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NAVFAC PTS-E10 (September 2022)
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Preparing Activity: NAVFAC SUPERSEDING PTS-E10 (December 2018)

PERFORMANCE TECHNICAL SPECIFICATION
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SECTION E10

EQUIPMENT
09/22

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NOTE: This section is intended to be used as a guide and contains requirements that are common to many different types of facilities; however, not all requirements and equipment items will be applicable to all projects. In addition, there may be special requirements for a particular project that are not addressed at all. The RFP preparer may have to incorporate additional information to address these special requirements in this PTS and corresponding Part 3 ESR. If the RFP preparer chooses to delete building elements that are not required for the project, do not change the remaining Uniformat paragraph designations (example - A102001). Uniformat designations are unique to the products they are assigned to. However, the subparagraph numerical extensions (example – 1.2 or a, b, c) of the Uniformat designations may change if subparagraphs are deleted.

This guide specification is formatted utilizing Uniformat II, an industry recognized standard, ASTM E 1557. When the RFP preparer chooses to add a paragraph that does not apply to an existing building element already included in the specification, refer to the Uniformat/WBS located on the NAVFAC Design-Build Website for a listing of Uniformat II designations and definitions.

NOTE: The RFP preparer may view or hide the criteria notes in this PTS section by modifying the WORD preferences for "Hidden text". To view the criteria notes, choose "File" then "Option". Click "Display" then check the "Hidden text" box under "Always show these formatting marks on the screen". In the same section, check the box for "Print hidden text" under "Printing options" to print the criteria notes.
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**E10 GENERAL**

RFP Part 3 including the Engineering System Requirements (ESR) provide project specific requirements. The RFP Part 4, Performance Technical Sections (PTS) provide generalized technical requirements that apply to multiple facility types and include more requirements than are applicable to any one project. Therefore, only the RFP Part 4 requirements that apply to the project and further define the RFP Part 3 project specific requirements are required.

 **E10 1.1 GENERAL REQUIREMENTS**

Where required by the project program, obtain the services of equipment specialists to specify any audiovisual, shop, fitness equipment, or other specialty equipment. Equipment specialists must not have any affiliation with the product specified. All specialty equipment must be installed by qualified installers regularly engaged in installing the specialty equipment. Systems furnishings installers must be the systems furniture manufacturer's dealer of record.

 **E10 1.2 DESIGN GUIDANCE**

Provide the design and installation in accordance with the following references. This Performance Technical Specification (PTS) adds clarification to the fundamental requirements contained in the following Government Standards. The general requirements of this PTS section are located in PTS Section Z10, *General Performance Technical Specification*.

Industry standards, codes, and Government standards that are referenced in the section text that are not found in the [Unified Master Reference List (UMRL)](https://www.wbdg.org/ffc/dod/unified-master-reference) in the [Federal Facility Criteria (FFC)](https://www.wbdg.org/ffc/federal-facility-criteria) at the [Whole Building Design Guide (WBDG)](https://www.wbdg.org/) website, are listed below for basic designation identification. Comply with the required and advisory portions of the current edition of the standard at the time of contract award.

 **E10 1.2.1 Industry Standards and Codes**

Loading Dock Equipment Manufacturers' Association (LODEM)

 **E10 1.2.2 Government Standards**

UNIFIED FACILITIES CRITERIA (UFC)

|  |  |
| --- | --- |
| UFC 1-200-01 | DoD Building Code (General Building Requirements)(A reference in this PTS section to UFC 1-200-01 requires compliance with the Tri-Service Core UFCs that are listed therein, which includes the following significant UFC(s):UFC 3-101-01, ArchitectureUFC 3-120-10, Interior Design) |
| UFC 1-200-02 | High Performance and Sustainable Building Requirements |

 **E10 1.3 PERFORMANCE VERIFICATION AND COMPLIANCE TESTING**

Provide verification of satisfactory special equipment and furnishing systems performance via Performance Verification Testing, as detailed in this section of the RFP.

