

STANDARD INFORMATION

Standard Number: UL 2442
Standard Name: Wall- and Ceiling-Mounts and Accessories
Standard Edition and Issue Date: 1st Edition Dated March 16, 2011
Date of Revision: January 19, 2018
Date of Previous Revision of Standard: January 16, 2014

EFFECTIVE DATE OF NEW/REVISED REQUIREMENTS

Effective Date: **December 31, 2019**

IMPACT, OVERVIEW, AND ACTION REQUIRED

Impact Statement: A review of all Listing Reports is necessary to determine which products comply with new/revised requirements and which products will require re-evaluation. **NOTE:** Effective immediately, this revised standard will be exclusively used for evaluation of new products unless the Applicant requests in writing that current requirements be used along with their understanding that their listings will be withdrawn on Effective Date noted above, unless the product is found to comply with new/revised requirements.

Overview of Changes: Additional requirements to address products that support audio/video equipment attached to structures. Specific details of new/revised requirements are found in table below.

If the applicable requirements noted in the table are not described in your report(s), these requirements will need to be confirmed as met and added to your report(s) such as markings, instructions, test results, etc. (as required).

Client Action Required:

Information – To assist our Engineer with review of your Listing Reports, please submit technical information in response to the new/revised paragraphs noted in the attached or explain why these new/revised requirements do not apply to your product (s).

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 – Please immediately identify any current Listing Reports or products that are no longer active and should be removed from our records.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
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Additions to existing requirements are underlined and deletions are shown lined out below.

		<i>New section added;</i>
7A		Assemblies of Parts
7A.1		A mounting system or systems comprised of parts that some or all of the parts can be used in different combinations and configurations to support the audio/video equipment shall comply with 7A.2 – 7A.4.
7A.2		The recommended configurations when assembled in accordance with the manufacturers installation instructions shall comply with the construction and performance requirements in each of the configurations specified in the installation instructions.
7A.3		When the parts of the system are assembled as specified in the installation instructions, no part of the assembly shall support more weight than the lowest load rating of any individual part. See Figure 7A.1 as an example. The weight of the system parts shall be considered in the total supported weight rating specified in the instructions.

Acceptable combinations of assemblies

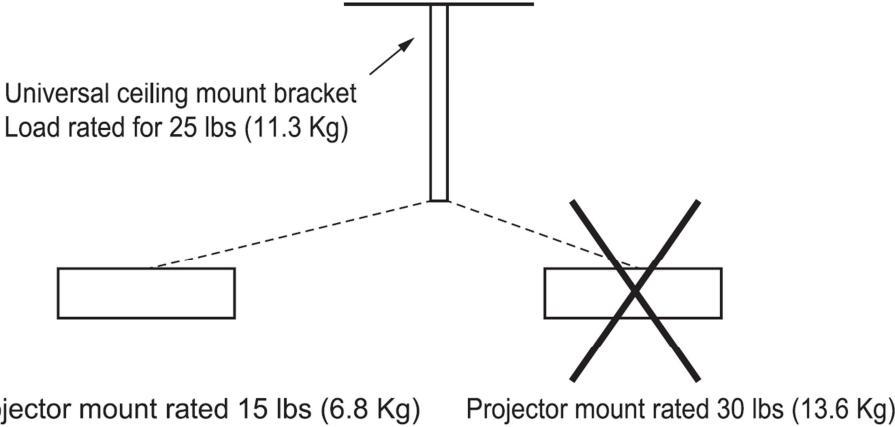


Figure 7A.1

7A.4		Installation instructions shall be provided as indicated in General, Section 72.
		<i>New section added;</i>
7B		Dropped or Suspended Ceilings



