

Oxygen-Acetylene Tank Pallet Rack Development

Technology Description



The Oxygen-Acetylene tank Pallet Rack is a materiel logistics solution specifically designed for Amphibious Construction Battalion TWO's (ACB-2) capability and mission requirements in building Elevated Causeway System (ELCAS). This rack system enables them to transport Oxygen and Acetylene tanks safely and quickly to any theater of operations. The Oxygen-Acetylene tank Pallet Racks will provide a safe and secure system of transporting/shipping these tanks separately in approved ISO shipping containers. Its design allows for loading and unloading of these pallet racks via small forklift. These pallet racks are also designed for quick, easy loading and ready access to the Oxygen and Acetylene tanks with minimum effort and manpower; which can also be used for general construction, steel fabrication projects and force protection / survivability missions.

Value to the Warfighter

There is no current commercial off-the-shelf (COTS) Oxygen-Acetylene tank Pallet Rack system available to meet ACB-2's specific requirements. The currently available systems were found to be lacking in mobility, safety and durability. This Oxygen-Acetylene tank Pallet Rack system will provide a system to transport equipment quickly and respond rapidly in any contingency. The system provides a quick, safe storage solution that can withstand the wear and tear associated with transporting equipment under various expeditionary environments. This capability enhances mission readiness and response time.



Economics of the Technology: ROI or Payback

The Oxygen-Acetylene tank Pallet Rack is a logistics solution that resolves the current capability gap in the storage and transport of Oxygen and Acetylene tanks throughout the naval construction force. The payback will be in the form of intangibles such as quicker response time, safety in transport, use and storage for the entire range of military engineering and construction operations. It provides increased functionality not only for its designed objective for the Elevated Causeway System, but also supports various construction support evolutions and force protection missions that involve oxy-acetylene welding and cutting operations.

Technology Transition Documentation

This Transition Category 1 (knowledge product) of the NAVFAC Technology Usability Model is a design based on the current mission requirements of ACB-2. The initial prototype configuration was built for initial testing by ACB-2 from Oct to Nov 2013. Design improvements are currently being incorporated into the fabrication drawings for the final end product and for full production.

Site Implementation

Currently, ACB-2 is the only unit where this will be used in support of their Elevated Causeway System mission requirements. However, other NECC units may also benefit and may incorporate this capability across the Naval Construction Force as well. NAVFAC EXWC is providing the technical expertise and the specifications into the fabrication drawings.

Specific Applications

The Oxygen-Acetylene tank Pallet Rack is primarily designed for the transport and storage of these gas cylinders, but can also be used for compressed gas cylinders of various types as well. It is designed to meet the mission needs and enhance operations capability of expeditionary and construction units within the Navy Expeditionary Combat Commands (NECC).

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