 **E10 1.3.1 Field Tests for Dock Leveling Equipment**

a. Roll-over Tests - Move roll-over load of 20,000 pounds (9,072 kg) over the dock leveler between the bed of a freight carrier and the building loading dock surface for ten cycles. With the ramp extension retracted and the ramp platform leveled with the building loading dock surface, run a 20,000 pound (9,072 kg) roll-over load over the ramp in various directions for 20 cycles. No permanent deformation or hydraulic fluid leakage must occur subsequent to examination after these tests.

b. Drop Tests - Twice, drop test the dock leveler at the indicated rated capacity as follows: With the load on the platform and the load resting on a vehicle carrier bed not less than 10 inches (254 mm) above loading dock surface, pull the carrier or pull away from the lip, leaving the loading ramp unsupported. The measured vertical drop of the dock leveler taken at the point where the lip rests on the vehicle carrier must not exceed 4 inches (102 mm) during each of the drop tests. Inspect the loading ramp after each drop and ensure no damage or distortion to the mechanical, electrical, or structural components. There must be no leakage from the hydraulic system.

c. Acceptance Tests - Perform an acceptance test in the presence of the dock leveler manufacturer and the Contracting Officer subsequent to the roll-over load and drop tests. Conduct operation of the equipment through all of its motions and specified checks as follows: (a) extend lip to rest on a variety of freight carriers with beds up to 12 inches (305 mm) above and below deck level; (b) test 102 mm (4 inches) drop limitation with 7,000 pound (3,175 kg) load on ramp, evenly distributed; (c)test level compensation with the ramp, loaded with a minimum of 7,000 pounds (3,175 kg); and (d) test proper compensation (float) for various compression of counter-springs, with ramp loaded and unloaded.

 **E10 1.4 DESIGN SUBMITTALS**

Provide design submittals in accordance with Part 2 Section 01 33 10.05 20, *Design Submittal Procedures*, Facilities Criteria (FC) 1-300-09N, *Navy and Marine Corps Design Procedures*, UFC 3-101-01, *Architecture*, and UFC 3-120-10, *Interior Design*.

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NOTE: NAVFAC has made every effort to use commercial standards in the PTS sections. This PTS section is designed to only use commercial standards. If project requirements dictate the use of a UFGS sections as a standard, add a paragraph here listing the required UFGS section. State in the paragraph that the DOR must edit this UFGS section in accordance with PTS Z10 and submit it as a part of the design submittal.
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 **E10 1.5 CONSTRUCTION SUBMITTALS**

Submit construction submittals in accordance with PTS Section Z10, *General Performance Technical Specifications*. In addition to the Z10 requirements, the Designer of Record (DOR) must approve the following construction submittals as a minimum:

Field tests of equipment, vault door, loading dock equipment, kitchen equipment and unit kitchens.

Energy efficiency ratings for food service equipment, as applicable.

**E1010 COMMERCIAL EQUIPMENT**

**E101005 SECURITY & VAULT EQUIPMENT**

 **E101005 1.1 VAULT AND DOORS**

Design the Vault ("Weapons Storage Area" (WSA) or "Armory", or other title according to the project program) space in accordance with criteria in Military Handbook (MIL-HDBK) 1013/1A to provide at least 10 minutes of delay time against low and medium threat severity levels of forced entry. The space is required to be built to the construction standards described in MIL-HDBK-1013/1A for Class A vaults. The reinforced concrete must have minimum 28-day compressive strength of at least 3000 PSI (20,684 kPa) and the floor, walls, and ceiling/roof components of this space must all be cast in place and at least 8 inches (200 mm) thick. The door into the vault must be a General Services Administration (GSA)-Approved and labeled Class 5 Security Vault Door that conforms to Federal Specification AA-D-00600. Provide door manufacturer’s modified standard or custom Day Gate, designed for use with the vault door furnished, for access control and weapons issue. Except for the door opening, penetrations and openings through the structural “security” envelope of the floor, walls, and ceiling/roof of the Vault that are 96 sq. inches (618 sq. cm) or greater with the least dimension greater than 6 inches (150 mm) are not allowed. PTS Section D50, *Electrical*, includes requirements for Intrusion Detection System (IDS) within the space and for Security Lighting at the outside of the Vault Door to the space.

 **E101005 1.1.1 Set-backs**

Where the perimeter walls of the WSA spaces are part of the facility exterior walls, the vault walls must be set back from the exterior part of the exterior wall to allow at least 4 inches (100 mm) for the normal wall facing to cover the vault walls.

