Vacuum Casting System

Marc Louis, Matthew Farrell, David Sengeh, Leslie Meyer
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Original Ideas

- Fablab Casting Method used for production of cost effective sockets
- Developing an Improved Pyramid for a Socket
- Vacuum Cast Sockets for Cost Effective Socket Product
- Force simulation of a socket
Vacuum Casting System Overview
Where We Currently Stand

- Integrated bag and Nozzle
- Replacement of beads with local materials
- Pump for vacuum creation
  - Bike pumps
  - Other sources of human power
Integrated Bag and Nozzle System

- Cheaper
  - (no need to buy/keep replenishing plastic bags)

- Greener
  - (reusability)

- Self contained
  - (easier to use)

- More efficient
  - May be a more effective vacuum created because of less air loss
    (experimentation and examination needed)
Diagram of Integrated Nozzle and Bag System

Parts of the System

1. Outer Non-Porous Bag
2. Inner Porous Bag
3. Air Pump
4. Screw Top
   - Easy Fastening
Material Requirements

- Flexible
  - (variable stumps)

- No memory
  - (can go back to default after air is added in)

- Not porous

- Preferably cheap and easily accessible

- Durability and Longevity

- No side effects
  - (irritation, toxins etc)
Possible Materials

- Material used in Airline pillows
- A porous material and soak into some kind of resin
- Balloon material
- Vacuum Storage Bag
- Various plastic bags
  - (thickness, exact composition, etc)
Rough Timeline/indicators

- Identify material
- Attaching Nozzle
- Testing
  -- Product Modification (Prototyping)
  -- Testing
  -- Product
Questions and Suggestions

Feel free to ask any questions or give any suggestions
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