

INCH-POUND

A-A-59955

05 June 2014

## COMMERCIAL ITEM DESCRIPTION

### CONVEYOR, ROLLER, GRAVITY, DOCK, HIGH-LINE, CONVEYORIZED, AIR TRANSPORTABLE

The General Services Administration has authorized the use of this  
Commercial Item Description for all federal agencies.

#### 1. SCOPE.

This CID covers an air transportable, conveyor high-line dock to act as a holding area for single or married military pallets, ISO and lower deck containers, and type V aerial delivery platforms.

#### 2. SALIENT CHARACTERISTICS.

2.1 High-line dock description. The high-line dock is a free standing, reinforced, steel frame structure consisting of a deck with rollers which has a total load capacity of up to 60,000 pounds. They are used to stage fully, partially, or un-loaded military pallets for transfer to/from 463L forklifts and aircraft cargo loaders (Tunner A/S32H-23 and Halvorsen A/S32H-5). These loaders can drive up to the dock where the cargo pallets can be quickly off-loaded from the high-line dock and rolled onto the loader or vice versa.

2.2 Design and construction. The design shall promote cost effective, life-cycle sustainability by addressing considerations such as incorporating open standards while satisfying system performance requirements. The high-line dock shall be designed and constructed in accordance with all applicable European Union (EU) requirements in order to have the "CE" marking affixed (see 2.2.3.1). It shall be designed and constructed so that no parts will work loose in service, and to withstand the strains, jars, loads, shocks, vibrations, and other conditions incident to shipping, storage, installation, and service. It shall be weatherproof and designed to prevent the intrusion of water, sand, and dust into critical operating components.

##### 2.2.1 Materials, protective coatings, and finish.

Comments, suggestions, or questions on this document should be addressed to: AFLCMC/WNZE, Robins AFB GA 31098-1813. Since contact information can change, you may want to verify the currency of this address information using the ASSIST Online database at <https://assist.dla.mil/> .

AMSC N/A

FSC 3910

DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.

## A-A-59955

2.2.1.1 Protective treatment. The high-line dock shall be constructed of zinc electroplated steel. The galvanization shall be done in accordance with ASTM A123/A123M. Bearing housings and fasteners shall be constructed of corrosion resistant steel or plated for corrosion resistance. Bolts shall be hardened to increase strength, and shall be plated for corrosion resistance, due to repeated assembly/disassembly of the unit.

2.2.1.2 Dissimilar metals. Unless protected against electrolytic corrosion, dissimilar metals shall not be used in intimate contact with each other in accordance to MIL-STD-889.

2.2.1.3 Finish. The pallet stop system shall be painted in OSHA Safety Yellow, Color Number 13655 of FED-STD-595 or equivalent.

2.2.1.4 Exclusion of water. The design of the high-line dock shall be such as to prevent water leaking into, or being driven into, any part of the high-line dock interior when either in an operating or travelling configuration. All doors, panels, covers, etc., shall be provided with sealing arrangements such that the entry of water is minimized when these items are correctly closed. Sharp corners and recesses shall be avoided so that moisture and solid matter cannot accumulate to initiate localized attack. Sealed floors with suitable drainage shall be provided for storage compartments, and other areas in the high-line dock that could collect and retain water.

2.2.1.4.1 Fluid traps and faying surfaces. There shall be no fluid traps on the high-line dock. Faying surfaces of all structural joints, except welded joints, shall be sealed to preclude fluid intrusion.

2.2.1.4.2 Ventilation. Ventilation shall be sufficient to prevent moisture retention and buildup.

2.2.2 Markings. All external devices which require an operational or maintenance interface shall be marked in accordance with MIL-STD-130. Markings shall be applied with decals and shall be 1-inch high block letters unless prohibited by the available space. In such cases, the markings shall be the largest size possible, but shall not be less than ½-inch high. Markings, Information/Caution shall be Lusterless Black, Color Number 37038 of FED-STD-595, and Markings, Warning/Danger shall be Lusterless Red, Color Number 31136 of FED-STD-595. The center of gravity of the high-line dock shall be stenciled on the unit within 1.0 inch of the calculated center of gravity.

2.2.3 Identification and information plates.

2.2.3.1 Identification plate. An identification plate in accordance with MIL-STD-130 shall be securely attached to the high-line dock in a readily accessible location. The identification plate shall contain the following information: nomenclature, model number, part number, serial number, date of manufacture, manufacturer's name, Commercial and Government Entity (CAGE) code, contract number, date of warranty expiration, and National Stock Number (NSN). The high-line dock and any of its components for which the Government's unit cost is more than \$5,000, is serially managed, or the procuring agency determines is mission essential, shall have Unique Identification (UID) (also known as Item Unique Identification (IUID)) information permanently affixed on or near the respective identification plate(s), marked in accordance with MIL-STD-130. UID information shall be included as both a bar code and human readable

## A-A-59955

markings. The “CE” marking shall be affixed in accordance with EU requirements on or adjacent to the identification plate.