 **E101005 1.1.2 Egress**

Where a WSA space exceeds 1000 square feet (90 sq m) in floor area, or will have more than eight occupants, the space must have a minimum of 2 exits for safety purposes. When more than one entrance / exit is required, each must be equipped with a Security Vault Door, with only one used for normal entry access.

 **E101005 1.2 SECURITY VAULT DOOR**

Security Vault Door must be GSA-Approved and labeled Class 5 Security Vault Door that conforms to Federal Specification AA-D-00600. Provide GSA-Approved and labeled Class 5 Security Vault Door that conforms to Federal Specification AA-D-00600. Door(s) for normal or special entry access must be Class 5, either Type IIR- right opening swing without optical device or Type IIL- left opening swing without optical device as determined by design arrangement, Style K- Key change combination lock, Design S- single lock.

Where a second or additional door is required for safety purposes, door(s) for exit only must be Class 5, either Type IR- right opening swing with optical device or Type IL- left opening swing with optical device as determined by design arrangement, Style K- Key change combination lock, Design B- no exterior hardware.

 **E101005 1.3 DAY GATE**

Provide vault door manufacturer's modified standard or custom day gate designed for use with vault door furnished, for access control and weapons issue. Day gate construction must be minimum 10 gage (3.4 mm) steel flattened and expanded metal welded to a 1 inch (25 mm) minimum steel channel or angle welded frame; expanded metal pattern must be 1 inch by 1-3/4 inch (25 by 45 mm) diamond grid. Maximum clearance between sides, top and bottom of the day gate and the vault door-frame and floor must be 1 inch (25 mm) when the day gate is closed. Provide gate hinged on same side as the vault door, swinging to 180 degrees into the vault from closed to open positions. Provide day gate with locking device operable from both sides; the outside by key and the inside by key, knob, lever, or deadbolt; the inside locking device must either be positioned so that it is not accessible from the outside or it must be operable by key only. Day gate must include an issue port opening, cover with locking mechanism, and shelf. The issue port must be a framed opening welded to the day gate frame with a hinged door cover. The hinged door must be minimum 18 gage (1.2 mm) steel and must be lockable from the inside only. The opening must be 8 inches (200 mm) high and 12 inches (300 mm) wide; tolerances are plus or minus 0.125 inch (3.2 mm). When the issue port is closed, the hinged door cover must match the opening to within 0.0625 inch (1.6 mm). The shelf must be minimum 16 gage (1.5 mm) stainless steel, 12 inches (300 mm) deep by 12 inches (300 mm) wide to match the port opening, and must be capable of withstanding a vertical force of 100 lbf (445 N) at any point without deformation. Provide the manufacturer’s standard painted finish to match that of the vault door. The day gate must not interfere with the operation of vault door inner escape device.

**E1020 INSTITUTIONAL EQUIPMENT**

Institutional equipment includes items that are normally found in hospitals, laboratories, auditoriums, and libraries.

**E102001 MISCELLANEOUS COMMON FIXED & MOVABLE EQUIPMENT**

This section must include fixed workbenches, hazardous and non-hazardous shop materials cabinetry, shop tools, and other fixed and movable equipment.

**E102009 AUDIO-VISUAL EQUIPMENT**

 **E102009 1.1 CEILING MOUNT FOR PROJECTOR**

Provide the ceiling mounted hardware for a digital projector, to be coordinated with support blocking (see PTS Section C10, *Interior Construction*) and electrical and data connections (see Section D50, *Electrical*).

**E1030 VEHICULAR EQUIPMENT**

**E103002 LOADING DOCK EQUIPMENT**

This paragraph covers the requirements for dock bumpers, truck-trailer restraining devices, and industrial, mechanical and electro-hydraulic dock levelers of a fixed hinged type. All loading dock equipment must be Navy certified.

Provide a Loading Dock Equipment System for the protection of service docks and for the loading and unloading of service vehicles.

 **E103002 1.1 DOCK LEVELERS**

Based on the performance requirements of the project program, provide American National Standards Institute (ANSI) MH30.2 (see LOEDM) steel tread plate lip and platform, hinged and supported from beneath by steel framework that contains lifting, positioning, and lowering assembly. The design must permit washing with water and detergents, and operation in an ambient temperature from 0 degrees F to plus 110 degrees F (–18 degrees C to plus 43 degrees C). Minimum roll over capacity must not be less than 20,000 pounds (9,072 kg).

