

STANDARD INFORMATION

Standard: UL 2416

Standard ID: Audio/Video, Information and Communication Technology Equipment Cabinet, Enclosure and Rack Systems [UL 2416:2015 Ed.1+R:02Oct2020]

Previous Standard ID: Audio/Video, Information and Communication Technology Equipment Cabinet, Enclosure and Rack Systems [UL 2416:2015 Ed.1+R:14Nov2019]

EFFECTIVE DATE OF NEW/REVISED REQUIREMENTS

Effective Date: **December 2, 2022**

IMPACT, OVERVIEW, AND ACTION REQUIRED

Impact Statement: Per our accreditation, Intertek is required to review reports against the standard revisions to confirm compliance. Once compliance is confirmed, the standard reference in the report is updated to show continued compliance to the technical requirements of the standard. Reports not updated to this version of the standard by the effective date stated above will be withdrawn.

Overview of Changes:

- Refinement of effectively grounded marking requirement
- Revision of functional earthing (grounding) marking
- Additional requirements for installation instructions

Specific details of new/revise requirements are found in table below.

Current Listings Not Active? – Please immediately identify any current Listing Reports or products that are no longer active and should be removed from our records. We will do this at no charge as long as Intertek is notified in writing prior to the review of your reports.



STANDARD INFORMATION

CLAUSE	VERDICT	COMMENT
		<i>Additions to existing requirements are <u>underlined</u> and deletions are shown lined-out below.</i>
7	Info	Grounding
7.5	Info	Functional grounding (earthing)
		Equipment may be provided with a functional grounding terminal or connector that does not comply with the requirements for the connection of an equipment grounding conductor if provided all of the following are met:
		a) <u>The equipment is marked with the symbol, IEC 60417-6092 (2013-03).</u>
		b) <u>Wiring terminals to be used only for the connection of functional grounding shall be marked with the symbol, IEC 60417-5018 (2011-07).</u>
		c) <u>Wiring terminals to be used only for the connection of grounding shall not be marked with the symbol, IEC 60417-5017 (2006-08) or with the symbol, IEC 60417-5019 (2006-08). However, these symbols may be used for a wiring terminal provided on a pre-selected component (for example, a terminal block) or subassembly.</u>
7.5.1		Or
		d) For the connection of a functional grounding conductors, the color combination green-and-yellow shall not be used;
		e) The instructions shall clearly state that the functional grounding terminal is only for functional grounding use (such as EMI) and shall not be used for the connection of an equipment grounding conductor; and
		f) The equipment also complies, with the one of the requirements for the connection of an equipment grounding conductor, a bonding conductor or a grounding electrode conductor as required in Equipment grounding conductor and grounding continuity, 7.1 or Bonding conductor and grounding electrode conductor, 7.2.
12	Info	Fire Resistance Criteria
12.5	Info	In-wall mounted enclosure systems
12.5.2	Info	Openings in vertical surfaces
12.5.2.1		An enclosure system for building in shall have no open holes located behind the finished wall material on vertical surfaces, except if they meet the following provisions:



CLAUSE	VERDICT	COMMENT
		<p><u>a) The size and number of openings in a vertical surface are not restricted if they comply with the requirements for top openings described in 12.5.3, with the surface tested in a horizontal position.</u></p> <p><u>b) For escape of air or drainage of paint during a painting process, not more than four holes 3.2 mm (1/8 in) or less in diameter are permitted located as close to the corners of the enclosure as possible.</u></p> <p><u>c) For drainage in in a rainproof enclosure, a single opening is permitted that shall not exceed 6.4 by 6.4 mm (1/4 by 1/4 in).</u></p> <p><u>d) For mounting miscellaneous components inside the enclosure, four unused holes are permitted. The largest dimension of each opening shall not be more than 4.8 mm (3/16 in).</u></p> <p><u>e) For mounting of the enclosure inside the wall, the following allowances are permitted.</u></p> <p><u>1) For enclosures with a maximum dimension of 305 mm (12 in), four of the holes may be keyhole slots having the configuration illustrated in Figure 12.1. The dimensions specified in Figure 12.1 may vary if the area is equivalent.</u></p> <p><u>2) For enclosures having a maximum dimension of 457 mm (18 in), four holes may be provided.</u></p> <p><u>3) For enclosures having a maximum dimension of more than 457 mm (18 in) but less than 1.2 m (48 in), six holes may be provided.</u></p> <p><u>4) For enclosures with a maximum dimension of 1.2 m (48 in) or more, eight holes may be provided.</u></p> <p><u>For 12.5.2.1 (e) (2) through (e) (4), the dimensions are not specified, but shall be appropriate for the enclosure dimensions and configurations as determined by the manufacturer.</u></p>
16	Info	Markings and Instructions
16.7	Info	Installation instructions
		<i>New clause added;</i>
16.7.8		For each shelf, cabinet, rack and enclosure, the maximum load rating (carrying capacity) is to be either marked on the equipment or provided as an installation instruction.