**SECTION 27 11 16 – Communications Cabinets, Racks, Frames, and Enclosures**

 GENERAL

 SUBMITTALS

 Action Submittals:

 Product Data: Manufacturer’s descriptive and dimensional data and product attributes.

 Closeout Submittals:

 Operation and Maintenance Data.

 A minimum of 2 identified keys for the keyed alike lockable rack doors.

 QUALITY ASSURANCE

 Regulatory Requirements:

 UL 2416, Audio/Visual Information and Communications Technology Equipment Cabinets, Enclosures and Rack Systems

 EIA/ECA-310-E, Cabinets, Racks, Panels and Associated Equipment

 ANSI/TIA 607-D, Generic Telecommunication Bonding and Grounding (Earthing) for Customer Premises

 PRODUCTS

 EQUIPMENT RACKS

 Contract documents are based on Lowell Manufacturing Company. Phone (636) 257-3400. Website [www.lowellmfg.com](http://www.lowellmfg.com). E-mail sales@lowellmfg.com

 Substitutions: [Refer to Division 01.] [Not permitted.]

 GENERAL RE: RACK CONSTRUCTION

 Racks are to be UL listed, constructed from certified U.S. steel with a factory applied black wrinkle powder epoxy finish and sized to suit the equipment to be installed plus 20% spare capacity. Additional requirements are as follows:

 Floor mount racks are to be welded #16 gauge frames with #14 gauge bottom panels reinforced at load-bearing junctions

 Front and rear corner edges are to be beveled

* + - * 1. All rack rear doors are to be left or right swing with keyed-alike locks. Front doors shall be optional and ordered separately.

 FLOOR MOUNTED STAND-ALONE RACK

 Lowell Manufacturing Co. “LER” Series free-standing racks with welded sides, each complete with:

 Front: A front panel with upper and lower vents and frame inserts for an optional left or right swing surface-mount door

 Rear: Laser cut conduit knock-outs and knock-out panels in the frame above and below the vented recessed door with key lock

 Sides: Welded panels with top and bottom vents

 Bottom: Open access with corner grounding stud and holes for securement in place on the floor

 Top: Dependent on model selected, top will be either solid steel with vents, or configurable with 7U or 10U open space. Configurable tops shall include solid closure panels which can be replaced with optional 19-inch fan or vent panels to suit rack equipment requirements. Knock-outs for wireless antennae.

 Adjustable rack rails: #11 gauge black finish steel 10-32 threaded rails on E.I.A. spacing with bi-directional numbered RU increments

 Hardware: Black pilot point screws with captive washers

 Rack Model Number:

* + - * 1. Model LER-1822: Height 18U [37.63in./803mm], Depth 22in.[559mm], Width 23.06in.[586mm], Load Capacity 500 lbs.[226.7kg], Solid Top, Rails 1-pr.
				2. Model LER-2122: Height 21U [42.88in./1089mm], Depth 22in.[559mm], Width 23.06in.[586mm], Load Capacity 500 lbs.[226.7kg], Solid Top, Rails 1-pr.
				3. Model LER-2422: Height 24U [48.13in./1222mm], Depth 22in.[559mm], Width 23.06 in.[586mm], Load Capacity 800 lbs.[362.8kg], Solid Top, Rails 1-pr.
				4. Model LER-3522: Height 35U [67.38in./1711mm], Depth 22in.[559mm], Width 23.06 in.[586mm], Load Capacity 3150 lbs.[1428.8kg], Configurable Top 7U, Rails 1-pr.
				5. Model LER-4022: Height 40U [76.13in./1934mm], Depth 22in.[559mm], Width 23.06 in.[586mm], Load Capacity 3150 lbs.[1428.8kg], Configurable Top 7U, Rails 1-pr.
				6. Model LER-4422: Height 44U [83.13in./2111mm], Depth 22in.[559mm], Width 23.06in.[586mm], Load Capacity 3150 lbs.[1428.8kg] , Configurable Top 7U, Rails 1-pr.
				7. Model LER-1827: Height 18U [37.63in./803mm], Depth 27in.[686mm], Width 23.06in.[586mm], Load Capacity 500 lbs.[226.7kg], Solid Top, Rails 1-pr.
				8. Model LER-2127: Height 21U [42.88in./1089mm], Depth 27in.[686mm], Width 23.06in.[586mm], Load Capacity 500 lbs.[226.7kg], Solid Top, Rails 1-pr.
				9. Model LER-2427: Height 24U [48.13in./1222mm], Depth 27in.[686mm], Width 23.06 in.[586mm], Load Capacity 800 lbs.[362.8kg], Solid Top, Rails 1-pr.
				10. Model LER-3527: Height 35U [67.38in./1711mm], Depth 27in.[686mm], Width 23.06 in.[586mm], Load Capacity 3150 lbs.[1428.8kg], Configurable Top 7U, Rails 1-pr.
				11. Model LER-4027: Height 40U [76.13in./1934mm], Depth 27in.[686mm], Width 23.06 in.[586mm], Load Capacity 3150 lbs.[1428.8kg], Configurable Top 7U, Rails 1-pr.
				12. Model LER-4427: Height 44U [83.13in./2111mm], Depth 27in.[686mm], Width 23.06in.[586mm], Load Capacity 3150 lbs.[1428.8kg] , Configurable Top 7U, Rails 1-pr.
				13. Model LER-2432: Height 24U [48.13in./1222mm], Depth 32in.[813mm], Width 23.06 in.[586mm], Load Capacity 800 lbs.[362.8kg], Configurable Top 10U, Rails 2-pr.
				14. Model LER-3532: Height 35U [67.38in./1711mm], Depth 32in.[813mm], Width 23.06 in.[586mm], Load Capacity 3150 lbs.[1428.8kg], Configurable Top 10U, Rails 2-pr.
				15. Model LER-4032: Height 40U [76.13in./1934mm], Depth 32in.[813mm], Width 23.06 in.[586mm], Load Capacity 3150 lbs.[1428.8kg], Configurable Top 10U, Rails 2-pr.
				16. Model LER-4432: Height 44U [83.13in./2111mm], Depth 32in.[813mm], Width 23.06in.[586mm], Load Capacity 3150 lbs.[1428.8kg], Configurable Top 10U, Rails 2-pr.

 Optional Accessories:

 Solid steel surface-mount front door with key lock Model [LFD-18] [LFD-21] [LFD-24] [LFD-35] [LFD-40] [LFD-44]

 Smoked plexiglass surface-mount front door with key lock Model [LFD-18P] [LFD-21P] [LFD-24P] [LFD-35P] [LFD-40P] [LFD-44P]

 Fully-vented surface-mount front door with key lock Model [LFD-18FV] [LFD-21FV] [LFD-24FV] [LFD-35FV] [LFD-40FV] [LFD-44FV]

 Additional pair of mounting rails Model [RRD-18] [RRD-21] [RRD-24] [RRD-35] [RRD-40] [RRD-44]

 Set of four standard leg levelers Model LL

 Set of four isolation leg levelers Model ISO-LL

 EXECUTION

 INSTALLATION OF EQUIPMENT RACKS

 Provide equipment racks as shown/required with exact quantity and sizes to suit system equipment and the required spare capacity. Confirm exact locations prior to roughing-in.

 Install in accordance with the manufacturer’s published instructions.

 Ensure that rack locations permit full opening of doors.

 Ground and bond all racks in accordance with requirements of [Section 27 05 26], Grounding and Bonding for Communications Systems.

END OF SECTION