2.2.3.2 Transportation data plate. A transportation data plate shall be securely attached to the high-line dock in a readily accessible location. The plate shall contain at least the following information:

- a. Side and rear silhouette views of the high-line dock.
- b. Horizontal and vertical location of the center of gravity of the high-line dock in air transportable configuration, marked on the silhouette views.
- c. Shipping weight.
- d. Loading cubage.
- e. Overall height, width, and length.
- f. Front and rear axle loads.
- g. Tie down information.

2.2.3.3 Assembly/disassembly instruction plates. Instruction plates shall be permanently fastened to some component (one of the last to be installed) to allow identification and field assembly/disassembly by personnel not familiar with the dock. The instruction plate shall include a pictorial view of the dock and any necessary written instructions.

2.2.3.4 Operating instructions. Brief operating and precautionary instructions shall be permanently affixed on the unit in a visible location. Instructions shall be clear, concise, and adequate to enable operation of the dock without damage to the equipment or injury to personnel and shall refer to the components as identified by nameplate.

## 2.2.4 Environment, safety, and occupational health (ESOH).

2.2.4.1 Hazardous material. The design shall minimize and control hazards associated with the inclusion or use of hazardous or toxic materials and the generation of toxic or noxious gases. The high-line dock shall not generate or use Class I or Class II Ozone Depleting Substances (ODS) during operation, maintenance, or disposal. The high-line dock shall not contain or use hexavalent chromium. For the purposes of this requirement, the Class I ODS and controlled substances identified in Chapter 4 of AFI 32-7086 shall not be used in any system, component, or process.

2.2.4.2 Component protection. All space in which work is performed during operation, service, and maintenance shall be free of hazardous protrusions, sharp edges, or other features which may cause injury to personnel. All rotating and reciprocating parts and all parts subject to high operational temperatures or subject to being electrically energized, that are of such nature or so

## A-A-59955

located as to be hazardous to personnel, shall be guarded or insulated to eliminate the hazard. All wires, cables, tubes, and hoses shall be supported and protected to minimize chafing and abrasion and shall be located so as to provide adequate clearance from moving parts and high operational temperatures. Grommets shall be provided wherever wires, cables, tubes, or hoses pass through bulkheads, partitions, or structural members.

2.2.4.3 Foreign object damage (FOD). All loose metal parts, such as pins or connector covers, shall be securely attached to the high-line dock with wire ropes or chains. "Dog tag" style beaded chains shall not be provided. Removable panels, if provided, shall be attached with captive fasteners.

2.2.6 Human engineering. The high-line dock shall be designed in accordance with MIL-STD-1472 for ease of operation, inspection, and maintenance, including the use of arctic mittens and Mission-Oriented Protective Posture (MOPP) Level 4 Chemical Warfare Gear.

2.2.7 Fastening devices. All screws, bolts, nuts, pins, and other fastening devices shall be properly designed, manufactured, and installed with adequate means of preventing loss of torque or adjustment. Cotter pins, lock washers, or nylon patches shall not be used for this purpose, except for the attachment of trim items or as provided in commercial components. Tapped threads shall have a minimum thread engagement in accordance with Table I.

TABLE I. Minimum thread engagement.

<b>Material</b>	<b>Minimum Thread Engagement</b>
Steel	1.0 times the nominal fastener diameter
Cast iron, brass, or bronze	1.5 times the nominal fastener diameter
Aluminum, zinc, or plastic	2.0 times the nominal fastener diameter

2.2.8 Welders and welding. All welders shall be certified to weld in accordance with AWS D1.1/D1.1M, as applicable. The contractor shall make available to the Government certifications for all welders being utilized on the high-line dock. Welding procedures and all welding on the high-line dock shall be in accordance with AWS D1.1/D1.1M, as applicable. The surface parts to be welded shall be free from rust, scale, paint, grease, and other foreign matter. Welds shall be of sufficient size and shape to develop the full strength of the welded parts. Welds shall transmit stress without cracking or permanent distortion when the parts connected by the welds are subjected to test, proof, and service loadings.

### 2.3 Environmental conditions.

2.3.1 Operating temperature range. The high-line dock shall be capable of operating in ambient temperatures ranging from -40° F to 120° F.

## A-A-59955

2.3.2 Storage temperature range. The high-line dock shall be capable of being stored in ambient temperatures ranging from -60° F to 160° F.

2.3.3 Precipitation.

2.3.3.1 Rain. The high-line dock shall be capable of storage and operation during rainfall of 5-inches per hour for three consecutive hours and 10-inches per hour for 10 consecutive minutes, with winds of up to 35 knots; and with 6-inches of rain per hour impinging on the high-line dock at angles from vertical to 45°.