 **E103002 1.1.1 Height Adjustment**

Provide a ramp with a minimum incline adjustment of 24 inches (600 mm). Divide 12 inches (300 mm) above and 12 inches (300 mm) below the platform height.

 **E103002 1.1.2 Loading Ramp Compensation**

a. Freight Carrier Out of Level - Allow a minimum correction of one inch for each 18 inches (450 mm) and maximum of 4-inch (100 mm) correction of ramp width over the width of the ramp.

b. Loading and Unloading of the Freight Carrier - When the lip is extended, provide a 4-inch (100 mm) compensation for carrier spring deflection to allow full contact between the lip and the carrier bed.

 **E103002 1.1.3 Safety Devices**

a. Electro-hydraulic System - Provide a device to automatically prevent a drop of more than 4 inches (100 mm) of the lip should the freight carrier move away from the dock leaving the lip unsupported.

b. Mechanical System - Provide a three-position safety system to limit platform fall to dock level and 4 and 8 inches (100 and 200 mm) below dock level.

c. Dock Bumpers - Provide laminated rubber, tire fabric or equivalent dock bumpers along the length of the loading dock.

 **E103002 1.1.4 Operation**

a. Mechanical Control - Mechanical chain activated, with extension-spring operation and counter-balance non-manual, raising and lowering system.

b. Electro-Hydraulic Control - Provide dock leveler with pushbutton control, heavy-duty dust tight and oil tight rated in accordance with National Electrical Manufacturers Association (NEMA) ICS 2, Part ICS2-216 for alternating current.

c. Construction and Materials - The entire live load carrying surface of the ramp and rear attachment must not be less than 1/4-inch(6 mm) thick, 55,000 PSI (379,200 kPa) minimum yield strength, low alloy, non-skid steel tread plate.

d. Toe Guards - Provide sides or edges of the ramps which rise above the surrounding loading dock with sheet carbon steel skirts or toe guards of minimum 14 gage nominal thickness.

 **E103002 1.1.5 Electro-Hydraulic Lift System**

Provide a complete and separate system for each dock leveler. Design system to withstand not less than 150 percent of the design operating pressure. Provide hose, fittings, pipe and tubing with working pressures based upon a minimum 4 to 1 safety factor of bursting pressure.

 **E103002 1.1.6 Electrical Requirements**

National Fire Protection Association (NFPA) 70, NEMA ICS 2, NEMA ICS 6 and NEMA MG 1

a. Motor - Conform to NEMA MG 1 and continuous duty or 60-minute time rated, industrial type, single speed rated for operating conditions.

b. Control - NEMA ICS 2, size 0 controller for heavy industrial service.

c. Transformer - Totally enclosed, self-cooled, dry type transformer. Incorporate circuit breakers with ground fault interrupting protection conforming to Underwriters Laboratories (UL) 943.

 **E103002 1.1.7 Structural Warranty**

Present a manufacturer's warranty certifying the leveler against operational malfunction or structural failure, or both, for a period of 10 years from the date of acceptance by the Government. Warranty may exclude failure through overloading evidenced by member breakage or residual deformation; but it must not exclude breakage of welds or fastenings, fatigue breakage of components, or wear of moving parts. Provide warranty to cover the full costs of repairs, or replacements in case of a nonrepairable failure.

 **E103002 1.1.8 Accessories**

a. Dock Truck or Trailer Restraining Device - Provide self-aligning device, with a positive restraining force of not less than 18,000 pounds (8,165 kilograms). Device must service all truck or trailers with Interstate Commerce Commission (ICC) bars located between 12 and 30 inches (300 and 750 mm) above ground level.

**E103003 WAREHOUSE EQUIPMENT**

This paragraph covers the requirements for storage racks, heavy duty shelving, material handling conveyors, and other warehouse equipment. See the project program.

**E103004 AUTOMOTIVE SHOP EQUIPMENT**

This paragraph covers the requirements for automotive vehicle lifts meeting the requirements of ANSI/ALI ALCTV-1998 standards, and other automotive shop equipment such as pneumatic liquids delivery systems. See the project program.