CLAUSE	VERDICT	COMMENT
7B.1		<p>The weight of an audio/video support system shall not be carried by a dropped or suspended ceiling. The weight of the support system and the audio/video components of the support system shall be supported independently from the dropped or suspended ceiling by attachment to the building structure.</p>
7C		<p><i>New section added;</i></p> <p>Other Spaces Used for Environmental Air (Plenums)</p> <p>A support system that extends above a suspended ceiling that is intended for use in “Other spaces used for environmental air (Plenums)” shall comply with the following:</p> <p>a) Enclosure systems intended to be installed in air-handling spaces shall be constructed of metal or constructed of non-metallic material that complies with the requirements in the Standard for Fire Test for Heat and Visible Smoke Release for Discrete Products and Their Accessories Installed in Air-Handling Spaces, UL 2043.</p> <p>Note 1: The space over a hung ceiling used for environmental air-handling purposes is an example of air handling spaces to which this section applies. 300.22 (C) of National Electrical Code, ANSI/NFPA 70, describes these spaces as “other spaces used for environmental air (plenums)”, or “spaces not specifically fabricated for environmental air-handling purposes”.</p> <p>Note 2: Products evaluated in accordance with these requirements are considered to comply with the fire retardant and low smoke producing requirements of Article 300 of National Electrical Code, ANSI/NFPA 70, Chapter 4 of the Standard for the Installation of Air- Conditioning and Ventilating Systems, NFPA 90A, Article 602 of the International Mechanical Code, and Article 602 of the Uniform Mechanical Code.</p> <p>b) Enclosure systems intended for installation in air-handling spaces shall limit the amount of smoke that may enter the space in the event of a fire in any installed equipment. Openings in sections of the enclosure that separate installed equipment from the air-handling spaces shall be limited to small mounting holes, narrow slots associated with unused/unpunched knockouts, and the like. An example of a construction that complies with this requirement is as follows:</p> <p>Openings in the enclosure that are not closed during the assembly and comply with the following:</p> <p>1) The largest dimension of an opening shall not be more than 6.4 mm (1/4 in) and the smallest dimension shall not be more than 1.6 mm (1/16 in);</p> <p>2) There shall be a maximum of five openings in any one side or end of the enclosure and the total area of all openings shall not be more than 1.3 cm²(0.2 in²);</p> <p>and</p>
7C.1		



3) There shall be a maximum of 15 openings in the enclosure and the total area of all openings shall not be more than $3.2\text{cm}^2(0.5\text{in}^2)$ enclosure.

A support system that complies with 7B.1 shall be marked according to the following:

a) An enclosure system investigated for use in other spaces used for environmental air (spaces not specifically fabricated for environmental air-handling purposes but used for air-handling purposes, such as a plenum) may be marked “Suitable for Use in Other Space Used for Environmental Air (Plenums)”, “Suitable for Use in Air-handling Spaces”, or equivalent wording.

7C.2

b) Since enclosure systems covered by these requirements are not intended to house equipment that takes action on or senses the air in Ducts Specifically Fabricated for Environmental Air (see 300.22 (B) of the National Electrical Code, ANSI/NFPA 70), it is not permitted to identify enclosure systems either by marking or instructions as being suitable for use in ducts specifically fabricated for environmental air.

c) An enclosure system intended for installation in air handling spaces that is provided with knockouts or removable panels shall be provided with instructions that require any punched openings to be sealed with a plug constructed of metal or a nonmaterial complying with the Standard for Fire Test for Heat and Visible Smoke Release for Discrete Products and Their Accessories Installed in Air-Handling Spaces, UL 2043, or the Standard for Fire Tests of Through-Penetration Firestops, UL 1479, and any covers or panels to be replaced and secured.

d) An enclosure system that is designed for use in drop-ceiling constructions and similar applications that are commonly used for environmental air but is not intended to be used in air handling spaces shall be clearly marked “Not for use in air handling spaces”.

7C.3

A support system that complies with 7C.1 shall be provided with installation instructions in accordance with Other Spaces Used for Environmental Air (Plenums), Section 77A.

49A

New section added;

Knockouts

49A.1

Clearance

49A.1.1

Openings in an enclosure for the connection of a wiring system that in some cases will not be used shall be closed by a knockout, cover, or plug. The closure shall be formed of metal not less than 1.35 mm (0.053 in) thick or of a non-metallic material acceptable for the purpose. The closure shall be such that it may be readily removed, but will not drop out in ordinary handling.

