Processed Snow Roads, Runways, and Whatever

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www.mtukrc.org
Low Mobility
Modify the Vehicle
## Early Snow Processing Research

### Questions to Answer

<table>
<thead>
<tr>
<th>Snow Description</th>
<th>Typical Density (g/cc)</th>
<th>Rammonde Hardness</th>
<th>Unconfined Compressive Strength (kPa)</th>
<th>Unconfined Compressive Strength (psi)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fine milled, not compacted or impacted (1/2 hour after processing)</td>
<td>0.42</td>
<td>50</td>
<td>240</td>
<td>35</td>
</tr>
<tr>
<td>Fine milled and impacted (1/2 hour after processing)</td>
<td>0.43</td>
<td>50</td>
<td>310</td>
<td>45</td>
</tr>
<tr>
<td>Fine milled, impacted and compacted by vibrator (1/2 hour after processing)</td>
<td>0.55 to 0.58</td>
<td>100</td>
<td>345</td>
<td>50</td>
</tr>
<tr>
<td>Coarse milled and compacted (not with new groomer 1/2 hour after)</td>
<td>0.55 to 0.58</td>
<td>100</td>
<td>480 to 620</td>
<td>70 to 90</td>
</tr>
<tr>
<td>Coarse milled and compacted (not with new groomer 24 hours after)</td>
<td>0.55 to 0.58</td>
<td>200 to 300</td>
<td>480 to 620</td>
<td>70 to 90</td>
</tr>
<tr>
<td>Ice (for comparison)</td>
<td>0.86</td>
<td>&gt;1000</td>
<td>1100</td>
<td>160</td>
</tr>
</tbody>
</table>

- **Floating Slab?**
- **Cold Snow Set-Up?**
- **Strength Degredation?**
- **Layering?**
Shallow Snow – Great Results

Rocks and Stumps – Not So Good!

Cost – Not So Good Either
The Current Project
“Snow Paver” in Antarctica
To “The Ice”
The Next Steps
Use in More Conditions
Build a Thick Pavement
Monitor Interface Degredation