**E1040 GOVERNMENT FURNISHED EQUIPMENT**

Refer to the project program.

**E1090 OTHER EQUIPMENT**

**E109002 FOOD SERVICE EQUIPMENT**

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NOTE: The following equipment is a list of the most often used kitchen equipment and the applicable commercial standard for that equipment. The kitchen design requirements should be identified in the RFP Part Three, Project Program.

Do not utilize items from the following equipment list if the items are furnished as Government Furnished Equipment (GFE). List all GFE in the RFP Part Three, Project Program.
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Provide Food Service Equipment and the kitchen design in accordance with FC 4-722-01N, *Navy and Marine Corps Dining Facilities*. This paragraph covers the items of commercial food service equipment. Included are items used for liquid and solid food storage, food preparation, cooking, display, serving, and clean up equipment. Provide 180 degree F (82 degree C) hot water or chemical treatment for sinks, dishwashers, pot washers, and exhaust ventilator wash down systems.

Provide products that meet or exceed the specified energy efficiency requirements of FEMP designated or Energy Star qualified products. Submit documentation certifying that products conform to Public Law 109-58 by meeting or exceeding Energy Star or FEMP efficiency requirements as defined at "Energy-Efficient Products" at <http://femp.energy.gov/procurement>. Indicate the Energy Efficiency Rating.

 **E109002 1.1 COMMERCIAL FOOD SERVICE EQUIPMENT**

 **E109002 1.1.1 Equipment Materials**

Fabricate custom and commercial equipment in accordance with NSP 2.

a. Stainless Steel Sheets - American Society for Testing and Materials (ASTM) A167, 18-8 Composition, Type 302 or 304 or 316, non-magnetic, with a No. 4 finish on the exposed face.

b. Tubing - ASTM A 270

c. Framing and Cross Bracing - ASTM A 276, Type 302 or Type 304 or Type 316

d. Copper Tubing –

1) Tube - ASTM B 88, Type K, annealed, for buried or embedment in concrete, and Type L, hard drawn, for above grade installation.

2) Fittings - ANSI B16.18, above grade, American Society of Mechanical Engineers (ASME) B16.22 or ASME B16.26, above or below grade.

e. Welded Joints - Use tungsten inert gas process. Use filler metal compatible with the material being welded. Make all visible welds ductile and of same color as adjoining surfaces. Coat welds in hidden areas that are not finished by grinding and polishing and the accompanying discoloration in the factory with a metallic-based paint to prevent progressive corrosion. Grind exposed welded joints flush with the adjoining material and finish and polish to match the adjoining surface. Grind off excess metal and smooth to a No. 4 finish. Remove imperfections such as pits, runs, sputter, cracks, low spots, voids and buckle.

Penetrate entire thickness for the entire length of the joint; make joints flat, continuous and homogeneous with the sheet metal without reliance on straps under seams or spot welding. When stainless steel is joined to dissimilar metals, use stainless steel for fastening devices and welding material.

f. Solder - ASTM B 32, 95.5 tin-antimony solder or other lead-free solder for contact with potable water or food. Provide ASTM B 32, alloy grade 50B for temperatures up to 150 degrees Fahrenheit (65 degrees Celsius).

 **E109002 1.1.2 Custom-Fabricated Counters, Dishwasher Counters, and Sinks**

Fabricate of 14 gage (1.8 mm) stainless steel, with all shop seams and water tight welded corners ground smooth, and polished. Pitch all flat surfaces to drain and eliminate any chance of standing water. Counters and sinks must be furnished complete with integral stainless steel backsplashes, side splashes, and legs with adjustable feet.

a. Sinks - Provide integral sinks in accordance with the requirements of NSF 2, and ASTM A112.19.3M. Provide minimum of 0.75 inch (19 mm) radius on all corners.

 **E109002 1.1.3 Exhaust Ventilators**

Exhaust ventilators must conform to NFPA 96, UL 710, and SMACNA DCS. Fabricate exhaust ventilators of minimum 18 gage stainless steel in segments not longer than 12'-0". Provide centrifugal grease-extracting design to remove 95% of matter from the air with non-removable extracting baffles located in the plenum chamber. Exhaust ventilators must provide integral make-up air system in accordance with NFPA 96. Provide automatic wash-down cycle and fan control on adjacent wall.

a. Fire Damper - Provide mechanically driven damper and damper control. Activate by heat-sensing thermostat set to react to a temperature of 350 degrees F (177 degrees C) in exhaust duct at exhaust ventilators.

b. Fire Protection System - Provide a pre-engineered wet system in accord with NFPA 96.

