Secure Hybrid Composite Shipping Containers

Convention for Safe Containers (CSC) and Transports Internationaux Routiers (TIR) Certified

The University of Maine has designed and built a Secure Hybrid Composite Maritime Shipping Container (SHYCC). It is the first secure intermodal composite shipping container that provides six-sided intrusion detection, real-time tracking, door opening alerts, and secure global communication. This technology enables government agencies and commercial high-value good producers to fight tampering by sophisticated adversaries or terrorist organizations, and minimize loss from theft, damage, or spoilage. No shipping container is available today that offers all of the security features of SHYCC desired by these customers, particularly full six-sided tamper detection. Composites reduce the weight of the container by 20% and protect the embedded intrusion sensors from damage in the shipping environment.

The ultimate goal of the container is to provide the level of security to law enforcement officials to ensure weapons, contraband, or other materials have not been inserted into the container for smuggling into the US. Within the commercial shipping environment there is $50-$60B of cargo theft every year, approximately half–$25B to $30B–occurs in the US. High value product shippers of electronics and pharmaceuticals are the most common targets.

Conventional Steel Container Perimeter Frame and Corner Castings.

Hybrid Composite Doors with intrusion and door opening detection capabilities.

Weldable Composite panels (90% of container surface) with embedded intrusion detection sensors.

Commercialization Partner:

GLOBAL SECURE SHIPPING

Advantages of Secure Hybrid Shipping Containers

- 15-20% lighter than conventional steel containers resulting in fuel savings and increased payload capabilities.
- Assembled using existing steel container factory lines.
- Interchangeable with existing steel containers.
- Repaired using existing techniques and equipment.
- Sensors embedded in the composites detect intrusions through all six faces.
- Can communicate intrusions anywhere in the world.

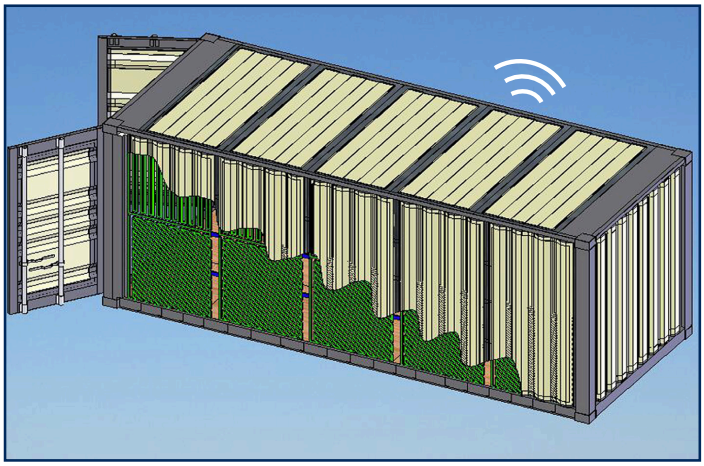
Project Timeline

Phase 1: 2006 - 2017

Design, development and laboratory tests. ISO approval obtained for full SHCC container. CSC and TIR certifications received.

Phase 2: 2018-2022

Global Secure Shipping establishes commercial production line.



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