

an effort is to be made to direct the spill toward the area of the assembly that allows the greatest ingress of liquid. The Dielectric Voltage-Withstand Test, Section 30 is to be conducted 1 min after the container is tipped over.

43.5 A FPDU with a retractable vertical tower shall be subjected to the spill test with the retractable tower in the open and closed positions.

## 44 Accessibility Tests

### 44.1 Enclosure accessibility test

44.1.1 The enclosure of a FPDU shall be subjected to the test in 44.1.2. As a result of the test, the test probe shall not contact any uninsulated current-carrying parts.

44.1.2 A straight test rod having a maximum diameter of 1.6 mm (1/16 in) and of any convenient length is to be inserted into each opening in the enclosure and rotated in any possible direction.

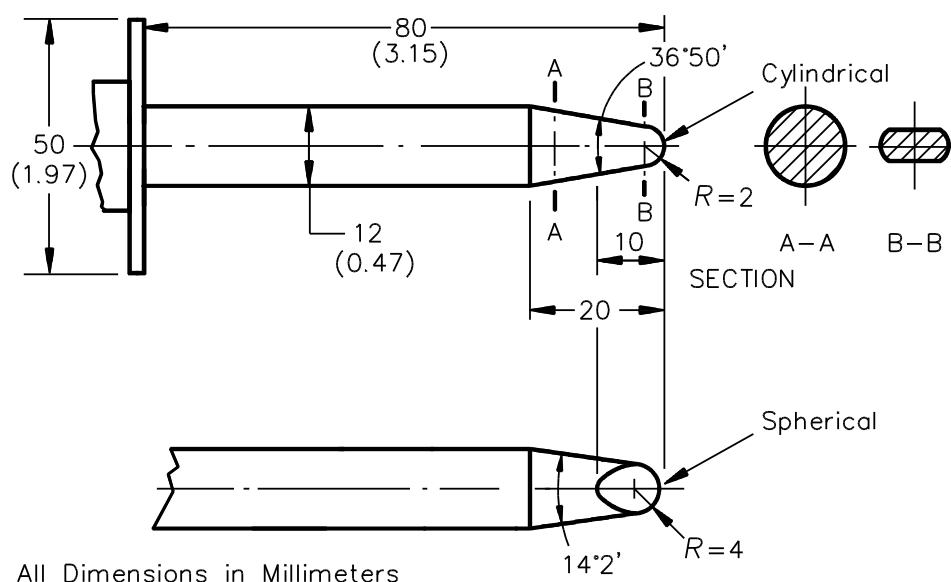
### 44.2 Accessibility of live parts test

44.2.1 An enclosure of a FPDU which prevents unintentional contact of current-carrying parts or of film-coated magnet wire in the enclosure of a FPDU shall be subjected to the test in 44.2.2. As a result of the test, the probes described in Figure 9.1 and Figure 44.1 shall not touch the current-carrying part or magnet wire.

44.2.2 The articulate probe, Figure 9.1, is to be inserted through any opening and rotated with movable sections straight and in any possible position resulting from bending one or more section in the same direction. The rigid probe, Figure 44.1, is to be applied with a maximum force of 30 N (6.75 lbf).

Figure 44.1

#### International electrotechnical commission (IEC) rigid accessibility probe



All Dimensions in Millimeters

PA120-2

## 45 Test for Permanence of Cord Tag

### 45.1 General

45.1.1 To determine compliance with [53.3](#) and [53.4](#), representative tags that have been subjected to the tests described in [45.2.1](#) – [45.3.1](#) shall meet the following requirements:

- a) The tag shall resist tearing for longer than 1/16 in (1.6 mm) at any point;
- b) The tag shall not separate from the cord set. A hang-type tag shall not separate from the securement strap, and the securement strap shall not separate from the cord set;
- c) The tag or securement strap shall not slip or move along the length of the cord set more than 1/2 in (13 mm) and there shall not be any visible damage to the cord;
- d) There shall not be any permanent shrinkage, deformation, cracking, or any other condition that will render the marking on the tag illegible; and
- e) Overlamination, if provided, shall remain in place and shall not be torn or otherwise damaged. The printing shall remain legible.

