

UNDERWRITERS LABORATORIES INC. CERTIFICATION REQUIREMENT DECISION

This Certification Requirement Decision is prepared by UL LLC. It is normative for the applicable UL Product Certification Program(s); however, it is currently not part of the UL Standard(s) referenced below.

Product Category (CCN): ZACT, ZAJJS, YZHW, ZACZ, ZANE, ZAXH
Standard Number: UL 705
Standard Title: Standard for Power Ventilators
Edition Date: July 19, 2017
Edition Number: 7
Section / Paragraph Reference: 26.1, 34.1 and Table 34.1
Subject: Correction of Test temperature

DECISION:

26 Dielectric Voltage-Withstand Test

26.1 The equipment shall withstand without breakdown the following:

a) A potential, as specified below, applied between live parts of hazardous voltage circuits, and dead (grounded) metal parts, for a period of 1 min. AC test potentials are 40 – 70 Hz and DC test potentials represent the peak value of the AC test potentials. For the test, the unit may be in a heated or unheated condition.

1) 1000 V ac or 1400 dc for units rated 250 V or less, and which include a motor rated at 1/2 hp or less

2) 1000 V ac plus twice rated voltage or 1400 V dc plus 2.8 times rated voltage for units rated more than 250 V or which include a motor rated larger than 1/2 hp.

3) One thousand volts, or 1000 volts plus twice the rated voltage, depending upon the value of the test potential applied to the ventilator as a whole, between the terminals of a capacitor used for power-factor correction or for radio-interference elimination.

~~26.1 A ventilator shall withstand for 1 minute without breakdown the application of a 60-hertz essentially sinusoidal potential between live parts and dead metal parts, and between live parts of opposite polarity for a test on a capacitor as specified in (c), with the ventilator at the maximum operating temperature reached in normal use. The test potential shall be:~~

~~a) One thousand volts for a ventilator employing a motor rated 1/2 horsepower (370 W output) or less and 250 volts or less. See 19.4.~~

~~b) One thousand volts plus twice the rated voltage for a ventilator employing a motor rated more than 1/2 horsepower or more than 250 volts. See 19.4.~~

34 Production Dielectric Voltage-Withstand Test

34.1 Each ventilator shall withstand without electrical breakdown as a routine production-line test, the application of a DC potential or an AC potential at a frequency within the range of 40 - 70 hertz:

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Table 34.1
Production-line test conditions

Appliance rating	Condition A		Condition B	
	Potential, volts	Time, seconds	Potential, volts	Time, seconds
250 volts or less with no motor rated more than 1/2 horsepower (370 W)	1000	60	1200	1
More than 250 volts or with a motor rated more than 1/2 horsepower	$1000 + 2V^a$	60	$1200 + 2.4V^a$	1
^a Maximum marked voltage.				

Table 34.1
Production-line test conditions

Appliance rating, V	Condition A			Condition B		
	Potential, V		Time, s	Potential, V		Time, s
	AC	DC		AC	DC	
250 volts or less with no motor rated more than 1/2 horsepower (370 W)	1 000	1 400	60	1200	1 700	1
More than 250 volts or with a motor rated more than 1/2 horsepower	$1\ 000 + 2V$	$1\ 400 + 2.8V$	60	$1\ 200 + 2.4V$	$1\ 700 + 3.4V$	1
<u>V = maximum marked voltage.</u>						

RATIONALE FOR DECISION:

The Dielectric Voltage Withstand Strength Test may be conducted with either an AC or DC test potential. When testing with a DC voltage, the test potential must be adjusted to obtain the peak voltage equivalent to the AC RMS test potential. This Certification Requirement Decision (CRD) is intended to include requirements for a DC Dielectric test.

This CRD documents the updated wording for the Dielectric Voltage-Withstand Test including requirements for direct voltage.

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