2.3.3.2 Snow. The high-line dock shall be capable of storage and operation during accretion of wet snow up to 2-inches per hour for at least 12 hours.

2.3.3.3 Ice. The high-line dock shall be capable of storage and operation with ice accretion up to 1.5-inches on exposed horizontal surfaces. An operator may use an ice scraper for five minutes during the start-up process.

2.3.4 Solar radiation. The high-line dock shall not be adversely affected by full time exposure to solar radiation, such as those conditions encountered in desert environments.

2.3.5 Fungus. All materials used in the high-line dock shall be fungus resistant or shall be suitably treated to resist fungus. Materials treated for fungus resistance shall retain their original electronic and physical properties, shall not present toxic hazards, and treatment shall last for the entire service life of the part. The high-line dock shall be suitable for operation and storage in conditions encountered in a tropical environment.

2.3.6 Salt fog. The high-line dock shall be capable of storage and operation in high temperature, high humidity, salt laden, sea coast environments without damage or deterioration of performance.

2.3.7 Sand and dust. The high-line dock shall be capable of storage and operation during exposure to wind-blown sand or dust without damage or deterioration of performance.

2.4 Weight and dimensions. Overall weight and dimensions in air transport configuration (see 2.5.2) shall not exceed:

Weight	10,000 pounds
Length	240 inches
Width	96 inches
Height	96 inches

2.5 Transportability.

2.5.1 Surface transportability. The high-line dock shall be transportable via all modes of surface shipment (highway, rail, and water) in accordance with MIL-STD-1366, and shall be capable of

## A-A-59955

withstanding the mechanical shock and vibration characteristics of highway, rail, and water transport, except that design for rail impact testing (see 5.2.5 of MIL-STD-1366) is not required.

2.5.2 Air transportability. The high-line dock shall be transportable on C-130, C-5 and C-17 aircraft in accordance with MIL-STD-1791. An air transport configuration shall be furnished, restricted to loading on three HCU-6/E pallets. Tie down restraints shall be furnished. In all air transport configurations, the high-line dock shall be capable of being restrained and withstanding, without loss of serviceability, 2.0 G up and 4.5 G down accelerations, and shall be capable of being restrained and withstanding, without loss of structural integrity, 3.0 G forward, 1.5 G aft, and 1.5 G lateral accelerations.

2.5.2.1 Equipment removal and reconfiguration. Preparation for air transport by disassembly shall take no more than five man-hours for three persons using one 463L forklift and common hand tools (see 6.3.1). Restoration to operating configuration by assembly shall also take no more than five man-hours for three persons using one 463L forklift and common hand tools (see 6.3.1). All equipment removed shall be stored on the high-line dock; caps and plugs shall permit moving and storage in transport configuration.

2.5.3 Tie downs. At least seven tie down devices (loops, rings, openings, etc.) shall be provided on each side of the guide rail and shall be spaced 90 inches apart. Tie downs shall be rated at a minimum of 25,000 pounds, marked for capacity, with a clear opening compatible with MIL-DTL-25959 and MIL-PRF-27260 tie down devices. The tie down provisions shall be in accordance with 4.1 through 4.12 of MIL-STD-209.

2.6 Maintainability. The high-line dock shall be designed for maintainability in accordance with 5.9 through 5.9.18 of MIL-STD-1472; forces shall not exceed those specified for both males and females.

2.6.1 Special tools. The design of the item shall minimize the requirement for special tools (see 6.3.2). All special tools shall be provided with, and stored on, the high-line dock.

## 2.7 Performance.

2.7.1 Load capacity. The dock assembly shall be capable of supporting a full load of cargo (up to 60,000 pounds gross weight) distributed over any combination of military pallets, ISO and lower deck containers, tactical shelters, and airdrop platforms.

2.7.1.1 Palletized cargo. Military pallets are the HCU-6/E and HCU-12/E. Individual pallets have a cargo capacity of 10,000 pounds. A full load of palletized cargo shall consist of six married HCU-6/E pallets (each 88 inches by 108 inches) with a total gross weight of 60,000 pounds. The pallets shall be oriented with the 108-inch dimension perpendicular to the longitudinal centerline of the dock (see 2.9.1).

2.7.1.2 Containerized cargo. Air containers consist of Palletized 20- and 40-foot ISO containers, tactical shelters, and the US Army palletized loading system (PLS) flat racks in accordance with

## A-A-59955

ASTM-E1925. The ISO containers (see ISO 668 and 8323) have an overall height of eight feet and width of eight feet and are available in lengths of 10, 20, 30, and 40 feet.

2.7.1.3 Platform cargo. A military airdrop platform is the type V platform in 8-, 12-, 16-, 20-, 24-, 28-, and 32-foot lengths (28- and 32-foot lengths up to 60,000 pounds).

2.7.1.4 Partial loads. Any combination of cargo specified in 2.7.1.2 for a gross load up to 60,000 pounds shall be positioned anywhere along the deck.