49A.2

Flat surfaces surrounding knockouts



CLAUSE	VERDICT	COMMENT
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49A.2.1		Flat surfaces surrounding a knockout on both the inside and outside of an enclosure shall extend beyond the edge of the knockout in all directions for at least the distance given in Table 49A.1 and shall comply with 65B.1. Projections or indentations in the flat surface are prohibited. The flat surface areas of adjacent knockouts that partially or wholly overlap meet the intent of this requirement.
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Knockout dimensions

Conduit trade size	Knockout diameter					
	Minimum		Nominal		Maximum	
	mm	(inch)	mm	(inch)	mm	(inch)
1/2	21.82	(0.859)	22.23	(0.875)	23.01	(0.906)
3/4	27.79	(1.094)	28.17	(1.109)	28.98	(1.1411)
1	34.52	(1.359)	34.93	(1.375)	35.71	(1.406)
1-1/4	43.66	(1.719)	44.04	(1.734)	44.86	(1.766)
1-1/2	49.73	(1.958)	50.39	(1.984)	51.21	(2.016)
2	61.80	(2.433)	62.71	(2.469)	63.50	(2.500)
2-1/2	74.12	(2.918)	75.41	(2.969)	76.20	(3.000)
3	90.50	(3.563)	91.29	(3.294)	93	(3.661)
3-1/2	103.20	(4.063)	104.78	(4.125)	106	(4.173)
4	115.90	(4.563)	117.88	(4.641)	119	(4.685)
5	142.88	(5.625)	145.26	(5.719)	147	(5.787)
6	170.18	(6.700)	173.05	(6.813)	175	(6.890)

Table 49A.1

49A.3 Diameters

49A.3.1	A knockout shall have a diameter that accommodates the corresponding trade sizes of conduit specified in Table 49A.1. The diameter of the knockout shall be measured at points other than where a tab remains after the knockout has been removed.
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49A.4 Strength of knockouts

49A.4.1	A knockout shall comply with 65A.1. The diameter of the knockout shall be measured at points other than where a tab remains after the knockout has been removed.
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New section added;

65A

Multiple Knockouts Test

65A.1

This clause provides test requirements to determine that a combination consisting of an inner knockout surrounded by additional rings has been manufactured such that when one or more of its elements are removed there will be no change to the remaining rings, if any, or to the enclosure in which the combination is located, either during the removal or when conduit has been properly secured in place.

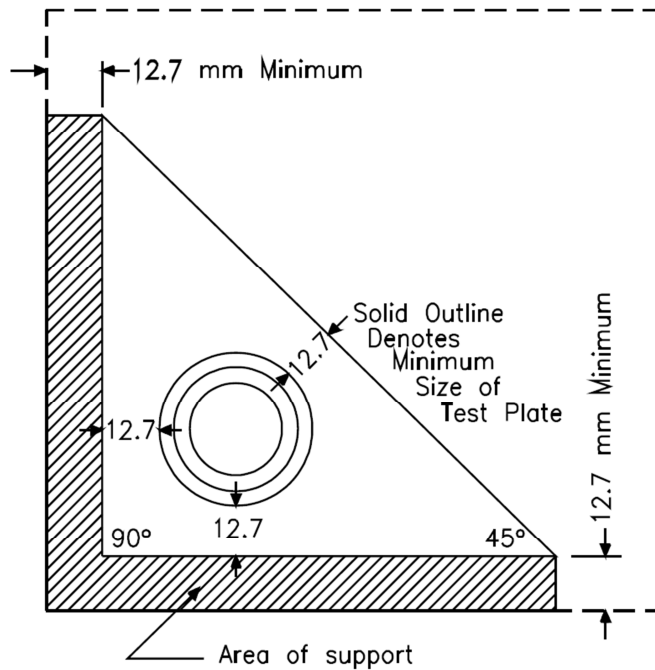


CLAUSE	VERDICT	COMMENT
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65A.2		<p>Samples for testing shall be in the form of either complete enclosures or sample plates that fulfil the requirements of Figure 65A.</p>
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Diagram of test plate

Figure 65A.1



With a sample enclosure securely held or a test plate supported as in Figure 65A.1, the following tests shall be applied:

65A.3

- a) The knockout shall remain in place when subjected to a load of 44 N (9.9 pounds) steadily applied for not less than 1 minute normal to the face of the plate by means of a mandrel with a 6.35 mm (1/4 inch) diameter flat end. The mandrel shall be applied at the point most liable to cause movement of the knockout in the direction in which it was originally punched; and
- b) A load of 220 N (49.4 pounds) shall be steadily applied for not less than 1 minute, first in compression and second in tension, through a conduit properly installed in the knockout opening. When this test is being conducted, the conduit shall not be more than 5 degrees from the normal to the surface. There shall be no appreciable distortion of the rings or fracture of the ties.