### 45.2 Test conditions

45.2.1 For each type of conditioning mentioned in [45.2.2](#) – [45.2.4](#), three tags applied to the cord sets in the intended manner are to be used. If tags are applied by an adhesive, tests are to be conducted no sooner than 24 h after application of the tag.

45.2.2 Each of three tags is to be tested as received.

45.2.3 Each of three tags is to be tested after 30 min of conditioning at  $23.0 \pm 2.0^{\circ}\text{C}$  ( $73.4 \pm 3.6^{\circ}\text{F}$ ) and 50  $\pm 5$  percent relative humidity, following 240 h of conditioning in an air-circulating oven at  $60 \pm 1^{\circ}\text{C}$  ( $140 \pm 1.8^{\circ}\text{F}$ ).

45.2.4 Each of three tags is to be tested within 1 min after being exposed for 72 h to a relative humidity of 85  $\pm 5$  percent at a temperature of  $32.0 \pm 2.0^{\circ}\text{C}$  ( $89.6 \pm 3.6^{\circ}\text{F}$ ).

45.2.5 If the tag is intended to be applied to outdoor cord (W) it is to be conditioned as follows and in [45.2.6](#) – [45.2.8](#). Each of three tags is to be tested after 24 h of exposure conditioning at  $23 \pm 2^{\circ}\text{C}$  ( $73.4 \pm 3.6^{\circ}\text{F}$ ) and 50  $\pm 5$  percent relative humidity, followed by 48 h of immersion to a depth of not less than 1/8 inch (3.2 mm) in demineralized water at a temperature of  $23^{\circ}\text{C}$  ( $73.4^{\circ}\text{F}$ ).

45.2.6 Each of three tags is to be tested after 24 h of exposure conditioning at  $23.0 \pm 2.0^{\circ}\text{C}$  ( $73.4 \pm 3.6^{\circ}\text{F}$ ) and 50  $\pm 5$  percent relative humidity, followed by 10 d of exposure in an air-circulating oven at a temperature of  $60^{\circ}\text{C}$  ( $140^{\circ}\text{F}$ ).

45.2.7 Each of three tags is to be tested after 24 h of exposure conditioning at  $23.0 \pm 2.0^{\circ}\text{C}$  ( $73.4 \pm 3.6^{\circ}\text{F}$ ) and 50  $\pm 5$  percent relative humidity, followed by 7 h of exposure in a cold box at a temperature of  $-10 \pm 2^{\circ}\text{C}$  ( $14.0 \pm 3.6^{\circ}\text{F}$ ).

45.2.8 Each of three tags is to be tested after 24 h of exposure conditioning at  $23.0 \pm 2.0^{\circ}\text{C}$  ( $73.4 \pm 3.6^{\circ}\text{F}$ ) and 50  $\pm 5$  percent relative humidity, followed by exposure to ultraviolet light and water spray with ultraviolet light by using a Xenon-Arc Weatherometer, (Type B or similar apparatus), as described in the Standard Practice for Operating Xenon Arc Light Apparatus for Exposure of Non-Metallic Materials, ASTM G155. Each of the tags is to be exposed to 1000 h of ultraviolet light and water spray with ultraviolet light. The exposure shall be in accordance with Method A, with continuous exposure to ultraviolet light and

intermittent water spray with ultraviolet light, using a programmed cycle of 120 min (102 min ultraviolet light exposures and an 18 min exposure to water spray with ultraviolet light). The apparatus shall include a 6500 W, water-cooled xenon-arc lamp, borosilicate glass inner and outer optical filters, a spectral irradiance of 0.35 W/m<sup>2</sup> at 340 nm and a black-panel temperature of 63.0 ±3.0°C (145.0 ±5.4°F).

45.2.9 If the tag is intended to be applied to indoor or outdoor cord that is oil resistant (Type O or OO) it is to be conditioned as follows. Each of three tags is to be tested within 2 h after being immersed for 48 h in IRM 902 type oil at a temperature of 23.0 ±2.0°C (73.4 ±3.6°F).

