Snowpack Strength/Stability Test Scoring

**Shovel Shear Test**

<table>
<thead>
<tr>
<th>Term</th>
<th>Description</th>
<th>Equivalent Shear Strength (Pa)</th>
<th>Data Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collapse</td>
<td>Block settles when cut</td>
<td></td>
<td>STC</td>
</tr>
<tr>
<td>Very Easy</td>
<td>Fails during cutting or insertion of shovel</td>
<td></td>
<td>STV</td>
</tr>
<tr>
<td>Easy</td>
<td>Fails with minimum pressure</td>
<td>&lt; 100</td>
<td>STE</td>
</tr>
<tr>
<td>Moderate</td>
<td>Fails with moderate pressure</td>
<td>100-1000</td>
<td>STM</td>
</tr>
<tr>
<td>Hard</td>
<td>Fails with firm sustained pressure</td>
<td>1000-2500</td>
<td>STH</td>
</tr>
<tr>
<td>No Shear</td>
<td>No shear failure observed</td>
<td>2500-4000</td>
<td>STN</td>
</tr>
</tbody>
</table>

**Rutschblock Test**

<table>
<thead>
<tr>
<th>Score</th>
<th>Loading step that produces a clean shear fracture (≤ Q2)</th>
<th>Data Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Block slides during digging or cutting</td>
<td>RB1</td>
</tr>
<tr>
<td>2</td>
<td>The skier approaches the block from above and gently steps down onto the upper part of the block (within 35 cm of the upper wall).</td>
<td>RB2</td>
</tr>
<tr>
<td>3</td>
<td>Without lifting the heels, the skier drops once from straight leg to bend knee position (feet together) pushing downwards and compacting surface layers.</td>
<td>RB3</td>
</tr>
<tr>
<td>4</td>
<td>The skier jumps up and lands in the same compacted spot.</td>
<td>RB4</td>
</tr>
<tr>
<td>5</td>
<td>The skier jumps again onto the same compacted spot.</td>
<td>RB5</td>
</tr>
<tr>
<td>6</td>
<td>For hard deep slabs remove skis and jump on the same spot; for soft slabs or thin slabs where jumping without skis might penetrate the slab, keep skis on. Step down another 35 cm (almost to mid-block and push once then jump three times.</td>
<td>RB6</td>
</tr>
<tr>
<td>7</td>
<td>None of the loading steps produced a smooth slope-parallel failure</td>
<td>RB7</td>
</tr>
</tbody>
</table>

**Compression Test**

<table>
<thead>
<tr>
<th>Term</th>
<th>Description</th>
<th>Data Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Easy</td>
<td>Fractures during cutting</td>
<td>CTV</td>
</tr>
<tr>
<td>Easy</td>
<td>Fractures within 10 light taps using finger tips only</td>
<td>CT1 to CT10</td>
</tr>
<tr>
<td>Moderate</td>
<td>Fractures within 10 moderate taps from the elbow using fingertips</td>
<td>CT11 to CT20</td>
</tr>
<tr>
<td>Hard</td>
<td>Fractures within 10 firm taps from whole arm using palm or fist</td>
<td>CT20 to CT30</td>
</tr>
<tr>
<td>No Fracture</td>
<td>Does not fracture</td>
<td>CTN</td>
</tr>
</tbody>
</table>
### Stuffblock Test

<table>
<thead>
<tr>
<th>Term</th>
<th>Description</th>
<th>Data Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Easy</td>
<td>Fractures during column isolation</td>
<td>SBV</td>
</tr>
<tr>
<td>Easy</td>
<td>Fractures during static load</td>
<td>SB0</td>
</tr>
<tr>
<td>Easy (drop height of 10 or 20 cm)</td>
<td>Fractures during dynamic load</td>
<td>SB + drop height number (SB10, SB20, etc.)</td>
</tr>
<tr>
<td>Moderate (drop height of 30 or 40 cm)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hard (drop height of 50-70 cm)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No fracture</td>
<td>Does not fracture</td>
<td>SBN</td>
</tr>
</tbody>
</table>

### Extended Column Test (12/2007)

<table>
<thead>
<tr>
<th>Description</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fracture propagates across the entire column during isolation</td>
<td>ECTPV</td>
</tr>
<tr>
<td>Fracture initiates and propagates across the entire column in ## or ## + 1 taps</td>
<td>ECTP##</td>
</tr>
<tr>
<td>Fracture does not propagate across the entire column or there are two or more taps between the initiation and propagation of the fracture</td>
<td>ECTN</td>
</tr>
<tr>
<td>No fracture occurs during the test.</td>
<td>ECTNR</td>
</tr>
</tbody>
</table>

### Slope Cut Test

<table>
<thead>
<tr>
<th>Term</th>
<th>Description</th>
<th>Data Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>No release</td>
<td>No result</td>
<td>SCN</td>
</tr>
<tr>
<td>Whumping</td>
<td>Cut produces collapse in the snowpack</td>
<td>SCW</td>
</tr>
<tr>
<td>Cracking</td>
<td>Cut produces shooting cracks</td>
<td>SCC</td>
</tr>
<tr>
<td>Avalanche, Slab</td>
<td>Slope produces a slab avalanche.</td>
<td>SCS</td>
</tr>
<tr>
<td>Avalanche, Loose</td>
<td>Slope produces a loose snow or sluff avalanche.</td>
<td>SCL</td>
</tr>
</tbody>
</table>