2.7.2 Operation. The dock shall withstand roll transfer of those loads in 2.7.1, impacts per 2.9.2, and 5 miles per hour (mph) impacts from typical military ground support equipment for 12 years normal use during peacetime.

## 2.8 Roller Assembly.

2.8.1 Roller conveyor. A roller conveyor system shall be provided to support loads in 2.7.1 and shall provide service at speeds up to 65 feet per minute (fpm). The conveyor system shall receive and discharge loads at both ends of the platform. Four rows of rollers shall be provided and be so located to provide conveying surfaces for the roller pads on the type V platform. Roller pads on the type V platform are designed as conveying surfaces for rollers.

2.8.2 Rollers. The rollers shall be free running bearing type. The roller ends shall be tapered, rounded, or chamfered. All roller tubes, bearing housings and axles shall be zinc electroplated in accordance with ASTM B633. The roller tubes shall be constructed of 11 gauge minimum material. The roller material, housings, tube thickness, axles, rated capacity, and spacing shall be sufficient as to meet the requirements specified herein. Particular attention should be given to factors of safety, life expectancy, and types of loads handled by the dock. Rollers shall be within three inches of the extreme projection of the dock at both ends. To prevent deformation due to impact loads from pallet transition onto the dock, rollers of increased strength shall be used at all transition points between conveyors. The strength factor of these heavy duty rollers shall be a minimum of two above that of the standard rollers used. Any structural projection beyond the last rollers shall be ramped approximately 45° to preclude pallet drag.

2.8.3 Bearings. Standard, commercial, conveyor roller bearings with hex bore shall be used. These bearings shall be anti-friction steel ball bearing type, pre-lubricated, sealed, and adequately rated for the load on the roller. The bearings shall be press fitted into the roller. No spacer is permitted between the roller, bearing, and axle used.

2.8.4 Roller sets. When specified on the delivery order (see 6.2), an overpack of eight regular duty rollers and four heavy duty rollers shall be provided with each dock.

## 2.9 Deck.

2.9.1 Guide rails. There shall be two guide rails, one on each side, running the length of the deck to hold the pallets in line as they move along the deck. The guide rails shall be mounted 108.50 inches, +0.25/-0.00 inches, apart and shall extend 2.25 inches, +/- 0.125 inches, above the plane

## A-A-59955

of the roller surface. Guide rails shall diverge at each end approximately 15°, starting 12-inches, +/- 1.0 inch, from the each end. Vertical edges of all guide rails shall be tapered approximately 45° to preclude pallet interference. At least seven tie down devices (loops, rings, openings, etc.) shall be provided on each side of the guide rails and shall be spaced 90 inches apart. The devices shall be compatible with 10,000 pound capacity chain and shall be symmetrical about the conveyor center.

**2.9.2 Pallet stops.** Two mechanical stop systems (four stops per system, i.e. one stop at each row of rollers) shall be provided. One will be located at each end of the deck to stop forward and aft movement of loose platform loads. They shall be located as to provide a useable deck length of no less than 550.0 inches. The stops shall be positive, retractable, and capable of withstanding repeated impacts from a fully loaded HCU-6/E pallet (10,000 pounds gross weight) moving at a rate of 30 feet per second without permanent deformation of the dock. The stops shall transmit all force from this impact directly into the frame. Both stop systems shall be operated individually, at both ends, by an operator standing on the left-hand catwalk or on the ground. A single control simultaneously operating both stop systems is not allowed. Upon contact with pallet/platform/container entering the deck, the pallet stops shall be forced down, without damage to the pallet/platform/container and stops, and shall automatically return to the up position when pallet/platform/container is fully positioned on the deck. The stops shall retract using the operator's control with only the operator's assistance and shall return to the up position when released by the operator. Operator control shall be in accordance with MIL-STD-1472.

**2.9.3 Walkways.** Personnel walkways with handrails shall be provided on both sides of the dock for the full length of the deck. Handrails shall be 42 inches, +/- 1.0 inch high. When operated by one person, the walkways shall pivot to fold vertically down against the side of the dock, without the use of tools. The handrails shall withstand a force of 250 pounds in any direction anywhere on the handrail without permanent deformation. In addition, three walkways shall be provided between the sets of rollers for the full length of the deck. All walkways shall be at least 13 inches wide and shall be capable of supporting at least 350 pounds per square foot anywhere on the walkways, or a minimum load of 2,500 pounds along the entire length, without permanent deformation. All walkways shall be of a grating (expanded metal) type to prevent slippage and not allow accumulation of liquids or snow. The grating shall prevent the accumulation of rain or snow. Openings in the grating shall be small enough to prevent MB-1 type chains from falling through the openings and binding on the walkway in accordance with MIL-DTL-6458.