### 45.3 Test method

45.3.1 Each test is to be performed on a length of cord set to which the tag has been applied. The cord set, with the attachment plug pointing up, is to be held taught in a vertical plane. A force of 5 lbf (22.2 N), which includes the weight of the clamp, is to be applied for 1 min to the uppermost corner of the tag farthest from the cord set, within 1/4 in (6.4 mm) of the vertical edge of the tag. The force is to be applied by affixing a C-clamp with a pad diameter of 3/8 in (9.5 mm) to the tag and securing the weight to the C-clamp. The force is to be applied vertically downward in a direction parallel to the major axis of the cord. To determine compliance with [45.1.1\(d\)](#), manipulation is permissible, such as straightening of the tag by hand. To determine compliance with [45.1.1\(e\)](#), each tag is to be scraped 10 times vertically across printed areas and edges, with a force of approximately 2 lbf (9 N), using the edge of a 5/64 in (2.0 mm) thick steel blade held at a right angle to the test surface. The edges of the steel blade are to be just rounded so as not to be sharp.

## 46 Pinch Force Evaluation Test

46.1 A FPDU provided with either a motorized or self-propelled mechanism such as a coil spring actuator shall be subjected to the pinch force evaluation test described in [46.2](#) and [46.3](#) without any forces greater than 15 lbf. measured at any location along the moving part.

46.2 The FPDU is to be installed and assembled as described in the manufacturer's installation instructions.

46.3 The motorized or self propelled moving part of the FPDU is to be operated at the maximum velocity or the velocity determined to be the most severe. All degrees of rotation and movement shall be considered in the evaluation. The force is to be measured with a gauge placed between the edge of the moving part and the fixed part of the module device. The force measurement is to be repeated three times, once in the center and once to the right and to the left side of the moving part.

## 47 Normal Operation Test

47.1 A FPDU, as required by [28.4](#), shall be mounted as intended and the movable part(s) shall be subjected to 2500 cycles of movement from one extreme position to the other extreme position.

47.2 The test rate shall be no faster than 10 cycles per minute.

47.3 Following the 2500 cycles, prior to examination as required in [47.4](#), the FPDU shall be subjected to and comply with the Temperature Test, Section [29](#), Dielectric Voltage-Withstand Test, Section [30](#) and Fault Current Test, Section [33](#).

47.4 Examination of FPDU shall not result in the following conditions:

- a) Any condition that is capable of affecting the mechanical performance of the FPDU.

b) Any noticeable wear or damage to the jacket or insulation of the power supply cord or internal wiring.

c) Not completing the 2,500 cycles.

## 48 Cycling Test

48.1 A FPDU with a retractable vertical tower intended to be closed with power supply cord(s) connected to each receptacle, as required by [8.7](#) shall be mounted in accordance with the manufacturer's installation instruction and subjected to the Cycling test described in [48.2](#) – [48.7](#).

48.2 The test cord(s) plugged into each receptacle of the retractable vertical tower shall be capable of withstanding a minimum of 2,500 cycles when tested as described in [48.3](#) – [48.7](#).

48.3 A FPDU with a retractable vertical tower shall be subjected to cycling consisting of closing and opening the unit 2,500 times with a test power supply cord as described in [48.5](#) connected to each of the receptacles provided on the vertical tower.

48.4 Each test cord is to be subjected to complete flexing cycles until a conductor in each device has opened (as determined by a continuously-monitoring detection circuit), or until 2,500 cycles is reached, whichever comes first. The test rate shall be 10 cycles per minute.

48.5 A test power supply cord consisting of 18 AWG SPT-2 cord a minimum of 6 ft (182 cm) in length, rated 60 degrees C molded onto a NEMA 1-15P attachment plug shall be used as the test cord. The attachment plug body measured from the plug face to cord entry shall be 1-9/16 – 1-13/16 inches (40-45 mm) in length.

