Introduction
The ski industry is a highly competitive, rapidly evolving market where new designs and technologies are introduced every year. The biggest roadblock to innovation is the time and cost it takes to prototype new ski designs. Our goal was to create a ski press featuring an adjustable camber system and digital temperature control to reduce the time and cost of prototyping ski/snowboard designs while maintaining a competitive price point.

1. Frame
- Safely supports the pressure generated by the pneumatic pressing system
- Open press bay allows for easy loading of materials

2. Heating Element
- Provides adequate and even temperature to bring out the best properties of the epoxy resin used to bind ski materials

3. Digital Controls
- Tuned PID control of heating element quickly and accurately brings internal temperature of ski to desired temperature

4. Pressure System
- Pneumatic pressure system provides adequate and even pressure to ski materials
- Firehose-based system removes the need for an exact upper mold which decreases the manufacturing time and cost per ski

5. Adjustable Camber System
- Adjustable lower mold removes the need to create a new mold for different camber profiles which saves time and decreases cost
- Rigid design minimizes deflection of the lower mold for accurate and consistent camber profiles

Specifications

<table>
<thead>
<tr>
<th>Specifications</th>
<th>Target</th>
<th>Achieved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max Temp.</td>
<td>&gt;180F</td>
<td>190F</td>
</tr>
<tr>
<td>Temp. Distribution</td>
<td>&lt;5F</td>
<td>4.1F</td>
</tr>
</tbody>
</table>

Conclusion
The results of this project is a product that can manufacture skis and snowboards quickly, consistently and at a decreased cost compared to conventional ski presses.

Specifications

<table>
<thead>
<tr>
<th>Specifications</th>
<th>Target</th>
<th>Achieved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Cost</td>
<td>&lt;$2500</td>
<td>$2400</td>
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