65B

New section added;

Flat Areas Surrounding Knockouts

65B.1

With reference to 49A.2.1 compliance of the flat surface that surrounds the knockouts near a radius shall be determined using a test gauge, as shown in Figure 65B.1. To apply the test gauge, a knockout from each side of one enclosure shall be removed and, when required, the remaining tab shall be filed or ground flush



with the inside and outside surface of the enclosure as well as at the edge surrounding the opening. An appropriate trade size test gauge shall be used, offset from the center of the knockout in a direction opposite to the area to be tested. When testing knockouts located adjacent to an enclosure radius, a steel feeler gauge, 0.005 in (0.13 mm) thick and 0.10 in (2.5 mm) wide, shall be used to verify the space between the inner enclosure surface and the flat surface of the test gauge, as shown in Figure 65B.2. The test gauge shall not be canted or tilted to make the required contact with the surface of the enclosure. Successful insertion of the steel feeler gauge between the enclosure surface and the test gauge surface verifies that the enclosure's corner radius encroaches on the required flat surface and that the enclosure is not in compliance.

Method of checking flat surfaces

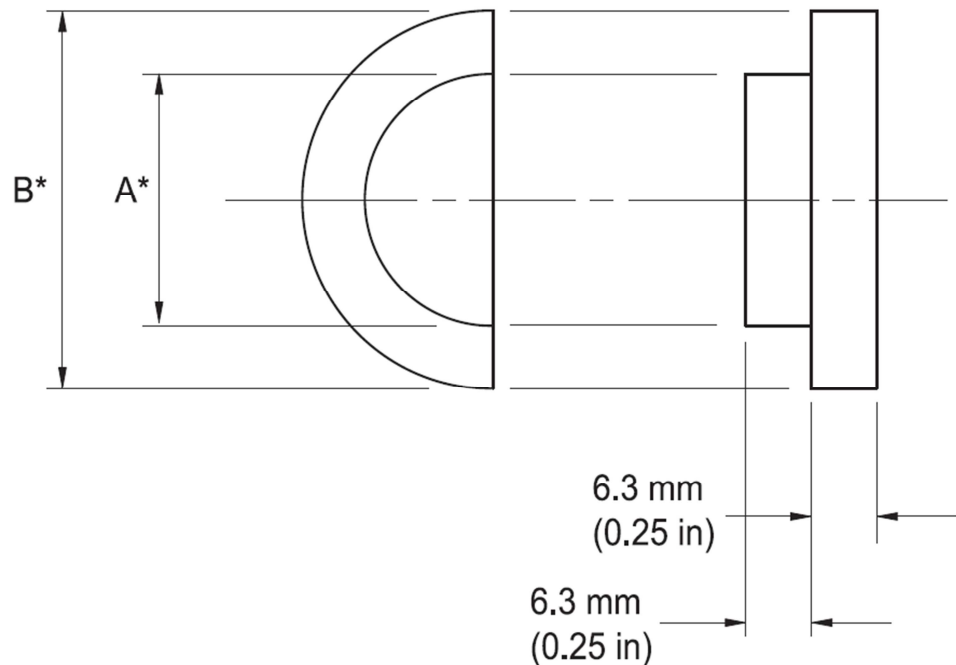


Figure 65B.1

*Tolerance ± 0.030 mm (± 0.001 in)

	Dimension A*	Dimension B*
Trade size of conduit or tubing	Nominal outside diameter of conduit	Dimension A plus twice width of flat surface area of Table 49A.1,
(metric designator)	In (mm)	In (mm)
1/2 (16)	0.840 (21.3)	11.1 (28.1)
3/4 (21)	1.050 (26.7)	1.34 (34.0)



