



UL 1340

STANDARD FOR SAFETY

Hoists

UL Standard for Safety for Hoists, UL 1340

Third Edition, Dated October 14, 2016

Summary of Topics

This revision of UL 1340 dated May 27, 2025 includes the withdrawal and replacement of ANSI/ISA MC96.1, Temperature-Measurement Thermocouples; [31.7](#).

Text that has been changed in any manner or impacted by ULSE's electronic publishing system is marked with a vertical line in the margin.

The revised requirements are substantially in accordance with Proposal(s) on this subject dated April 4, 2025.

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UL 1340

Standard for Hoists

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Second Edition – April, 2012

Third Edition

October 14, 2016

This UL Standard for Safety consists of the Third Edition including revisions through May 27, 2025.

Comments or proposals for revisions on any part of the Standard may be submitted to ULSE at any time. Proposals should be submitted via a Proposal Request in ULSE's Collaborative Standards Development System (CSDS) at <https://csds.ul.com>.

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INTRODUCTION

1 Scope

1.1 These requirements cover hoists of the overhead type intended for material lifting service using either chain, wire rope, or fibre kernmantle rope. They are intended to be suspended from a fixed member and may include trolleys for mobility.

1.2 This standard covers electrically powered hoists rated 1000 volts or less to be employed in nonhazardous environmental locations in accordance with the National Electrical Code, NFPA 70.

1.3 This standard covers pneumatically powered hoists.

1.4 These requirements do not cover:

- a) Manual and power-operated type portable hoists intended for use with scaffolds suspended by wire ropes;
- b) Hoists for transporting people;
- c) Manual operated chain hoists;
- d) The trolley as a stand-alone component; or
- e) The fixed member that suspends the hoist.

2 General

2.1 Components

2.1.1 Except as indicated in [2.1.2](#), a component of a product covered by this standard shall comply with the requirements for that component. See Appendix [A](#) for a list of standards covering components used in the products covered by this standard.

2.1.2 A component is not required to comply with a specific requirement that:

- a) Involves a feature or characteristic not required in the application of the component in the product covered by this standard, or
- b) Is superseded by a requirement in this standard.

2.1.3 A component shall be used in accordance with its rating established for the intended conditions of use.

2.1.4 Specific components are incomplete in construction features or restricted in performance capabilities. Such components are intended for use only under limited conditions, such as certain temperatures not exceeding specified limits, and shall be used only under those specific conditions.

2.2 Units of measurement

2.2.1 Values stated without parentheses are the requirement. Values in parentheses are explanatory or approximate information.

2.2.2 Unless otherwise indicated, all voltage and current values mentioned in this standard are root-mean-square (rms).

2.3 Undated references

2.3.1 Any undated reference to a code or standard appearing in the requirements of this standard shall be interpreted as referring to the latest edition of that code or standard.

3 Glossary

3.1 For the purpose of this standard the following definitions apply.

3.2 **BONDED (BONDING)** – The permanent joining of metallic parts to form an electrically conductive path that provides electrical continuity and the capacity to conduct any current likely to be imposed without a risk of electric shock, fire, or injury to persons.

3.3 **BONDING JUMPER** – A conductor, including a strap or similar part, that is used to provide the required electrical conductivity between metal parts required to be electrically connected.

3.4 CIRCUITS, ELECTRICAL –

a) **High-Voltage** – A circuit with a potential of not more than 1000 volts having circuit characteristics greater than those of a low-voltage power-limited circuit.

b) **Low-Voltage** – A circuit with a potential of not more than 30 volts AC rms, 42.4 volts DC or AC peak, and supplied by:

1) A primary battery;

2) An NEC Class 2 transformer; or

3) A combination of transformer and fixed impedance that, as a unit, complies with all of the performance requirements for a Class 2 transformer.

3.5 **FIBRE KERNMANTLE ROPE** – A rope design consisting of an interior core and an outer sheath.

3.6 **GROUND** – A conducting connection, whether intentional or accidental, between an electrical circuit or equipment and the earth or to some conducting body that serves in place of the earth.

3.7 **GROUNDING** – Connected to earth or to some conducting body that serves in place of earth.