48.6 Following the Cycling Test, prior to examination as required in [48.7](#), while the test power supply cords are still plugged in, the FPDU shall be subjected to and comply with the Dielectric Voltage-Withstand Test, Section [30](#), Ground Continuity Test, Section [32](#) and Overcurrent Test, Section [34](#).

48.7 Examination of FPDU and test power supply cord(s) shall not result in the following conditions:

- a) Any condition that is capable of affecting the mechanical performance of the FPDU.
- b) Any noticeable wear or damage to the jacket or insulation of the test power supply cord(s).
- c) Not completing the 2,500 cycles.
- d) Broken strands at the point of flexing that reduce the overall CMA (Circular Mils Area) of the copper conductor below 10% of the minimum AWG size. For the test power supply cord(s) the CMA of the intact strands shall not fall below 1512 circular mils.

## 49 Flexing Endurance Test

49.1 Three samples of a FPDU, as required by [19.12](#), [25.1.11](#) and [25.2.9](#), shall be mounted as intended (if provided with a mounting means) and the movable part(s) shall be subjected to 6000 cycles of movement from one extreme position to the other extreme position. A cycle is one extreme position to the other extreme position returning to the starting position.

49.2 The test rate shall be no faster than 20 cycles per minute unless the manufacturer agrees to a faster cycle.

49.3 After the flexing endurance test, the three FPDU's shall comply with the following tests and inspection in the order shown in [Table 49.1](#):

**Table 49.1**  
**Test order**

	<b>SAMPLE 1</b>	<b>SAMPLE 2</b>	<b>SAMPLE 3</b>
1	Temperature Test, Section <a href="#">29</a>	NA	NA
2	Dielectric Voltage Withstand Test, Section <a href="#">30</a> conducted in the following manner – Between each conductor in relation to every other conductor. (L to N, L to G, N to G, L to L). The FPDU shall be flexed through 4 cycles of movement for each application of the test voltage, approximately 1 cycle every 15 seconds, while energized during the dielectric voltage withstand tests	Dielectric Voltage Withstand Test, Section <a href="#">30</a> conducted in the following manner – Between each conductor in relation to every other conductor. (L to N, L to G, N to G, L to L). The FPDU shall be flexed through 4 cycles of movement for each application of the test voltage, approximately 1 cycle every 15 seconds, while energized during the dielectric voltage withstand tests	Dielectric Voltage Withstand Test, Section <a href="#">30</a> conducted in the following manner – Between each conductor in relation to every other conductor. (L to N, L to G, N to G, L to L). The FPDU shall be flexed through 4 cycles of movement for each application of the test voltage, approximately 1 cycle every 15 seconds, while energized during the dielectric voltage withstand tests
3	Leakage Current Test, Section <a href="#">31</a>	Leakage Current Test, Section <a href="#">31</a>	Leakage Current Test, Section <a href="#">31</a>
4	Fault Current Test, Section <a href="#">33</a>	Fault Current Test, Section <a href="#">33</a>	Fault Current Test, Section <a href="#">33</a>
5	Overcurrent Test, Section <a href="#">34</a>	Overcurrent Test, Section <a href="#">34</a>	Overcurrent Test, Section <a href="#">34</a>
6	Grounding Continuity Test, Section <a href="#">32</a> . The FPDU shall be flexed through 4 cycles of movement during the test. At any flexed position the grounding path resistance shall comply with <a href="#">32.1</a>	Grounding Continuity Test, Section <a href="#">32</a> . The FPDU shall be flexed through 4 cycles of movement during the test. At any flexed position the grounding path resistance shall comply with <a href="#">32.1</a>	Grounding Continuity Test, Section <a href="#">32</a> . The FPDU shall be flexed through 4 cycles of movement during the test. At any flexed position the grounding path resistance shall comply with <a href="#">32.1</a>
7	Impact Tests, Section <a href="#">38</a>	Impact Tests, Section <a href="#">38</a>	Impact Tests, Section <a href="#">38</a>
8	Crushing Test, Section <a href="#">39</a>	Crushing Test, Section <a href="#">39</a>	Crushing Test, Section <a href="#">39</a>
9	Adequacy of Mounting Test, Section <a href="#">40</a>	Adequacy of Mounting Test, Section <a href="#">40</a>	Adequacy of Mounting Test, Section <a href="#">40</a>
10	The Enclosure Accessibility and Accessibility of Live Parts, Section <a href="#">9</a>	The Enclosure Accessibility and Accessibility of Live Parts, Section <a href="#">9</a>	The Enclosure Accessibility and Accessibility of Live Parts, Section <a href="#">9</a>
11	Spacings, Section <a href="#">20</a>	Spacings, Section <a href="#">20</a>	Spacings, Section <a href="#">20</a>
12	No visual damage to the insulation of the conductors nor damage to the conductor, including grounding and bonding conductors	No visual damage to the insulation of the conductors nor damage to the conductor, including grounding and bonding conductors	No visual damage to the insulation of the conductors nor damage to the conductor, including grounding and bonding conductors

