



Chapter One: EML 4551C

Project Scope

1.1 Project Scope

1.1.1 Project Description

Energy Distribution Materials main objective is to reduce the injuries of football players through the improvement of shoulder pads. As part of the mission we will work together with our sponsor and advisor to research and analyze data to develop a material capable of withstanding blunt force trauma.

1.1.2 Key goals:

The key goals of this project were determined from the project briefing with the team's sponsor and advisor. The project brief was broken down into a list of achievable objectives to ensure that the project stays on track with the sponsor's project description.

- Identify the specific injuries the product will prevent.
- Determine a method to reduce injuries caused by blunt force.
- Adapt this selected method to football shoulder pads.
- Ensure the safety of any personnel wearing the pads.

1.1.3 Markets

The markets that this project tailors towards are companies producing sports gear and sportswear, companies that produce protective gear and safety equipment, adult athletes, and parents of athletic children. Incorporating a new structure or material into sports gear and sportswear is the main target of this project, thus partnering with companies that focus in this



department is crucial. This infused product caters towards parents and athletic adults with the emphasis on injury prevention and minimizing the longevity of injury consequences. While sports injuries are the main concern for this project, the product application can also be transferrable to other injuries such as automotive or construction; this opens companies producing protective gear as another ideal market.

1.1.4 Assumptions

The assumptions for this project are stated to direct the engineers towards the project description.

- The product can be worn by a person.
- The product will be implemented into other existing products.
- Product is used on earth under conditions such as gravity, temperature, and pressure.
- This product is not intended to be used underwater.
- Mass production of the product is feasible.
- Product helps prevent direct blunt force trauma injuries.

1.1.5 Stakeholders

The stakeholders for this project include people with investment, interest, and control in the project.

- Mike Holloway: Sponsor
- Dr. Christian Hubiki: Advisor
- Dr. Shane McConomy: Professor
- HPMI [High-Performance Materials Institute]: Research Aide
- Florida State University Athletic Department: Research Aide
Team ##: 519