3.8 **GROUNDING CONDUCTOR** – An equipment or circuit conductor that is intentionally connected between that electrical circuit or equipment and the earth or to some conducting body that serves in place of the earth.

3.9 **HOIST** – A suspended machinery unit that is used for lifting or lowering a freely suspended (unguided) load. When a hoist is suspended from a trolley, the trolley shall be considered part of the hoist.

a) **ELECTRICALLY POWERED** – A hoist in which the prime mover is powered by electricity.

b) **PNEUMATICALLY POWERED** – A hoist in which the prime mover is powered by compressed gases.

3.10 **RATED WORKING LOAD** – The manufacturer's specified maximum load to be lifted by the hoist. The maximum load includes the weight of all materials, and all dead loads lifted by the hoist. Dead loads include the weight of:

a) The hoist;

- b) Wire rope, chains, or fibre kernmantle rope;
- c) Rigging equipment/device(s) attached to the hoist's bottom hook (e.g., slings, spreader bar/beams); and
- d) Ancillary equipment supported by the hoist, such as the electrical cords, air supply hoses, chain container, etc.

CONSTRUCTION

ALL HOISTS

4 General

4.1 A product shall be constructed so that it will have the strength and durability to withstand normal usage and to comply with the performance requirements.

4.2 An exposed metal surface shall be free from sharp edges, burrs, and other features that constitute a risk of injury to persons.

5 Materials and Assembly

5.1 All metal parts and fittings shall be made of aluminum or steel alloys, wrought iron, malleable iron, or other metal that is of equivalent strength for the intended purpose and shall be securely attached by means of rivets, bolts, screws, or other means determined to be the equivalent. Cast gray iron shall not be used for load-carrying parts.

5.2 Nuts shall be lock nuts or provided with lock washers.

5.3 For a hoist that is designed to operate using a fibre kernmantle rope, the rope shall be a static type in compliance with the requirements in Low Stretch and Static Kernmantle Life Safety Rope, CI 1801.

6 Protection Against Corrosion

6.1 All hardware and materials shall be resistant to normal atmospheric corrosion.

Exception: Aluminum, brass, copper, stainless steel, or other metal inherently resistant to corrosion may be used without additional protection.

6.2 Corrosion protection shall be by metallic or nonmetallic coatings, such as galvanizing, sherardizing, plating, or painting.

6.3 Different metals shall not be used in combination such as to cause galvanic action that will adversely affect the strength of the product.

7 Lubrication

7.1 Each separate enclosure of a hoist shall be provided with a means to maintain lubrication of all moving parts requiring lubrication at all times.

7.2 Self-sealed, self-lubricating, and dry bearings may be employed.

ELECTRICALLY POWERED HOISTS

8 Accessibility of Uninsulated Live Parts, Film-Coated Wire, and Moving Parts

8.1 To reduce the risk of unintentional contact that may involve a risk of electric shock from an uninsulated live part or film-coated wire, or injury to a person from a moving part, an opening in an enclosure shall comply with either (a) or (b).

a) For an opening that has a minor dimension (see [8.5](#)) less than 1 inch (25.4 mm), such a part or wire shall not be contacted by the probe illustrated in [Figure 8.1](#).

b) For an opening that has a minor dimension of 1 inch or more, such a part or wire shall be spaced from the opening as specified in [Table 8.1](#).

Exception No. 1: A motor need not comply with these requirements if it complies with the requirements in [8.2](#).

Exception No. 2: The inrunning wire rope need not comply with these requirements at any point where a static guide is provided. If roller guides or tension rollers are used, a fixed shield or static guard shall be provided to prevent access to the pinch area by the probe shown in [Figure 8.2](#).

Exception No. 3: For a winding drum hoist, the inrunning wire rope at the drum need not be guarded when the drum is located in an area not readily accessible to a user in the normal work position. The pinch area shall be located off and below, or a minimum of 7 feet (2.13 m) above, the normal scaffold work area.