**MANUFACTURING AND PRODUCTION-LINE TESTS****50 Dielectric Voltage-Withstand Test**

50.1 Each FPDU shall be capable of withstanding without electrical breakdown, as a routine production-line test, the application of a potential between uninsulated live parts and accessible, dead-metal parts that become energized.

*Exception: This requirement does not apply to a FPDU that employs a component that can be damaged by the dielectric potential.*

50.2 The production-line test is to be in accordance with any of the alternatives of [Table 50.1](#).

**Table 50.1**  
**Production-line dielectric withstand test conditions for furniture power distribution units**

Rating	Alternative A		Alternative B		Alternative C		Alternative D	
	Potential (V AC)	Time (s)	Potential (V AC)	Time (s)	Potential (V DC)	Time (s)	Potential (V DC)	Time (s)
125 V or less AC	1250	60	1500	1	1768	60	2121	1
125/250 V AC and 250 V AC or less	1500	60	1800	1	2121	60	2545	1

50.3 The test shall be conducted when the FPDU is complete (fully assembled). It is not intended that the FPDU be unwired, modified, or disassembled for the test.

50.4 The test equipment when adjusted for production-line testing, is to produce an output voltage that is not less than the factory test value specified, nor is the magnitude of the test voltage to be greater than 120 percent of the specified test potential when the tester is used in each of the following conditions:

a) When the test duration is 1 s, the output voltage is to be maintained within the specified range when:

- 1) Only a voltmeter having an input impedance of at least 2 M $\Omega$  and a specimen of the product being tested are connected to the output terminals; and
- 2) A relatively high resistance is connected in parallel with the voltmeter and the product being tested, and the value of the resistance is gradually reduced to the point where an indication of unacceptable performance just occurs.

b) When the test duration is 1 min, the output voltage is to be maintained within the specified range (by manual or automatic means) throughout the 1-min duration of the test or until there is an indication of unacceptable performance.

50.5 The specified control of the applied voltage, manual or automatic, shall be maintained under conditions of varying line voltage. Higher test potentials are not prohibited from being used when the higher dielectric stress does not adversely affect the insulating systems of the product.

50.6 In addition to the characteristics indicated in [50.4](#), the test equipment is to have the following features and characteristics:

a) A means of indicating the test voltage that is being applied to the appliance under test. This is accomplished by sensing the voltage at the test leads or by an equivalent means.

b) An output voltage that has a sinusoidal waveform, a frequency that is within the range of 40 – 70 Hz, and a peak value of the waveform that is not to be less than 1.3 and not more than 1.5 times the root-mean-square value.

c) A means of effectively indicating unacceptable performance. The indication is to be:

- 1) Auditory, when it can be readily heard above the background noise level;
- 2) Visual, when it commands the attention of the operator; or
- 3) A device that automatically rejects an unacceptable product. When the indication of unacceptable performance is auditory or visual, the indication is to remain active and conspicuous until the test equipment is reset manually.

d) When the test equipment is adjusted to produce the test voltage, and a resistance of 120,000  $\Omega$  is connected across the output, the test equipment is to indicate an unacceptable performance

within 0.5 s. A resistance of more than 120,000  $\Omega$  is not prohibited from being used to produce an indication of unacceptable performance when the manufacturer elects to use a tester having higher sensitivity.

