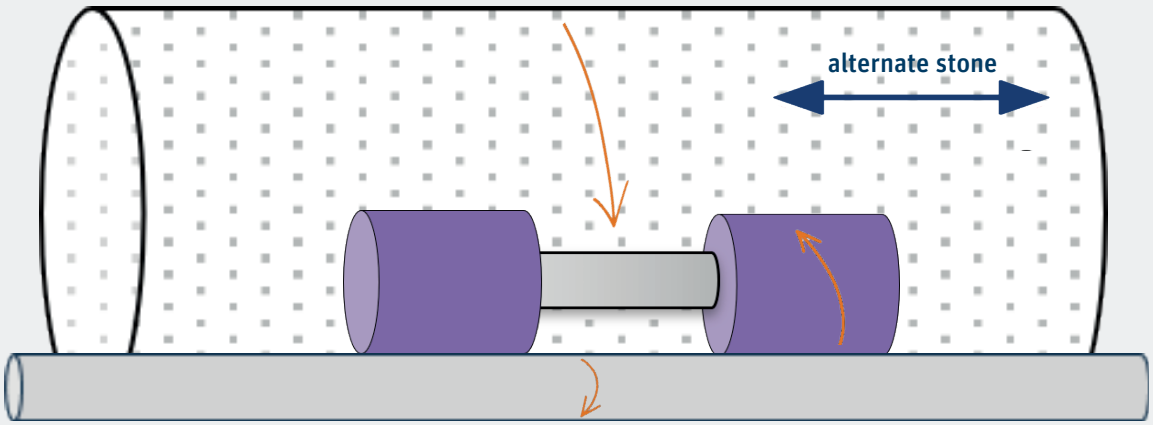
Grinding of Cots

Grinding Machine: Wide-Stone Type



Semi automatic or fully automatic grinding machine:

- Stone grain 80 or 120
- Stone porosity 14 or 10
- Cot diameter to be reduced by 0.3 mm for each grinding

The grinding results that should be achieved are:

Type	Removel (OD)	Targeted roughness [µRa] (cold surface)
Ring spinning	0.3 mm	0.8 – 1.0
Air-Jet spinning	0.3 mm	0.6 – 0.8

Grinding intervals:

Hardness	Type	Recommend grinding interval
Soft cots	Ring spinning	1 - 3 months
Medium cots	Ring spinning	1 - 3 months
Hard cots	Ring spinning	4 - 5 months
Soft cots	Air-Jet spinning	7 - 15 days
Hard cots	Air-Jet spinning	4 - 5 months

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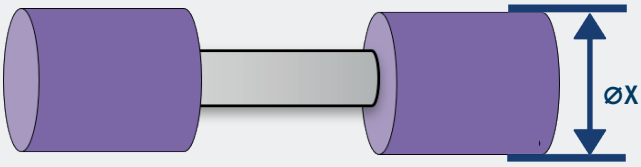
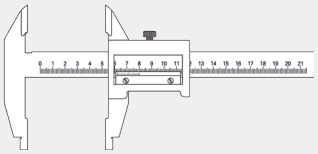
Grinding of Cots

To achieve the results most effectively, please proceed as follows:

1. Measure the outer diameter of the cot before grinding.





2. We recommend starting with the following parameters:

a. For grinding stones with a grain of 120 and a porosity of 10:

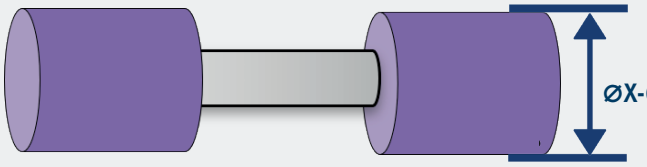
- Total contact time* is used 8s for soft and medium soft cots:
- 3s grinding time5s polishing time
- We recommend to chose the feed 1s/ 0.1 mm material removal