Figure 8.1
Articulate probe with web stop

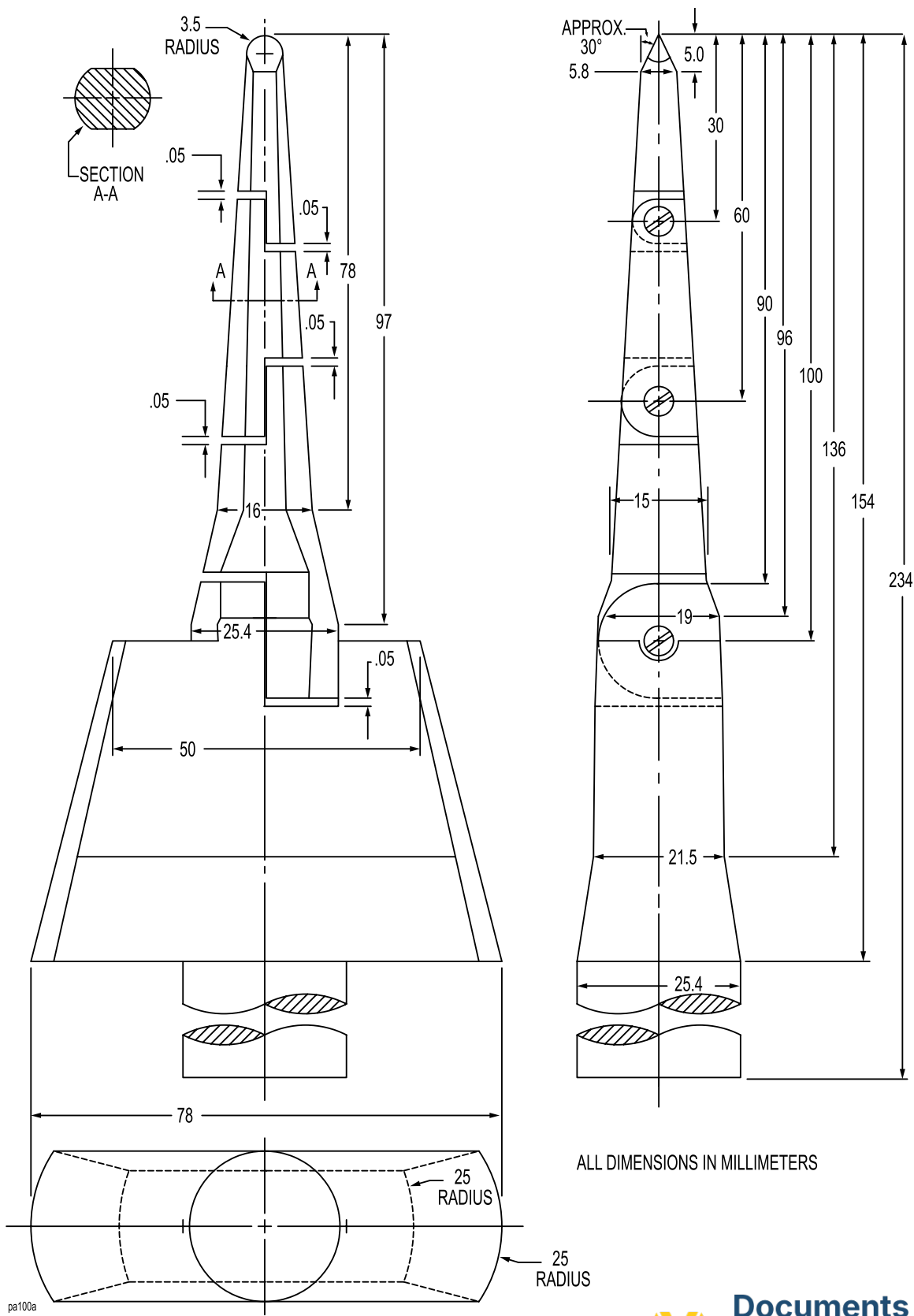