**2.9.4 Decking.** Decking shall be provided covering the entire area between the walkways, extending the length of the deck. Decking shall be in the same horizontal plane as the walkways. Decking shall be in close proximity, within 1.5 inches, underneath the rows of rollers. This is required to support a person's foot in the event they step between the rollers. Decking shall be nonskid in design, capable of supporting 350 pounds per square foot along the entire length without permanent deformation. Decking shall permit the drainage of liquids to prevent a possible safety hazard.

**2.9.5 Access ladder.** Two ladders shall be provided, one for each side of the high-line dock, to allow easy access to the walkway from the ground. The walkways shall allow attachment of the

## A-A-59955

ladder at several locations for user flexibility during operation. The ladder shall comply with applicable OSHA standards.

2.9.6 Storage bin. A bin shall be mounted to the dock to store all necessary assembly/disassembly tools and fasteners which shall be included with the dock. The storage capacity of the bin shall be sufficient to hold all included tools and all fasteners when the dock is disassembled. The bin shall be lockable.

2.9.7 Tine troughs. Each end of the dock shall permit the entrance of forklift tines. Both sides of at least one end section shall also permit the entrance of forklift tines (i.e., side tine troughs). The trough area shall extend a minimum of 75 inches across the dock, be at least 4 inches high, and be at least 12 inches wide. Tine troughs shall be no more than 42 inches apart, 21 inches from the dock centerline. The tine trough shall be entirely below the plane of the rollers. Roller frames at forklift interfaces shall be guarded to prevent tines from snagging on or lifting the frames. Side tine troughs shall have removable covers to allow fork tine access.

2.9.8 Cargo loader interfaces. Both ends of the conveyor shall interface with both types of loaders (see 2.1) for pallet transfer between the high-line dock and the cargo loader conveyor.

## 2.10 Support.

2.10.1 Adjustable support legs. The support legs shall be adjustable to provide a uniform conveyor height over a minimum range of 44 to 53 inches above the ground. Distance shall be measured from the ground to the top of the rollers.

2.10.2 Support feet. Support feet shall include a foot pads to allow unit to slide when struck on the end. The contact area shall be sized to provide a ground pressure of 100 psi or less for stabilization when used on soft asphalt when fully loaded.

2.11 Workmanship. The high-line dock, including all parts and accessories, shall be constructed and finished in a thoroughly workmanlike manner. Workmanship objectives shall include freedom from blemishes, defects, burrs and sharp corners and edges; accuracy of dimensions, surface finish, and radii of fillets; thoroughness of welding, painting, and riveting; marking of parts and assemblies; and proper alignment of parts and tightness of assembly fasteners.

2.11.1 Bolted connections. Bolt holes shall be accurately punched or drilled and shall be deburred. Threaded fasteners shall be tight and shall not work loose during testing or service usage.

2.11.2 Riveted connections. Rivet holes shall be accurately punched or drilled and shall be deburred. Rivets shall be driven with pressure tools and shall completely fill the holes. Rivet heads shall be full, neatly made, concentric with the rivet holes, and in full contact with the surface of the component.

## A-A-59955

2.11.3 Gear and lever assemblies. Gear and lever assemblies shall be properly aligned and meshed and shall be operable without interference, tight spots, loose spots, or other irregularities. Where required for accurate adjustment, gear assemblies shall be free of excessive backlash.

2.11.4 Cleaning. The high-line dock shall be thoroughly cleaned. Loose, spattered, or excess solder; welding slag; stray bolts, nuts, and washers; rust; metal particles; pipe compound; and other foreign matter shall be removed during and after final assembly.

### 3. REGULATORY REQUIREMENTS.

3.1 Recycled recovered materials. Recycled, recovered, or environmentally preferable materials should be used to the maximum extent possible provided that the material meets or exceeds the operational and maintenance requirements, and promotes economically advantageous life cycle costs. The offeror/contractor is encouraged to use recovered materials to the maximum extent practicable, in accordance with 23.403 of the Federal Acquisition Regulation (FAR). However, used, rebuilt, or refurbished items shall not be provided.

3.2 Green procurement program. Green Procurement Program (GPP) is a mandatory federal acquisition program that focuses on the purchase and use of environmentally preferable products and services. GPP requirements apply to all acquisitions using appropriated funds, including services and new requirements. FAR 23.404(b) applies and states the GPP requires 100% of EPA designated product purchase that are included in the Comprehensive Procurement Guidelines list that contains recovered materials, unless the item cannot be acquired: a) competitively within a reasonable timeframe; b) meet appropriate performance standards, or c) at a reasonable price. The prime contractor is responsible for ensuring that all subcontractors comply with this requirement.

### 4. PRODUCT CONFORMANCE PROVISIONS.

The products provided shall meet the salient characteristics of this Commercial Item Description, conform to the producer's own drawings, specifications, standards, and quality assurance practices, and be the same product offered for sale in the commercial marketplace, modified as necessary to comply with the requirements herein. The Government reserves the right to require proof of such conformance.