*Exception: The sensitivity of the test equipment – and a lower value of resistance – is not prohibited from being used when testing an appliance intended to be permanently wired.*

50.7 There shall not be any transient voltage applied to the FPDU under test that results in the instantaneous voltage applied to the FPDU exceeding 120 percent of the peak value of the test voltage that the manufacturer elects to use for this test. This requirement applies for the entire duration of the test, including the time that the voltage is first applied to the FPDU and the time that the voltage is removed from the FPDU.

## 51 Grounding Continuity Test

51.1 Each FPDU shall be tested, as a routine production-line test, to determine grounding continuity between the grounding pin or terminal of the attachment plug and the accessible, dead-metal parts of the FPDU that become energized. The grounding contact of each receptacle, grounding pin of a supply-cord attachment plug, and other means for grounding on the load side are included in this test.

51.2 Compliance with [51.1](#) is determined by any appropriate device, such as an ohmmeter or a battery and buzzer combination, applied between the point of connection of the FPDU grounding means and the metal parts in question.

## RATINGS

### 52 Details

52.1 A FPDU shall be rated in maximum AC current and AC voltage. The voltage rating shall not be higher than 250 V. The current rating shall not be higher than 20 A, the ampacity of the power-supply cord, nor the highest rating of the overcurrent protective device that is provided.

## MARKINGS

### 53 Details

53.1 Unless otherwise indicated, all markings shall be clearly visible, readily legible, and placed on the outside of the enclosure in lettering not less than 3/32 in (2.4 mm) high.

53.2 Markings required by this standard shall be permanent. A permanent marking shall be molded, die-stamped, or paint-stenciled; stamped or etched metal that is permanently secured; or indelibly stamped on a pressure-sensitive label that complies with the Standard for Marking and Labeling Systems, UL 969 or Marking and Labeling Systems – Flag Labels, Flag Tags, Wrap-Around Labels and Related Products, UL 969A or, provided on a cord tag that complies with [53.3](#). Ordinary usage, handling, storage, and the like of the unit are to be evaluated in determining whether a marking is permanent.

53.3 Markings may be on one of the following:

- a) Printed on a doughnut-, flat-, or bracelet-type label.
- b) Printed on a tag of tough paper, cloth, or the equivalent (of any color) having a hole large enough to accommodate the cord, and not resembling the shapes described in item c. The tag is not to be slit from the edge of the hole to the edge of the tag. The cord is to be passed through the hole in the tag prior to assembly to the FPDU.



c) Printed in a contrasting color on a background of a solid color other than blue, green, or yellow on one of the following:

- 1) A ring-shaped (doughnut) tag of tough paper, cloth, or the equivalent having a hole large enough to accommodate the cord. The tag is not to be slit from the edge of the hole to the edge of the tag. The cord is to be passed through the hole in the tag prior to the assembly to the FPDU.
- 2) A flag-type tag with an adhesive back. The tag is to be wrapped around and adhere to the cord, and the ends of the tag are to adhere to each other and project as a flag.
- 3) A bracelet wrapped around and affixed to the cord with an adhesive.

53.4 A tag in accordance with [53.3](#) used for markings required in Section [53](#), Details, shall be attached in a manner that it cannot be easily removed. The tag shall have the added marking in letters not less than 3/32 in (2.4 mm) high "Do not remove this tag."

53.5 A FPDU shall be marked with:

- a) The manufacturer's name, trade name, trademark, or other descriptive marking by which the organization responsible for the product is identified;
- b) The distinctive catalog number or equivalent;
- c) The FPDU electrical rating in volts, amperes, and frequency; and
- d) The date or other dating period of manufacture not exceeding any three consecutive months. Abbreviation of the date of manufacture complies with the intent of this requirement.