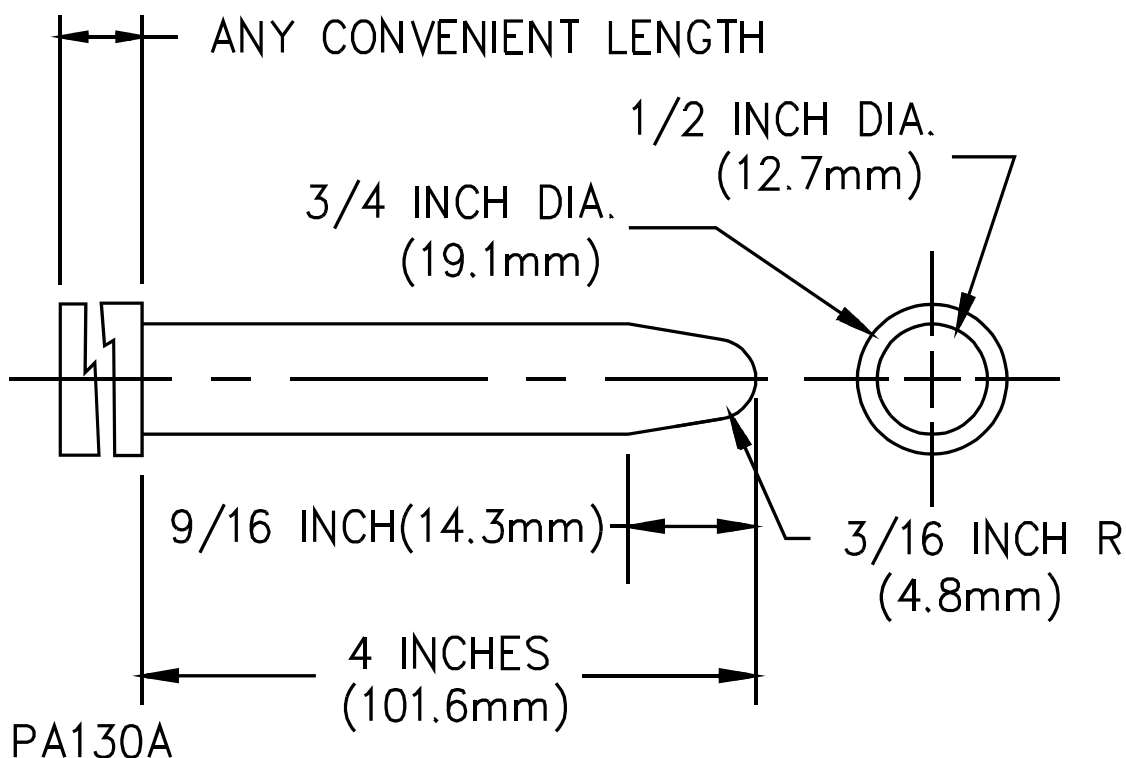