 **E109002 1.1.4 Pre-Fabricated Walk-in Refrigerators and Freezers**

Provide walk-in units manufactured for food service use conforming to NSF 7, UL 207, and UL 471. Provide refrigeration unit complying with American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE) 15. Outside compressors, if used, require winter controls, housing, and crankcase heater. Provide monitoring system to alarm abnormally low or high temperatures, and personnel safety alarm. If the unit utilizes the floor of the facility as an interior surface of the unit, it must be insulated and separated from adjacent floors.

 **E109002 1.1.5 Food Waste Disposer - ASTM F917**

 **E109002 1.1.6 Beverage Dispenser, Non-Carbonated, Refrigerated - ASTM F918**

 **E109002 1.1.7 Food Slicing Machine - ASTM F919**

 **E109002 1.1.8 Food Mixing Machine - ASTM F952**

 **E109002 1.1.9 Powdered Iced Tea Dispenser - ASTM F1023**

 **E109002 1.1.10 Frying and Braising Pan, Tilting - ASTM F1047**

 **E109002 1.1.11 Food Cutter - ASTM F1126**

 **E109002 1.1.12 Food Waste Pulper - ASTM F1150**

 **E109002 1.1.13 Cooker, Steam - ASTM F1217**

 **E109002 1.1.14 Ovens, Microwave - ASTM F1360**

 **E109002 1.1.15 Vegetable Peeling Machine - ASTM F1371-04**

 **E109002 1.1.16 Combination Oven - ASTM F1495**

 **E109002 1.1.17 Food Processor - ASTM F1568**

 **E109002 1.1.18 Kettle, Steam Jacketed (20-200 gal) Floor or Wall Mounted - ASTM F1602**

 **E109002 1.1.19 Kettle, Steam Jacketed (32 oz-20 gal), Table Mounted - ASTM F1603**

 **E109002 1.1.20 Freezer, Ice Cream, Soft Serve - ASTM F1604**

 **E109002 1.1.21 Griddle, Single or Double Sided - ASTM F1919**

 **E109002 1.1.22 Deep Fat Fryers - ASTM F1963**

 **E109002 1.1.23 Dough Divider/Rounder - ASTM F1966**

 **E109002 1.1.24 Dishwashing Machines**

a. Hot Water Sanitizing Rack Type, ASTM F857

b. Hot Water Sanitizing Single Tank, ASTM F858

c. Hot Water Sanitizing, Multi-Tank, ASTM F859

d. Hot Water Sanitizing, Multi-Tank, Conveyor, ASTM F860

e. Chemical Sanitizing, Stationary Rack, ASTM F953

f. Chemical Sanitizing, Fresh Water Rinse, ASTM F1022

g. Hot Water Sanitizing, Oval Conveyor, Multi-tank, ASTM F1237

 **E109002 1.1.25 Pot and Pan Washing Machines**

a. Heat Sanitizing, Oscillating Arm Type, ASTM F1202

b. Heat Sanitizing, Rotary Conveyor, ASTM 1203

c. Heat Sanitizing, Rack Type, Rotary Spray, ASTM F1114

 **E109002 1.2 RESIDENTIAL OR LIGHT COMMERCIAL ELECTRIC KITCHEN EQUIPMENT**

 **E109002 1.2.1 Cooking Top**

Conform to UL 197 and UL 858.

 **E109002 1.2.2 Freezer**

UL 250, minimum 14 cubic feet (0.39 cubic meters), frost-free.

 **E109002 1.2.3 Refrigerator**

UL 250, refrigerator with frost-proof freezer, minimum 14.6 cubic feet (0.41 cubic meters).

 **E109002 1.2.4 Freestanding Ice Maker**

UL listed and NSF approved; self-contained, air-cooled model, minimum ice production of 355 pounds (161 kg) per 24 hours, and a minimum bin storage capacity of 180 pounds (82 kg) of ice cubes.

