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High stock removal with Coated Abrasives
Summary

- Timesavers
- Widebelt grinding machines
  - Variations
  - Contact roller hardness and diameter
- Coated abrasives
- Coolants
- Vacuum system
- Questions
Active all around the globe

- Leader in the world
- Biggest variety of machinery
- Over 75 years experience

Timesavers International Network

- Minneapolis, USA
- Goes, The Netherlands
- Shanghai, China
- Taichung, Taiwan
- Kuala Lumpur, Malaysia

Excellence through experience
Wide belt grinding machine

- Machine that has a transport system and uses coated abrasives or scotch brite material to remove, finish or deburr material

- Dry or wet system
Wide belt grinding machines

Example deburring

Example finishing

Excellence through experience
Wide belt grinding

Example stockremoval

Example combi
Transport systems

Machine with conveyor belt

Machine with rollertable
Transport systems

✓ Machine with reciprocating table
**Advantage each system**

<table>
<thead>
<tr>
<th>Item</th>
<th>Conveyor belt</th>
<th>Roller table</th>
<th>Reciprocating table with vacuum clamping</th>
</tr>
</thead>
<tbody>
<tr>
<td>Set Up Time</td>
<td>Quick</td>
<td>Quick</td>
<td>Longer</td>
</tr>
<tr>
<td>Small parts</td>
<td>No problem with the right options</td>
<td>Min Part length 2-3 feet</td>
<td>Small parts possible</td>
</tr>
<tr>
<td>Length part</td>
<td>Length no issue</td>
<td>Length no issue</td>
<td>Length restricted by bed</td>
</tr>
<tr>
<td>Thickness</td>
<td>Min 0,040”</td>
<td>Min 0,020”</td>
<td>Min 0,005”</td>
</tr>
<tr>
<td>Accuracy</td>
<td>+/- 0,004”</td>
<td>+/- 0,002”</td>
<td>+/- 0,001”</td>
</tr>
<tr>
<td>Parallellisme</td>
<td>++</td>
<td>+ &lt; ½ “</td>
<td>+++</td>
</tr>
</tbody>
</table>
Contactroller

Hardness vs stockremoval

Diameter vs stockremoval

Excellence through experience
Coated abrasive

- Wide belt grinders use coated abrasives
- Wide belt grinders work over full width

- Advantage coated abrasives vs grinding stones....
  - In coated abrasives the abrasive media has a direction, (higher stock removal per pass)
  - In a grinding stone the abrasive has a random direction
  - Change time grinding belt is less than 1 min.
Coated Abrasive

- Different types
  - Single layer
  - 3 dimensional

- Different mineral
  - SiCA
  - Al2O3
  - Zirkonium
  - Ceramic

Excellence through experience
Hermesit belt

- Hermesit ball
- Grit
- Backing
- Top coat
- Base coat
Example 3 dimensional

- HERMESIT® grinding
- Downsizing of Hermesit ball
- Working with standard belts
- Downsizing of standard grain

Number of belts (belt change)
Belts for Titanium

- Alfa case removal
- Stockremoval Ceramic belts
- Finishing Sica belts
<table>
<thead>
<tr>
<th>Grit size</th>
<th>Ra</th>
<th>RZ</th>
</tr>
</thead>
<tbody>
<tr>
<td>P 80</td>
<td>60-100</td>
<td>480-640</td>
</tr>
<tr>
<td>P150</td>
<td>40-48</td>
<td>280-360</td>
</tr>
<tr>
<td>P180</td>
<td>32-40</td>
<td>200-280</td>
</tr>
<tr>
<td>P240</td>
<td>24-35</td>
<td>200-240</td>
</tr>
<tr>
<td>P280</td>
<td>20-35</td>
<td>160-200</td>
</tr>
<tr>
<td>P320</td>
<td>16-20</td>
<td>120-180</td>
</tr>
<tr>
<td>P400</td>
<td>14-18</td>
<td>100-140</td>
</tr>
</tbody>
</table>
Mineral oil is better for the cutting action from the abrasive

Approx 4% oil in Water

Different materials need different coolants. Belt life can increase 10 times!
Vacuum system
Questions