*Exception: The date of manufacture that appears in a nationally-accepted conventional code or in a code affirmed by the manufacturer complies with the intent of this requirement when the code does not repeat in less than 10 years and does not require reference to the production records of the manufacturer to determine when the product was manufactured.*

53.6 When a manufacturer produces or assembles a FPDU at more than one factory, each FPDU shall have a distinctive marking, that is not prohibited from being in code, by which it is identified as the product of a particular factory.

53.7 With regard to [16.7](#), a receptacle outlet or group of outlets of a FPDU shall be marked to indicate the rating of the overcurrent protective device that protects the receptacle outlet.

53.8 A receptacle outlet or group of outlets of a FPDU that is energized (relay or electronically activated) by the presence of a load in another outlet of the FPDU shall be marked to indicate that they are so controlled.

53.9 A switch employed on a FPDU, without an associated pilot light and as indicated in [18.3](#), shall be marked "on"/"off", "1"/"0", or the equivalent, to indicate to the user when the receptacles are energized when the FPDU is connected to a power-supply. The marking shall be either on the switch or on an adjacent part of the enclosure.

53.10 A FPDU having a fuse that is intended to be replaced in the field shall be marked to indicate the type, ampere, and voltage rating of the replacement fuse. In addition, the FPDU shall be marked with the word "WARNING" and the following or equivalent: "For continued protection against risk of fire, replace only with same type and rating of fuse." Lettering shall not be less than 3/32 in (2.4 mm) high. These markings shall be located adjacent to the fuseholder so as to be visible during fuse replacement.



53.11 A FPDU shall be marked to indicate that the product is intended for indoor use only, with the word "CAUTION:" and the following or equivalent: "To Reduce the Risk of Electric Shock – Use Only Indoors". Lettering shall not be less than 3/32 in (2.4 mm) high. This marking may appear on a cord tag that complies with Section [45](#), Test for Permanence of Cord Tag, permanently attached to the power supply cord.

53.12 A FPDU that incorporated terminals for secondary telecommunication equipment shall be marked to indicated "In" and "Out" or equivalent (such as "Wall", "Equip". or "Equipment") adjacent to the terminals.

53.13 A FPDU that incorporates terminals for coaxial cable (TV/CATV) connection shall be marked with (or provide on the smallest unit package) installation instructions for connection to the antenna system in accordance with the National Electrical Code, ANSI/NFPA 70 and shall comply with the antenna connection instruction requirements of the Standard for Audio-Video Products and Accessories, UL 1492.

53.14 A FPDU that employs SPT-3 flexible cord for the power-supply cord shall be marked on the FPDU and on smallest unit package with the following or equivalent wording: "For Household Use Only".

53.15 A FPDU for use in a portable furnishing shall be marked "For use only in a portable furnishing." See [7.3.1](#).

53.16 A FPDU rated 15 A employing 2 – 4 receptacles and 16 AWG power supply cord without supplementary overcurrent protection shall be marked "Suitable for Household (Residential) use only." See note (g) of [Table 13.1](#).

53.17 A FPDU with a retractable vertical tower shall be provided with the following marking and shall be visible when in the open position: "WARNING: To Reduce the Risk of Fire and Electric Shock – Unplug and remove all plugged in equipment before closing." or the equivalent.

*Exception: The following marking may be used in place of the above marking if the FPDU with a retractable vertical tower complies with the requirements outlined in [8.7](#): "WARNING: To Reduce the Risk of Fire and Electric Shock – Route cord(s) away from track edge when closing tower. If the size of the cord/plug combination(s) prevents the tower from closing as intended, remove cord(s) before closing tower."*

53.18 A FPDU as described in [6.8\(a\)](#) shall be provided with installation instructions indicating that the FPDU is to be mounted on a single piece of furniture.

53.19 An FPDU that incorporates a molded-on or assembled-on hospital grade attachment plug or cord connector, a hospital grade power supply cord, or a hospital grade receptacle shall be marked with the following or equivalent wording: "CAUTION: Do not use Furniture Power Distribution Units in General Patient Care Areas or Critical Patient Care Areas. They have not been evaluated for use where Article 517 of the National Electrical Code requires Hospital Grade components."