Figure 8.2

Probe for moving parts and uninsulated live parts



8.2 Regarding a part or wire in an integral enclosure of a motor mentioned in Exception No. 1 to [8.1](#):

a) An opening that has a minor dimension (see [8.5](#)) less than 3/4 inch (19.1 mm) complies with these requirements if:

- 1) A moving part cannot be contacted by the probe illustrated in [Figure 8.2](#);
- 2) Film-coated wire cannot be contacted by the probe illustrated in [Figure 8.3](#);
- 3) In a directly accessible motor (see [8.6](#)), an uninsulated live part cannot be contacted by the probe illustrated in [Figure 8.4](#); and
- 4) In an indirectly accessible motor (see [8.6](#)), an uninsulated live part cannot be contacted by the probe illustrated in [Figure 8.2](#).

b) An opening that has a minor dimension of 3/4 inch or more may be used if a part or wire is spaced from the opening as specified in [Table 8.1](#).

Figure 8.3
Probe for film-coated wire

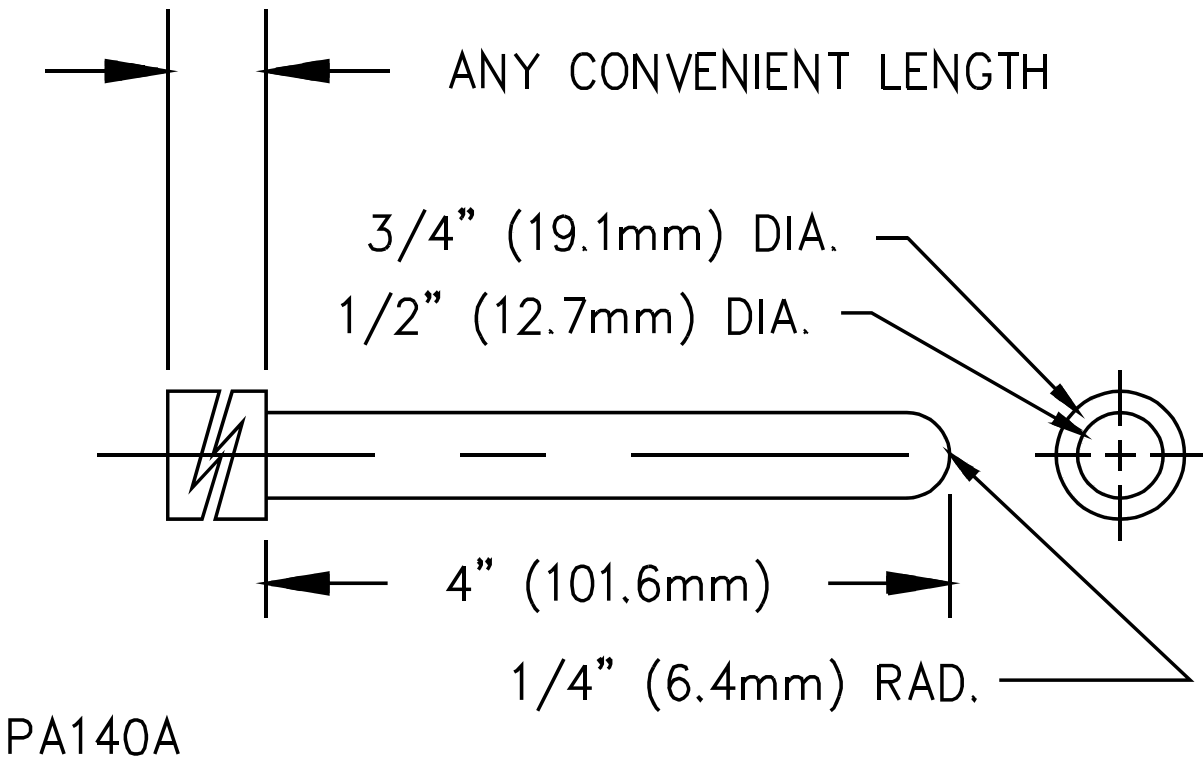


Figure 8.4
IEC articulate probe

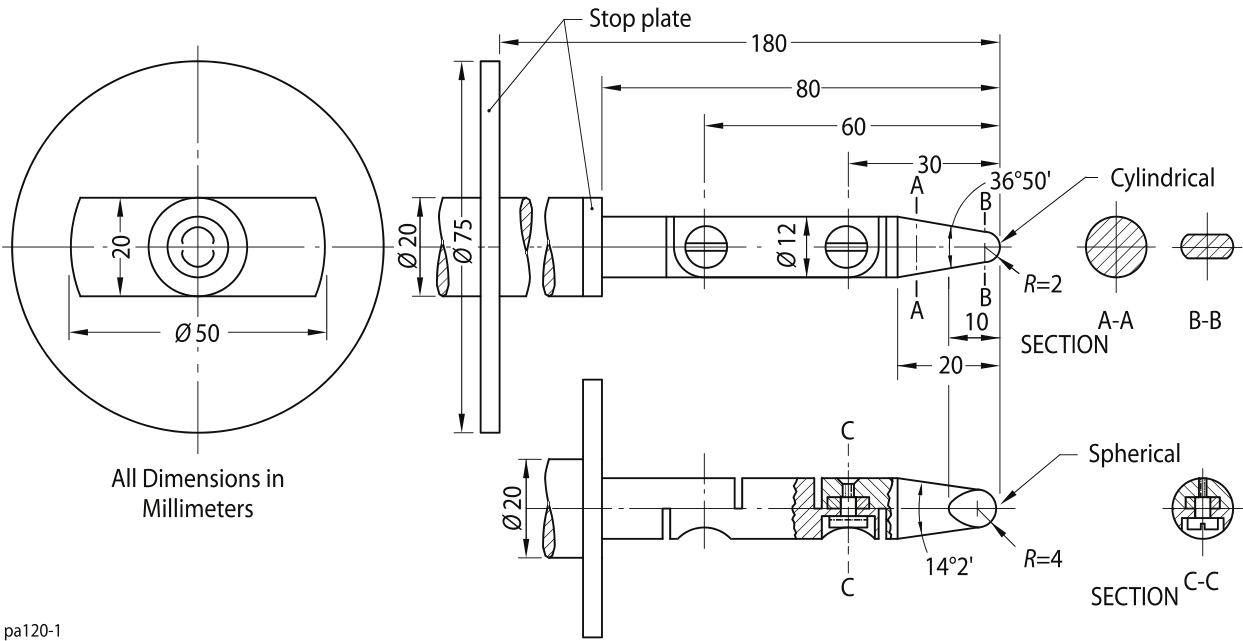


Table 8.1
Minimum distance from an opening to a part that may involve a risk of electric shock or injury to persons

Minor dimension of opening, ^a		Minimum distance from opening to part,	
inches	(mm) ^b	inches	(mm) ^b
3/4	19.1	4-1/2	114
1	25.4	6-1/2	165
1-1/4	31.8	7-1/2	190
1-1/2	38.1	12-1/2	318
1-7/8	47.6	15-1/2	394
2-1/8	54.0	17-1/2	444

^a See [8.5](#).

^b Between 3/4 and 2-1/8 inches, interpolation is to be used to determine a value between values specified in the table.

8.3 The probes mentioned in [8.1](#) and [8.2](#) and illustrated in [Figure 8.1](#) – [Figure 8.4](#) shall be applied to any depth that the opening will permit; and shall be rotated or angled before, during, and after insertion through the opening to any position that is necessary to examine the enclosure. The probes illustrated in [Figure 8.1](#) and [Figure 8.4](#) shall be applied in any possible configuration, and if necessary, the configuration shall be changed after insertion through the opening.

8.4 The probes mentioned in [8.3](#) and [8.5](#) shall be used as measuring instruments to evaluate the accessibility provided by an opening, and not as instruments to evaluate the strength of a material; they shall be applied with the minimum force necessary to determine accessibility.