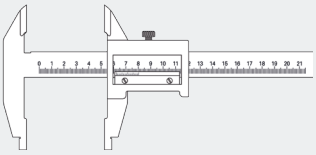
b. For grinding stones with a grain of 80 and a porosity of 14:

- Total contact time* 10s for soft and medium soft cots
- 3s grinding time
- 7s polishing time
- We recommend to chose the feed 1s/ 0,1 mm material removal

*Total contact time=grinding time+polishing time

3. Measure the outer diameter of the cot after grinding; it should be 0.3 mm smaller now, measured on the cold surface





In the case of automatic measurement, check the measured values regularly with a caliper gauge. We recommend the option “grinding to size”.

4. If 0.3 mm diameter reduction has been achieved, please wait for the cot surface to cool down and measure the Ra-value of the surface.

- The total contact time might have to be adjusted, in case a different stone type or stone condition is used
- In this case, please proceed as follows:
  - If the surface is smoother than Ra 0.8 µm, shorten the total contact time by reducing just the polishing time
  - If the surface is rougher than Ra 1.0 µm, lengthen the total contact time by extending just the polishing time.

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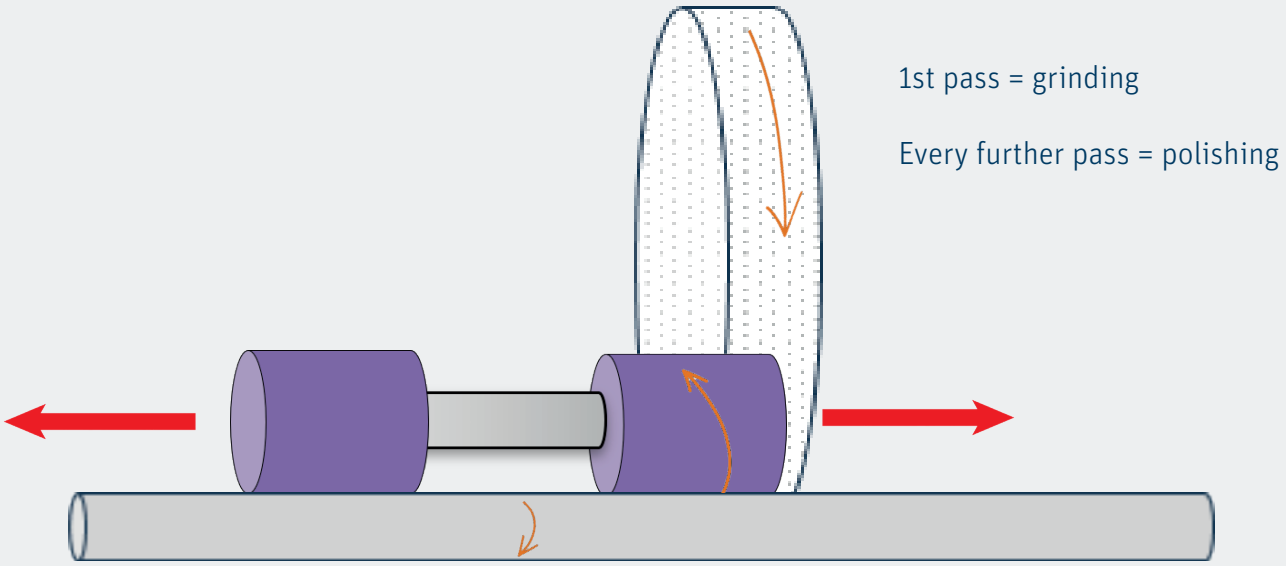
Grinding of Cots

Grinding Machine: Narrow-Stone Type



Semi automatic or fully automatic grinding machine:

- Stone grain 80
- Stone porosity 14
- Cot diameter to be reduced by 0.3 mm for each grinding

The grinding results that should be achieved are:

Type	Removel (OD)	Targeted roughness [µRa] (cold surface)
Ring spinning	0.3 mm	0.8 – 1.0
Air-Jet spinning	0.3 mm	0.6 – 0.8