53.20 The caution marking of [53.19](#) shall comply with [53.2](#) and be provided on a tag affixed to the FPDU power supply cord within 6 in (152 mm) of the attachment plug. The word CAUTION shall be a minimum of 9/64 in (3.6 mm) high and the remaining words shall be a minimum of 1/16 in (1.6 mm) high.

53.21 The cord tag of [53.20](#) shall be tear-resistant and shall comply with [53.22](#) and Section [45](#), Permanence of Cord Tag Test. The tag shall be permanently affixed to the cord.

*Exception: A flag-type tag rated for the conditions of use and complying with the requirements for flag-type tags for use with cord sets and power supply cords is not required to be tested in accordance with Test for Permanence of Cord Tag, Section [45](#).*

53.22 The cord tag of [53.20](#) shall be in either of the following forms:

- a) A hang-type tag having a hole to permit securement to the cord by a plastic strap or equivalent. The strap shall not be removable without cutting; or
- b) A flag-type tag with an adhesive back. The tag shall be wrapped around and adhere to the cord. The ends of the tag shall adhere to each other and project as a flag.

53.23 FPDUs as described in [6.8\(c\)](#) shall be marked: "WARNING" and the following or the equivalent. "Timer could turn-on unexpectedly without the user being present. To Reduce the Hazardous Condition – Unplug the appliance that is plugged into the receptacle(s) controlled by the timer before servicing." Lettering shall not be less than 3/21 inch (2.4 mm) high. This marking shall be located adjacent to the timer so as to be visible during use.

53.24 A Class 2 lead or Class 2 separable interface shall be identified as being "Class 2" and marked with the output electrical rating. The "Class 2" and output electrical rating shall be permanently marked and visible after installation. The output electrical rating may be expressed in amperes and voltage, or wattage or in volt-ampere.

53.25 The output Class 2 connectors of receptacles with Class 2 integral power supplies shall be identified as being "Class 2" and marked with the output electrical rating. The output electrical rating shall be permanently marked and visible after installation of the FPDU enclosure or cover. The output electrical rating may be expressed in amperes and voltage, or wattage or in volt-ampere.

53.26 A FPDU as described in [7.1.14\(b\)](#) shall be provided with a pressure-sensitive label that complies with the Standard for Marking and Labeling Systems, UL 969, and marked "Do not remove this label" or equivalent wording.

53.27 A FPDU as described by [14.7](#) shall be marked with the phrase "Tamper Resistant" or the letters "TR". The letters "TR" shall be a minimum of 3/16 inch (4.8 mm) in height, placed on the device where visible after installation with the cover plate removed.

53.28 A FPDU with non-replaceable fuse shall be marked visible on the enclosure "WARNING" and the following or the equivalent statement: "No User Serviceable Parts Inside".

## INSTRUCTIONS

### 54 Details

54.1 As required in note (i) of [Table 13.1](#), the instructions shall include the following information or equivalent "A Furniture Power Distribution Unit provided with auxiliary lighting features is not for permanent installation. Do not remove the plug for permanent connection to the electrical system".

54.2 A FPDU as described in [7.1.14\(b\)](#) shall include an installation instruction that identifies the location of the concealing blank label on the FPDU and instructs the installer to not remove the label.

54.3 A FPDU shall include in the instructions, packaging, or other literature accompanying the FPDU the following or equivalent wording: "A Furniture Power Distribution Unit is not for permanent installation as part of the building structure and not for mounting in a permanently-installed furnishing such as a fixed countertop.

54.4 A FPDU that incorporates a molded-on or assembled-on hospital grade attachment plug or hospital grade receptacle(s) shall include in the instructions, packaging, or other literature accompanying the FPDU the following or equivalent wording: "CAUTION: Do not use Furniture Power Distribution Units in

General Patient Care (Category 2) Spaces or Critical Patient Care (Category 1) Spaces. They have not been evaluated for use where Article 517 of the National Electrical Code requires Hospital Grade components."