Kite Comparison Designs

**Use for a task / Suitable for the task / Helps managing resources / Technology feasible / Possible cost / Safety**

- **Delta Conyne/ Twin Delta Conyne**
  - Delta Conyne kites are great for light to medium winds.
    - **Helps Manage Resources and Suitability:** These designs are very minimal with the amount of materials that they use in production. Simple wood dowels, glue, plastic sheeting, and strong tape are all that is needed.
    - **Feasibility:** They are simple to put together and combine the lifting power of large delta wings with the stability of a central cellular box.
    - **Use For Task/ Specifications**
      - 3-30 mph
      - Carbon fiber
      - Ripstop Nylon sail
      - 71” wingspan
      - 30” Height
    - **Cost:** $40-50
    - **Safety:** Reliable and Sturdy


[http://www.kiteplans.org/planos/deltacon/deltacon_2.html](http://www.kiteplans.org/planos/deltacon/deltacon_2.html)
• Delta
  ○ Cost: $30+(in-store)
  ○ Management and Feasibility
    ■ Nylon Sail/Plastic or Graphite Rods for Spars
    ■ Nylon/Plastic Fasteners
    ■ Can be built with a variety of other accessible and inexpensive resources
    ■ This kite will also only require simple, inexpensive, materials such as: wood dowels, glue, plastic sheeting, and strong tape are all that is needed
  ○ Use For a Task, Suitability and Safety
    ■ Able to be flown in light winds/easy to construct and alter to fit needs.
    ■ Size can be varied to fit needs of consumer and project requirements.
    ■ Safety and Reliable due to simple design and solid construction
- **Rotor Kite**
  - **Design and Tech. Feasibility:** Spins around a horizontal axis, parallel to the ground and perpendicular to the wind. The top side of the kite moves with the wind and bottom rotates into the wind. This can be accomplished with our resources.
  - **Helps Manage Resources:** These designs are very minimal with the amount of materials that they use in production. Simple wood dowels, glue, plastic sheeting, and strong tape are all that is needed.
  - **Cost:** $20-30
  - **Safety:**
    - Secondary effects when flying include light flashes, noise and strong line vibrations.
    - Pull: Light
  - **Use for Tasks:**
    - Energy Generation (wind turbines) and entertainment.
    - Wind Range: 6 - 25 mph
    - Frame: Carbon & Fiberglass
    - Sail: Polyester
    - Size: Varies
- **Traction/Power Kite - Parafoil version**
- **Use for Task and Suitability:** Parafoils are extremely efficient and be made in a numerous range of sizes by altering the size and number of cells. Parafoils are noted for their stable flight in a wide range of wind speeds.
- **Technology Feasibility:** This design essentially captures air much like a parachute. This can be used in all types of wind conditions and perform well.
- **Cost:** $50-40 for 62in
- **Safety:** Safe but large sized versions can be very powerful.
- **Construction and Resource Management:**
  - Aerofoil shape is created by structuring wind vents to allow the air to provide lift.
  - Normally, no spars are used. Triangular flaps can be sewn into the underside improve stability.
  - The cheapest kites use plastic, but any good quality dual line parafoils are constructed with nylon or polyester. We can make do with plastic, tape, and kite string. This will be very resource savvy.
Works Cited