8.5 With reference to the requirements in [8.1](#) and [8.2](#), the minor dimension of an opening is the diameter of the largest cylindrical probe having a hemispherical tip that can be inserted through the opening.

8.6 With reference to the requirements in [8.2](#), an indirectly accessible motor is a motor that is:

- a) Accessible only by opening or removing a part of the outer enclosure, such as a guard or panel, that can be opened or removed without using a tool or
- b) Located at such a height or is otherwise guarded or enclosed so that it is unlikely to be contacted.

A directly accessible motor is a motor that can be contacted without opening or removing any part or that is located so as to be accessible to contact.

8.7 During the examination of a hoist to determine compliance with the requirements in [8.1](#) or [8.2](#), a part of the enclosure that may be opened or removed by the user without using a tool (for example, to attach an accessory or to make an operating adjustment) is to be opened or removed.

8.8 With reference to the requirements in [8.1](#) and [8.2](#), insulated brush caps are not required to be additionally enclosed.

9 Electrical Component Enclosures

9.1 General

9.1.1 An electrical enclosure or enclosure part shall have the necessary strength and rigidity to resist, under conditions of anticipated service, total or partial collapse which may result in:

- a) The reduction of spacings, or the loosening or displacement of parts; and
- b) Other defects that alone or in combination can result in a risk of fire or electric shock.

9.1.2 The construction of enclosures for individual electrical components, outer enclosures, and combinations of the two is to be considered in determining compliance with the requirement in [9.1.1](#).

9.1.3 If necessary, an enclosure shall be reinforced or formed to reduce the risk of damage during handling in shipment, installation, and use.

9.1.4 Access to the interior of electrical enclosures shall require the use of tools.

9.1.5 Electrical enclosures shall comply with the Rain Test, Section [33](#).

9.2 Nonmetallic enclosures

9.2.1 Among the factors that shall be taken into consideration when evaluating the acceptability of a nonmetallic enclosure are:

- a) Mechanical strength;
- b) Resistance to impact;
- c) Moisture-absorptive properties;
- d) Combustibility; and
- e) Resistance to distortion at temperatures to which the material may be subjected.