4.1 Classification of inspections. The inspection requirements specified herein are classified as follows:

- a. First production inspection (see 4.2).
- b. Conformance inspection (see 4.3).

4.2 First production inspection. The first production high-line docks shall be subjected to the analyses, demonstrations, examinations, and tests described in 4.5.1 through 4.5.12. The contractor shall provide or arrange for all test equipment and facilities.

## A-A-59955

4.3 Conformance inspection. Each production high-line dock shall be subjected to the examination described in 4.5.1.

4.4 Inspection requirements.

4.4.1 General inspection requirements. Apparatus used in conjunction with the inspections specified herein shall be laboratory precision type, calibrated at proper intervals to ensure laboratory accuracy.

4.4.2 Data. During all testing specified herein, at least the following data, unless not applicable, shall be recorded at intervals not to exceed 30 minutes. Additional data or shorter intervals shall be provided as appropriate for any specific test.

- a. Date.
- b. Time started.
- c. Time finished.
- d. Ambient temperature.
- e. Ambient humidity.

4.4.3 Test rejection criteria. Throughout all tests specified herein, the high-line dock shall be closely observed for the following conditions, which shall be cause for rejection.

- a. Failure to conform to design or performance requirements specified herein.
- b. Any spillage or leakage of any liquid, including fuel, coolant, lubricant, or hydraulic fluid, under any condition, except as allowed herein.
- c. Structural failure of any component, including permanent deformation, or evidence of impending failure.
- d. Evidence of excessive wear. If excessive wear is suspected, the original equipment manufacturer's (OEM's) specifications or tolerances shall be utilized for making a determination.
- e. Evidence of corrosion or deterioration.
- f. Misalignment of components.
- g. Conditions that present a safety hazard to personnel during operation, servicing, or maintenance.

4.5 Test methods.

## A-A-59955

4.5.1 Examination of product. Each high-line dock shall be examined to verify compliance with the requirements herein prior to accomplishing any other demonstrations or tests listed in 4.5. A contractor-generated, Government-approved checklist (part of the test procedure) shall be used to identify each requirement not verified by an analysis, certification, demonstration, or test, and shall be used to document the examination results. Particular attention shall be given to materials, workmanship, dimensions, surface finishes, protective coatings and sealants and their application, welding, fastening, and markings. Proper operation of each high-line dock function shall be verified. Certifications and analyses shall be provided in accordance with Table II. Each production high-line dock shall be inspected to a Government-approved reduced version of the checklist.

TABLE II. Certifications and analyses.

<b>Paragraph</b>	<b>Required Certifications and Analyses</b>
2.2 <u>Design and construction</u> .	Contractor documentation that the high-line dock is in accordance with all applicable EU requirements in order to have the “CE” marking affixed.
2.3.3.2 <u>Snow</u> .	Contractor analysis of the snow load requirement (see 4.5.2.3.2).
2.3.4 <u>Solar radiation</u> .	Contractor certification that the high-line dock performance is not adversely affected by full time exposure to solar radiation, such as those conditions encountered in desert environments.
2.3.5 <u>Fungus</u> .	Contractor certification that the materials used in construction of the high-line dock are fungus resistant or suitably treated to resist fungus.
2.5.1 <u>Surface transportability</u> .	Contractor surface transportability analysis (see 4.5.4.1.1) and certification that the high-line dock is transportable via all modes of surface shipment (highway, rail, and water) in accordance with MIL-STD-1366, and shall be capable of withstanding the mechanical shock and vibration characteristics of highway, rail, and water transport.
2.5.2 <u>Air transportability</u> .	Contractor air transportability analysis (see 4.5.4.2).
2.5.3 <u>Tie downs</u> .	Contractor tie down provision analysis (see 4.5.4.4.1).
2.8.1 <u>Bearings</u> .	Contractor certification that the bearings conform to the requirements.
2.8.2 <u>Rollers</u> .	Contractor certification that the rollers conform to the requirements.

## A-A-59955

#### 4.5.2 Environmental testing.

4.5.2.1 High temperature storage and operation test. A first production high-line dock shall be tested in accordance with MIL-STD-810, Method 501.5, Procedures I and II, to demonstrate compliance with the high temperature storage and operating requirements of 2.3.1 and 2.3.2. Test duration shall be one 24-hour cycle for each procedure beginning no less than two hours after test item temperature stabilization.

4.5.2.2 Low temperature storage and operation test. A first production high-line dock shall be tested in accordance with MIL-STD-810, Method 502.5, Procedures I and II, to demonstrate compliance with the low temperature storage and operating requirements of 2.3.1 and 2.3.2. Test duration shall be one 24-hour cycle for each procedure beginning no less than two hours after test item temperature stabilization.

#### 4.5.2.3 Precipitation.

4.5.2.3.1 Rain test. A first production high-line dock shall be tested in accordance with MIL-STD-810, Method 506.5, Procedure I, to demonstrate compliance with 2.3.3.1.