 **E109002 1.2.5 Griddle**

UL 197 and NSF 2, built-in counter-top model. Minimum capacity must be 260 pancakes or 420 hamburgers 4 ounces (110 g) per hour.

 **E109002 1.2.6 Microwave Oven**

UL 923, minimum 1 cubic foot (0.03 cubic meter) capacity.

 **E109002 1.2.7 Oven**

UL 858, self-cleaning and built-in.

 **E109002 1.2.8 Trash Compactor**

UL 1086, under-counter model with storage compartment and 20 gallon (75 liter) trash disposal bag capacity.

 **E109002 1.2.9 Kitchen Exhaust Hood**

NFPA 96 and NSF 2, factory fabricated of minimum 18 gage stainless steel.

 **E109002 1.2.10 Range Hood**

UL 858, vented or non-vented with two-speed fan.

 **E109002 1.2.11 Dishwasher**

UL 921 or UL 749 with detergent dispenser. For heavy-duty dishwasher, provide stainless steel commercial grade with approximately 300-dish per hour and 540 glasses per hour ratings.

 **E109002 1.2.12 Residential Garbage Disposal**

UL 430, stainless steel, continuous feed with minimum 1/2 or 3/4 hp motor. Optional 1 hp motor for heavy usage.

**E109005 UNIT KITCHENS**

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NOTE: There are more options available for unit kitchens than indicated in the following paragraph. If special requirements are needed, modify the necessary unit kitchen component requirements in the project program.
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 **E109005 1.1 UNIT KITCHENS**

Provide complete unit kitchens with countertops, sinks, faucets, appliances, and accessories. Comply with DoD Architectural Barriers Act (ABA) Standards in units for the disabled. Provide high pressure laminate or natural wood finish.

 **E109005 1.2 UNIT KITCHEN COMPONENTS**

a. Cabinets - American National Standards Institute/Kitchen Cabinet Manufacturers Association (ANSI/KCMA) A161.1 wood and plywood cabinetry with drainers and cabinet doors.

1) Provide 3/4-inch (19 mm) solid wood for face framing, drawer fronts, and shelves up to 36 inch (91.44 cm) wide. Cabinet body members require spline, biscuit, dowel or dado joining.

2) Provide 1/2-inch (12.8 mm) solid wood for drawer boxes with dovetail or dowelled joints.

3) Provide 3/8-inch (9 mm) plywood for cabinet box and toe board.

4) Provide cabinet doors of High Pressure Laminate covered medium density fiberboard or stile and rail doors.

b. Countertop - Provide ASTM 2124.3 and ASTM 2124.6, solid polymer countertop and 3-1/2 inch (89 mm) backsplash.

c. Sink and Faucet - Provide ANSI A112.18.1M, NSF International Standard 61 sink and faucet. Section 9 for sink and faucet. Provide large 22 gauge stainless steel sink with basket strainer in w with water stopper. Faucet must be a washerless cartridge system.

d. Refrigerator-Freezer – 5 cubic foot minimum undercounter refrigerator freezer. Provide interior light, defrost, adjustable shelving, adjustable thermostat features, and zero degree freezer.

e. Microwave Oven/Ventilation Hood Combination. Provide 1.4 cubic foot 900 watt minimum, microwave/hood above cooktop. Ductless hood must be convertible to ducted at the project site.

f. Cooktop – Provide drop-in 2 burner black ceramic cooktop with 1200 watt elements.

g. Dishwasher – Provide 24 inch wide Energy Star Large capacity dishwasher.

h. Accessories.

1) Back wall shield and end wall shields when against an end wall.

2) Countertop fluorescent lighting.

3) Drawer slides rated for 100 pound capacity.

4) Door hinges to be adjustable, self-closing, and configured to allow screw application to cabinet door from two directions.

**E109090 OTHER SPECIALIZED FIXED AND MOVABLE EQUIPMENT**

Specialized fixed and moveable equipment not described by the other assembly categories.

 **E109090 1.1 WEAPONS RACKS**

Weapons Storage Racks may be purchased or may be steel fabrications. Comply with OPNAVINST 5530.13c and standard operating procedure for the facility.

 **E109090 1.2 GEAR DRYING CAGES**

Drying cages (racks) for SCUBA gear may be purchased or may be fabrications. Comply with standard operating procedures for the facility.

-- End of Section --