This is a communication construction helmet with some advanced features as opposed to conventional construction helmets that are currently out in the market. This helmet will seek to minimize construction site head injuries due to inefficient material type and structural properties while allowing workers to use helmet accessories in more safe and convenient way. This final prototype was made with ABS material, but the actual design seeks for fiberglass outer shell with EPS foam insert for more durability, energy absorption and aesthetic purpose. The helmet, however, needs to be decreased in size for better fit. The prototype has vents as designed, but also requires carbon mesh to securely minimize sharp and small object penetration injuries. It has a flesh light for concept proof attached, but a more secure attachment should be designed. There is a Bluetooth attached for the person wearing it so that phone handling is more secure. But the Bluetooth requires a compartment in the ear flap. A ratchet system attachment shall be designed and attached for eye and ear protection. The straps need little to no improvement as it serves its purpose.

Customer Needs

Our customer had specific needs that needed to be met in order to make the construction helmet different from what already exists. The customer needs were: Bluetooth, strap design, vent design on the sides, comfortable material, LED head light, collapsible foam insert, and ability to print radially.

Design Concept

Description of Communication Construction Helmet:

- Unique Communication Component
- Goals- Quality, Safety, and Comfort
- ANSI Requirement

Test Plan

<table>
<thead>
<tr>
<th>Test Case</th>
<th>Direct Requirement</th>
<th>Test</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>010</td>
<td>REQ010, REQ 020, REQ020</td>
<td>DIMENSIONS</td>
<td>PASS</td>
</tr>
<tr>
<td>020</td>
<td>REQ630</td>
<td>BLUETOOTH</td>
<td>PASS</td>
</tr>
<tr>
<td>030</td>
<td>REQ 630, REQ 630, REQ 640</td>
<td>INNER FOAM AND HARD HAT</td>
<td>PASS</td>
</tr>
</tbody>
</table>

Test Procedure:
1. Place the hard hats as the first position in figure 9 at a height of 5 and 2.33 ft.

Acknowledgement

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References