4.5.2.3.2 Snow load analysis. An engineering analysis shall be performed to demonstrate compliance with the snow load requirement of 2.3.3.2, using a specific gravity of snow of 0.1 (Ref. 5.3 of MIL-STD-810).

4.5.2.3.3 Ice accretion test. A first production high-line dock shall be tested in accordance with MIL-STD-810, Method 521.3 with an ice thickness of 1.5-inches to demonstrate compliance with the ice accretion requirement of 2.3.3.3. The contractor shall identify those areas of the high-line dock where ice removal is required prior to operation.

4.5.2.4 Salt fog test. A first production high-line dock shall be tested in accordance with MIL-STD-810, Method 509.5, to demonstrate compliance with 2.3.6. Test duration shall be alternating 24-hour periods of salt fog exposure and drying conditions for 24-hour periods (two wet and two dry).

4.5.2.5 Sand and dust test. A first production high-line dock shall be tested in accordance with MIL-STD-810, Method 510.5, Procedures I (12 hours) and II (90 minutes per side), to demonstrate compliance with 2.3.7.

#### 4.5.3 Weight and dimension tests.

4.5.3.1 Weight and center of gravity test. The weight and center of gravity of a first production high-line dock shall be measured to demonstrate compliance with the weight requirement of 2.4.

4.5.3.2 Dimension measurement. A first production high-line dock shall be measured to demonstrate compliance with the dimensional requirements of 2.4.

## A-A-59955

#### 4.5.4 Transportability verification.

##### 4.5.4.1 Surface transportability verification.

4.5.4.1.1 Surface transportability analysis. An engineering analysis shall be performed to demonstrate compliance with 2.5.1. The engineering analysis shall utilize the data for road transportation in accordance with MIL-STD-810, Method 514.6, Table 514.6C-II.

4.5.4.2 Air transportability analysis. An engineering analysis shall be performed to demonstrate compliance with the air transportability requirements of 2.5.2 and 2.5.2.1. The analysis shall include the tie downs and all major components and their ability to withstand the accelerations specified in 2.5.2. The evaluation shall also include a dimensional analysis for the high-line dock while traversing the ramp and while loaded aboard C-130 aircraft.

4.5.4.3 Equipment removal and reconfiguration demonstration. A first production high-line dock shall be configured for transport on C-130 aircraft and then reconfigured for operation to demonstrate compliance with 2.5.2.1. It shall be demonstrated that the forces required do not exceed those allowed in MIL-STD-1472. This test will also serve to verify the completeness of the assembly instructions affixed to the dock.

##### 4.5.4.4 Tie down provision verification.

4.5.4.4.1 Tie down provision analysis. An engineering analysis shall be performed to demonstrate compliance with the tie down provision requirements of 2.5.3.

4.5.4.4.2 Tie down provision test. A first production high-line dock shall be tested to demonstrate compliance with the tie down provision requirements of 2.5.3.

4.5.5 Maintainability demonstration. All recommended preventive maintenance tasks shall be performed and the task times shall be recorded. The recommended frequencies of the preventive maintenance tasks and the times recorded to accomplish the tasks shall be used to develop an expected value of preventive maintenance time per measure of use, such as calendar time or hours of operation. It shall be demonstrated that the forces required do not exceed those allowed in MIL-STD-1472. All preventive maintenance tasks recommended to be performed daily and at the routine PMI shall also be performed by personnel wearing arctic mittens and MOPP Level 4 Chemical Warfare Gear.

4.5.6 Static test. A static test shall be performed to demonstrate compliance with the requirements of 2.7.1, 2.8.1, 2.9.3, and 2.9.4. Six HCU-6E pallets, loaded to 60,000 pounds gross weight shall be placed on the dock for 12 hours with no permanent deformation. Walkways and decking shall support 350 pounds, evenly distributed over one square foot, when centered between supports, for 12 hours with no permanent deformation. Repeat test with 2,500 pounds distributed over the entire length of the walkways.

4.5.7 Operational test. An operational test shall be performed to demonstrate compliance with the requirements of 2.7.1.1 through 2.7.1.4, 2.7.2, 2.8.1, 2.9.1, and 2.9.2. A fully loaded (10,000

## A-A-59955

pound gross weight) HCU-6/E pallet shall be pushed 50 times onto and cycle the entire length of the dock. One cycle shall be moving a load from one pallet stop system to another and returning. Repeat this procedure from the opposite end. During this test, the pallet stop system will also be demonstrated to test its operation and conformance with 2.9.2.

4.5.8 Dynamic test. A dynamic test shall be performed to demonstrate compliance with the requirements of 2.9.2. A loaded HCU-6/E pallet (10,000 pounds gross weight) shall be pushed against the stops at a speed of at least 20 fps. There shall be no damage to the dock or pallet. The test shall be performed 24 times, with half of the impacts performed on the front stop and half on the rear stop.