Method of checking flat surfaces

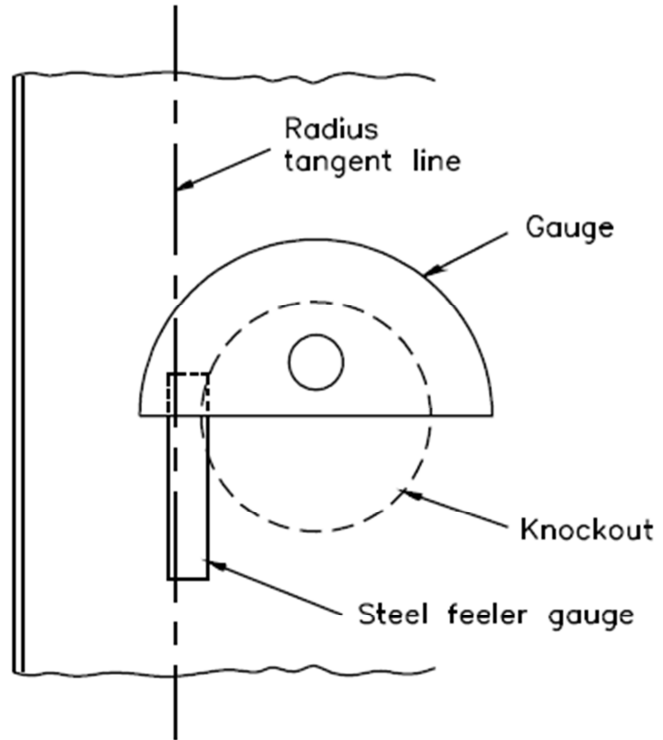
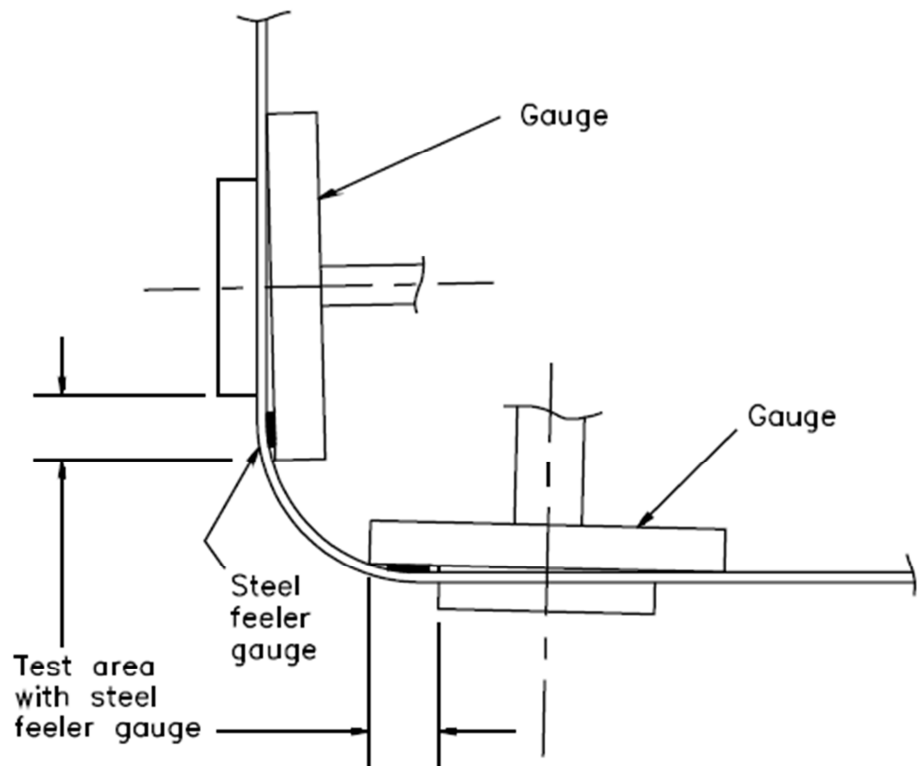


Figure 65B.2





CLAUSE	VERDICT	COMMENT
	Info	MARKINGS
67	Info	General
67.9		An enclosure system investigated for use in other spaces used for environmental air (spaces not specifically fabricated for environmental air-handling purposes but used for air-handling purposes, such as a plenum) may be marked "Suitable for Use in Other Space Used for Environmental Air (Plenums)", "Suitable for Use in Air-handling Spaces", or equivalent wording.
77A		<i>New section added;</i> Other Spaces Used for Environmental Air (Plenums)
77A.1		An enclosure system intended for installation in air handling spaces that is provided with knockouts or removable panels shall be provided with instructions that require any punched openings to be sealed with a plug constructed of metal or a nonmaterial complying with the Standard for Fire Test for Heat and Visible Smoke Release for Discrete Products and Their Accessories Installed in Air-Handling Spaces, UL 2043, or the Standard for Fire Tests of Through-Penetration Firestops, UL 1479, and any covers or panels to be replaced and secured.
CUSTOMERS PLEASE NOTE: This Table and column "Verdict" can be used in determining how your current or future production is or will be in compliance with new/revised requirements.		