Under conditions of normal or abnormal use, the material shall not display a loss of these properties beyond the minimum level of safety as a result of aging. A nonmetallic enclosure is also to be evaluated on the basis of the effect of exposure to water and ultraviolet light.

9.2.2 The mechanical strength of a nonmetallic enclosure or enclosure part shall be at least equivalent to that of a sheet-metal enclosure of the minimum thickness specified in [Table 9.1](#).

Table 9.1
Thickness of sheet metal for enclosures – carbon steel or stainless steel

Without supporting frame ^a				With supporting frame or equivalent reinforcing ^a				Minimum thickness			
Maximum width, ^b		Maximum length, ^c		Maximum width, ^b		Maximum length,		Uncoated,		Metal coated,	
inches	(cm)	inches	(cm)	inches	(cm)	inches	(cm)	inch	(mm)	inch	(mm)
4.0	10.2	Not limited		6.25	15.9	Not limited		0.020 ^d	0.51	0.023 ^d	0.58
4.75	12.1	5.75	14.6	6.75	17.1	8.25	21.0				
6.0	15.2	Not limited		9.5	24.1	Not limited		0.026 ^d	0.66	0.029 ^d	0.74
7.0	17.8	8.75	22.2	10.0	25.4	12.5	31.8				
8.0	20.3	Not limited		12.0	30.5	Not limited		0.032	0.81	0.034	0.86
9.0	22.9	11.5	29.2	13.0	33.0	16.0	40.6				
12.5	31.8	Not limited		19.5	49.5	Not limited		0.042	1.07	0.045	1.14
14.0	35.6	18.0	45.7	21.0	53.3	25.0	63.5				
18.0	45.7	Not limited		27.0	68.6	Not limited		0.053	1.35	0.056	1.42
20.0	50.8	25.0	63.5	29.0	73.7	36.0	91.4				
22.0	55.9	Not limited		33.0	83.8	Not limited		0.060	1.52	0.063	1.60
25.0	63.5	31.0	78.7	35.0	88.9	43.0	109.2				
25.0	63.5	Not limited		39.0	99.1	Not limited		0.067	1.07	0.070	1.78
29.0	73.7	36.0	91.4	41.0	104.1	51.0	129.5				
33.0	83.8	Not limited		51.0	129.5	Not limited		0.080	2.03	0.084	2.13
38.0	96.5	47.0	119.4	54.0	137.2	66.0	167.6				
42.0	106.7	Not limited		64.0	162.6	Not limited		0.093	2.36	0.097	2.46
47.0	119.4	59.0	149.9	68.0	172.7	84.0	213.4				
52.0	132.1	Not limited		80.0	203.2	Not limited		0.108	2.74	0.111	2.82
60.0	152.4	74.0	188.0	84.0	213.4	103.0	261.6				
63.0	160.0	Not limited		97.0	246.4	Not limited		0.123	3.12	0.126	3.20
73.0	185.4	90.0	228.6	103.0	261.6	127.0	322.6				

^a See 9.3.1.4.

^b The width is the smaller dimension of a rectangular piece of sheet metal that is part of an enclosure. Adjacent surfaces of an enclosure may have supports in common and be made of a single sheet.

^c Not limited applies only if the edge of the surface is flanged at least 1/2 inch (12.7 mm) or fastened to adjacent surfaces not normally removed in use.

^d Sheet steel for an enclosure intended for outdoor use – raintight or rainproof – shall not be less than 0.034 inch (0.86 mm) thick if zinc coated and not less than 0.032 inch (0.81 mm) thick if uncoated.

9.2.3 If the dimensional stability of a nonmetallic material is intended to maintain the continuity of the grounding system, an investigation shall be conducted to determine the effect of aging on the material. The result shall show that aging has a minimal effect on the material and poses no risk of fire, electric shock, or injury to persons.

9.2.4 An enclosure of polymeric material shall comply with the applicable requirements for products that are not categorized as household use only as contained in the Standard for Polymeric Materials – Use in Electrical Equipment Evaluations, UL 746C.

9.2.5 An enclosure of polymeric material shall be subjected to the Resistance to Impact Test described in UL 746C before and after cold conditioning at minus 35°C (minus 31°F) for 3 hours. For products marked