Optimizing Profiling and Grinding to meet Specifications

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Colorado Specification

• Mean Roughness Index (MRI)
• 1/10th mile segments < 82 in/mi for Interstates
• Exclude 25 ft each side of any structure within the pavement
• 3/16" tolerance across a 10' straightedge

Know the Segments

• Generate 1/10th mile segment locations before profiling
• Don’t forget exclusions
• Moving a segment a few feet will change the MRI

Accuracy Matters

Original Segment: MRI= 93 in/mi
Moved 50': MRI= 105 in/mi
Temperature

- Pavement warps and curls as ambient temperatures change
- Profile at different temperatures to determine how much the MMI changes
- Grind using profiles collected at approximately the same temperature that acceptance profiles will be collected

Warp/Curl Example

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Temperature</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/21</td>
<td>07:00</td>
<td>50°F</td>
<td>12°F</td>
</tr>
<tr>
<td>1/22</td>
<td>07:00</td>
<td>55°F</td>
<td>17°F</td>
</tr>
<tr>
<td>1/23</td>
<td>07:00</td>
<td>60°F</td>
<td>22°F</td>
</tr>
</tbody>
</table>

Determining Grind Locations

- PreVal or Native Profiling Software
- Look at individual segments
- Rolling Straightedge, continuous IRI, Profilograph Simulation
- Set tolerances for starting points
- Start and stop grinds in low spots when possible
- Consider starting and stopping at a transverse joint
- GPS DMI and tracer can be extremely helpful
During Grinding

- Be onsite to re-profile during grinding
- Look for low spots where the grinding head isn’t touching
  - Some grinds may need to be done twice
  - Gives insight into paver or finishing issues
- Check for proper feathering at start and stop locations
- Track Grind Locations

Tips

- 3" grinding head is ideal for bump grinding
- Don’t leave short areas between grinds
- Don’t grind only wheel paths
- Keep thickness in mind

Thank You!

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