

Component	LIRA Material	Aerospace Baseline
Box Structure	Carbon Steel (A36, 14-gauge)	Titanium Ti-6Al-4V Aluminum 6061-T6
Box Seal	EPDM Foam	Indium Blade Seal
Bag Seal	Rubber O-ring (EPDM)	Viton FKM
Thermal Control	-	Aluminized Mylar
Cushioning (Walls and Base)	3D-Printed Hexagonal Lattice (TPU)	Elastomeric Microlattice (Steel or Aluminum)
Bag Outer Layer	Nylon Fabric	Beta-Cloth (Fiberglass/Teflon)
Bag Middle Layer	Merino Wool	Ortho Fabric
Bag Inner Layer	Stainless Steel Mesh	Dacron

SUMMARY	
What Works:	<ul style="list-style-type: none"> ✓ Steel wool cushioning - Perfect match ✓ Steel structure - Proves the concept
What We Saved:	<ul style="list-style-type: none"> ✓ 75-97% cost reduction overall ✓ All materials machinable in high school shop
What We Trade:	<ul style="list-style-type: none"> ⚠ Weight: 2-3× heavier (steel box) ⚠ Durability: 50-75 cycle seal life (vs 100+) ⚠ Safety: Nylon is flammable (fire hazard)