Grinding intervals:

Hardness	Type	Recommend grinding interval
Soft cots	Ring spinning	1 - 3 months
Medium cots	Ring spinning	1 - 3 months
Hard cots	Ring spinning	4 - 5 months
Soft cots	Air-Jet spinning	7 - 15 days
Hard cots	Air-Jet spinning	4 - 5 months

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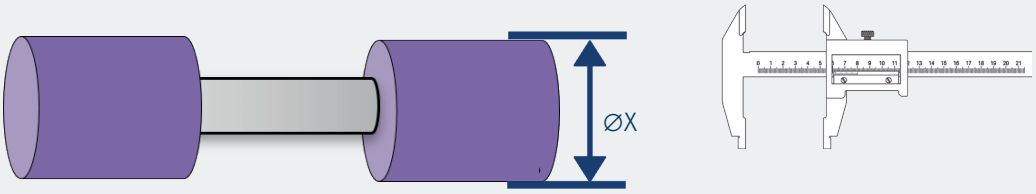
Grinding of Cots

To achieve the results most effectively, please proceed as follows:

1. Measure the outer diameter of the cot before grinding.

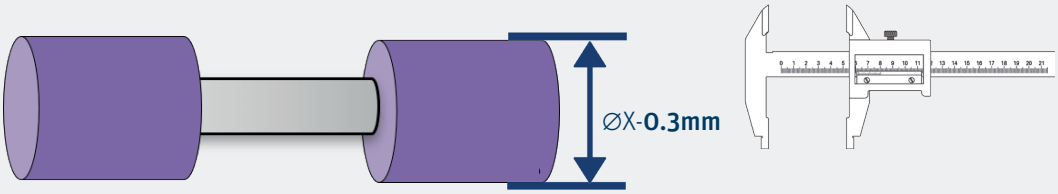


2. We recommend starting with the following parameters:

For grinding stones with a grain of 120 and a porosity of 14:

- 2 passes for soft and medium soft cots
- 3 passes for hard cots

3. Measure the outer diameter of the cot after grinding; it should be 0.3mm smaller now, measured on the cold surface



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- In this case, please proceed as follows:
  - If the surface is smoother than Ra 0.8 µm, shorten the total contact time by reducing just the polishing time
  - If the surface is rougher than Ra 1.0 µm, lengthen the total contact time by extending just the polishing time.

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Grinding Study – Wide stone

Grinding machine: _____

Operator: _____

Date: _____

Notes: Take off: 0,3mm

1st grinding step 30,3 –> 30,0

Material	dimesion	machine setup			Roughness [µRa]							
		feed	polishing time		left			right			x̄	s̄
		[mm/s]	[s]		①	②	③	④	⑤	⑥		
		0,1	2	Arbour 1							######	######
				Arbour 2								
				Arbour 3								
		0,1	5	Arbour 1							######	######
				Arbour 2								
				Arbour 3								
		0,1	10	Arbour 1							######	######
				Arbour 2								
				Arbour 3								
		0,1	15	Arbour 1							######	######
				Arbour 2								
				Arbour 3								

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Grinding Study – Narrow stone

Grinding machine: _____

Operator: _____

Date: _____

Notes: Take off: 0,3mm

1st grinding step 30,3 –> 30,0

Material	dimesion	machine setup			Roughness [µRa]							
		feed	polishing time		left			right			x̄	s̄
		[mm/s]	[s]		①	②	③	④	⑤	⑥		
		0,1	2	Arbour 1							######	######
				Arbour 2								
				Arbour 3								
		0,1	5	Arbour 1							######	######
				Arbour 2								
				Arbour 3								
		0,1	10	Arbour 1							######	######
				Arbour 2								
				Arbour 3								
		0,1	15	Arbour 1							######	######
				Arbour 2								
				Arbour 3								

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