

Case Study: Cable Holder (DISPAL® S220 AM)



In the ever-evolving landscape of linear technology, the quest for efficiency, sustainability, and enhanced performance is unceasing. This case study delves into a transformative project where the traditional was reimagined, and the result was a Cable Holder that not only met industry standards but set new benchmarks.

Industry: Linear Technology

Material used: DISPAL® S220 AM

Challenge: lead time and weight reduction, enable cost-efficient production in low quantities, and enhance overall manufacturability. The conventional use of carbon fiber posed constraints, both in terms of manufacturing complexity and environmental impact.

Solution:

- **Material Selection:** In a departure from traditional carbon fiber, DISPAL® S220 emerged as the material of choice. Not only did this decision address ease of manufacturability, but it also presented a more sustainable and eco-friendly alternative, aligning with contemporary "green" engineering practices.
- **Additive Manufacturing (AM):** Leveraging the higher design freedom offered by Additive Manufacturing (AM), the Cable Holder's geometry was redefined. This not only streamlined the manufacturing process but also enabled the creation of a component with superior stiffness when compared to the original carbon fiber counterpart.

Outcomes:

1. **Lead Time Reduction:** The strategic adoption of DISPAL® S220, coupled with the flexibility provided by AM, contributed to a significant reduction in lead time. The Cable Holder transitioned from concept to reality seamlessly, addressing the time-sensitive demands of linear technology applications.
2. **Weight Reduction:** The application of DISPAL® S220 resulted in a Cable Holder that was 33% lighter than its non-additively manufactured sibling.
3. **Improved Manufacturability:** DISPAL® S220's properties significantly improved the overall manufacturability of the Cable Holder. Complexities associated with traditional materials were mitigated, streamlining the production process and enhancing efficiency.
4. **Enhanced Performance:** The higher stiffness achieved through the innovative use of DISPAL® S220 translated into superior accuracy during pick and place cycles. The Cable Holder not only met industry standards but surpassed them in terms of performance reliability.

The adoption of DISPAL® S220 in the creation of the Cable Holder exemplifies a successful fusion of material innovation and advanced manufacturing techniques in the realm of linear technology. This case study stands as a testament to the transformative power of rethinking traditional approaches, resulting in a product that not only addresses industry challenges but sets a new standard for efficiency and sustainability in linear technology.