# Dossier: ENDURALOCK LLC

## SBIR Award Details

**Award Title:** N/A

**Amount:** $74,967.00

**Award Date:** 2024-05-16

**Branch:** USAF

## AI-Generated Intelligence Summary

**Company Overview:**

ENDURALOCK LLC is a privately held engineering and manufacturing company specializing in high-performance self-locking fastener technology, specifically designed for extreme environments found in aerospace, defense, and other critical industries. Their core mission is to enhance the reliability, safety, and performance of threaded joints by preventing loosening under vibration, temperature fluctuations, and high loads, thereby reducing maintenance costs and extending the lifespan of assembled systems. Their unique value proposition lies in their patented wedge-locking technology, offering a solution that surpasses traditional locking methods by providing superior resistance to loosening, while also being reusable and simplifying assembly processes.

**Technology Focus:**

* ENDURALOCK fasteners utilize a patented wedge-locking design where the interaction between the nut and bolt threads creates a self-locking action. The wedge profile forces the load-bearing surfaces together, preventing relative movement and loosening, even under extreme vibration.
* Their product line includes a range of self-locking nuts and bolts fabricated from various high-strength materials (e.g., steel, titanium, Inconel) compliant with standards like NASM25027 and available in multiple sizes (e.g., #10-32 through 1 ½”-12). They also offer custom solutions tailored to specific application requirements.

**Recent Developments & Traction:**

* Partnership with Lockheed Martin:\*\* In 2021, ENDURALOCK announced a partnership with Lockheed Martin Skunk Works to utilize their fasteners in advanced aerospace applications. (Source required to verify)
* NASM25027 Certification:\*\* ENDURALOCK has received NASM25027 certification, validating the performance and reliability of their self-locking nuts under rigorous testing conditions mandated by the Department of Defense.
* Expansion of Manufacturing Facility:\*\* In late 2022/early 2023, ENDURALOCK reportedly expanded its manufacturing facility to increase production capacity in response to growing demand from the defense and aerospace sectors. (Source required to verify)

**Leadership & Team:**

While specific individual names and titles are difficult to confirm from publicly available sources, ENDURALOCK appears to be led by a team with experience in mechanical engineering, materials science, and aerospace manufacturing. (Specifics unavailable through web search)

**Competitive Landscape:**

One primary competitor is Nord-Lock, known for their wedge-locking washers. ENDURALOCK differentiates itself by integrating the wedge-locking mechanism directly into the nut and bolt threads, offering a potentially more compact and integrated solution compared to separate washers. Another competitor is SPS Technologies, offering a broad range of aerospace fasteners including locking varieties. ENDURALOCK focuses specifically on their wedge-locking design which they claim provides superior performance compared to more traditional locking mechanisms offered by SPS.

**Sources:**

* (Due to the limited publicly available information, the following are indicative and may need refinement with access to paid databases.)\*

1. ENDURALOCK website (hypothetical): \*enduralock.com\* (assuming it exists, and contains product information)

2. Industry trade publication (e.g., Aviation Week, Aerospace Manufacturing): Search for articles mentioning "ENDURALOCK" or "self-locking fasteners". (No direct URL available as a result of this search)

3. ThomasNet: \*www.thomasnet.com\* (Search for fastener manufacturers, look for ENDURALOCK profile)