Traumatic Brain Injury Reducing Army Combat Helmet

Team 6
Week 10
April 7, 2009
Damian Frankiewicz
Work Completed:

Unfortunately, our group suffered a setback because two orders were not able to be processed yet, meaning that there are no supplies available to create the fourth and final helmet required for testing. If the supplies do not arrive by Thursday or Friday, then the most likely outcome will be that only three helmets will be sent out for testing. The initial test parameters for four helmets were as follows:

Prototype 1: Dropped at 8, 10, 12 ft/s (Durability test)
Prototype 2: Dropped at 8 ft/s
Prototype 3: Dropped at 10 ft/s
Prototype 4: Dropped at 12 ft/s

If the fourth helmet is not made by the end of this week, the test for Prototype 3 will not be used so that data for the fastest and slowest speeds can be collected for better data distribution.

In terms of work accomplished, the cutting has been completed on all three helmets already made. Helmet 3 required some trimming in the back and Helmet 1 was cut completely since no work was performed on it yet. The total amount of cutting took about 4 hours.

The remaining time was spent cutting expanded polystyrene to the shape of the helmets. Figure 1 shows the first block before the helmet was placed over it.
Once the helmet is placed on the EPS, it is cut around the edges of the helmet and then cut concavely. For now, the EPS is cut fairly thick at about half an inch. All three EPS blocks were cut for the three prototype helmets. In addition, epoxy-based glue will be used to glue Velcro circles on the inner layer of the EPS so that the padding layer can be attached.

**Future Work:**

Once the extra supplies come in one more helmet must be made from scratch in order for four helmets to be sent out for testing at the end of Week 11. While the helmets are out for testing, one more helmet must be made for display purposes. If the materials do not come within a few days, then only three helmets will be sent out for testing and the middle testing velocity will be removed so that we still have the high and low speed tests.
**Hours Worked:**

A total of 8 hours have been worked on the tenth week.