4.5.9 Adjustment test. An adjustment test shall be performed to demonstrate compliance with 2.10.1. The support legs shall be adjusted to the minimum height. The height shall be measured from the ground to the top of the rollers at both ends, as well as the center of the dock. Adjust the support legs to the maximum height and repeat the test.

4.5.10 Support Test. Calculations shall be provided to demonstrate compliance with 2.10.2. The calculation shall verify the ground pressure applied by the support feet while the deck is fully loaded.

4.5.11 Handrail/access ladder operation. The handrails shall be performed to demonstrate compliance with the requirements of 2.9.3 and 2.9.5. The handrails shall be demonstrated to show operation by one person in raising and lowering the rails. The functionality of the access ladder shall also be demonstrated.

4.5.12 Refurbishment. After successful completion of all required testing, each high-line dock shall be restored to like-new condition.

5. PACKAGING. Preservation, packing, and marking shall be as specified in the contract or order.

6. NOTES.

6.1 Source of documents.

6.1.1 Department of Defense and Federal documents. Department of Defense and Federal documents are available online at <https://assist.dla.mil/> or from the Standardization Document Order Desk, 700 Robbins Avenue, Building 4D, Philadelphia PA 19111-5094.

6.1.2 AFI. Copies of AFIs are available online at <http://www.e-publishing.af.mil/>.

6.1.3 FAR. FAR may be obtained from the Superintendent of Documents, P.O. Box 371954, Pittsburgh PA 15250-7954. Electronic copies of the FAR may be obtained from <https://www.acquisition.gov/far/index.html>

## A-A-59955

6.1.4 ASTM standards may be obtained from ASTM International, 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, PA 19428-2959. Electronic copies of ASTM standards may be obtained from <http://www.astm.org>.

6.1.5 AWS documents. Application for copies should be addressed to American Welding Society, 550 N.W. LeJeune Road, Miami FL 33126. Electronic copies of AWS standards may be obtained from <http://www.aws.org>.

6.1.6 SAE documents. Application for copies should be addressed to SAE, Inc., 400 Commonwealth Drive, Warrendale PA 15096.

6.1.7 Occupational Safety and Health Association (OSHA) copies may be obtained online at <http://www.osha.gov/> or from OSHA, 200 Constitution Ave., Washington, D.C. 20210.

6.1.8 International Organization for Standardization (ISO) copies may be obtained online at <http://www.iso.org/iso/home.html> or from ISO Central Secretariat, 1, ch. de la Voie-Creuse, CP 56, CH-1211, Geneva 20, Switzerland.

6.2 Ordering data. Acquisition documents should specify the following:

- a. Title, number, and date of this CID.
- b. Number of pre-production samples and the point of inspection.
- c. When required, six HCU-6/E pallets will be loaned by the Government. Requirement for overpack of rollers to be supplied with each dock (see 2.8.4).

6.3 Definitions.

6.3.1 Common hand tool. A non-powered tool that is likely to be found in a typical mechanic's toolbox. Common hand tools include open end, boxed end, combination, socket (both 6- and 12-point in both standard and deep-well), and hex key wrenches, in SAE sizes up to and including 1-inch and metric sizes up to and including 25-mm; ratchet handles, extensions, and swivels; slotted and Phillips-head screwdrivers; regular and snap-ring pliers; and a ball-peen hammer.

6.3.2 Special tool. A tool that is not commercially and readily available from a source other than the high-line dock contractor.

6.3.3 Commercial. The latest model of a contractor's standard product having demonstrated industry acceptability by having been manufactured, marketed, and sold in significant quantities to the commercial public for the same or similar application, except as specified herein, for at least 3 years prior to invitation for bids or request for proposal. Proven product improvement incorporated in the commercial production unit during this 3 year period is acceptable. An item is "sold in significant quantities" only when the quantities regularly sold are sufficient to constitute a real commercial market. Nominal quantities, such as models, samples, prototypes, developmental units, or experimental units, do not meet this requirement. The "commercial public" are buyers other than the Government or affiliates of the offeror; the item involved must

A-A-59955

not be for Government end use. For purposes of this specification, items acquired for "Government end use" include items acquired for foreign military sales.

6.4 National Stock Number (NSN). The following NSNs are associated with this CID:

3910-01-513-3419

3910-00-405-3453

6.5 Key words.

Holding area

ISO container

Lower deck container

Military pallets

Custodians:  
Air Force – 84

Preparing Activity:  
Air Force – 84

Reviewers:  
Air Force – 99

Agent:  
Air Force – 99

(Project 3910-2014-001)

NOTE: The activities listed above were interested in this document as of the date of this document. Since organizations and responsibilities can change, you should verify the currency of the information above using the ASSIST Online database at <https://assist.dla.mil/> .