Descriptive Report and Test Results

MASTER CONTRACT: 0000215310

REPORT: 80122531

PROJECT: 80122531

Edition

Edition	Issued On	Project	Location	Prepared By	Authorized By
Edition 1	May 24, 2022	80122531	Taiwan Taipei City	Jessie Lin	Jessie Lin

Contents

Products

C388151 TOOLS - Portable
C388181 TOOLS - Portable - Certified to US Standards

Drywall sander, cord-connected, grounded

Models	Rated Voltage (VAC)	Rated Frequency (Hz)	Input Power (W)	Diameter (mm)	No Load Speed (/min)
SB9	110-120	50/60	450	225	1000-1600

Applicable Requirements

Standards Used	Description
ANSI/UL 60745-2-3-2013 (Second Edition)	Hand-Held Motor-Operated Electric Tools - Safety - Part 2: Particular Requirements for Grinders, Polishers, and Disk-Type Sanders
CAN/CSA-C22.2 No. 60745-1-07 Upd.1+Upd.2+Upd.3+Upd.4+Upd.5 (Third Edition) (R2017)	Hand-held motor-operated electric tools safety part 1: General requirements - Third Edition
CAN/CSA-C22.2 NO. 60745-2-3-07 AMD 1 AMD 2 (R 2017)	Hand-held motor-operated electric tools - Safety - Part 2-3: Particular requirements for grinders, polishers and disk-type sanders
UL 60745-1-2020 (Fourth Ed.)	UL Standard for Safety Hand-Held Motor-Operated Electric Tools – Safety – Part 1: General Requirements - Fourth Edition; Reprint with Revisions Through and Including April 30, 2020

Markings

The manufacturer is required to apply the following markings:1:level4 {mso-level-number-format:bullet; mso-level-text:□; mso-level-tab-stop:none; mso-level-number-positio

1. Products shall be marked with the markings specified by the particular product standard.
2. Products certified for Canada shall have all Caution and Warning markings in both English and French.

Additional bilingual markings not covered by the product standard(s) may be required by the Authorities Having Jurisdiction. It is the responsibility of the manufacturer to provide and apply these additional markings, where applicable, in accordance with the requirements of those authorities.

The products listed are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US' for Canada and US (indicating that products have been manufactured to the requirements of both Canadian and U.S. Standards) or with adjacent indicator 'US' for US only or without either indicator for Canada only.

1. Submittor's name and/or Contract No 215310, adjacent to the CSA Monogram with the C US Indicator.
2. Model designation.
3. Complete electrical rating in Volts, symbol for AC supply, Hertz, Amps, n/min.
4. Date code or equivalent.
5. Wording 'Made in Taiwan'.

For 60745-2-3,

1. rated speed in revolutions per minute;
2. rated capacity in mm
3. indication of direction of rotation of the spindle. This shall be indicated by an arrow, raised or sunk, or by any other means no less visible and indelible
4. tools provided with a threaded spindle shall be marked with spindle thread size;
5. “WARNING — To reduce the risk of injury, always wear eye protection” or the sign M004 of ISO 7010;
6. “WARNING — To reduce the risk of injury, use only accessories rated at least equal to the maximum speed marked on the tool”.

"WARNING: To reduce the risk of injury, user must read instruction manual" or the symbol M002 of ISO 7010.

Note: Minimum 2.4 mm high letters for "WARNING".

Nameplate Adhesive Label Material Approval Information

1. Yong Mei Printing Company, Limited (INT) CSA Certified. File no. 87277, UL Certified. File no. MH17252.

Model	Application Surface	Max Temp (°C)
YM-50	Metal and plastic groups III and VI	80
YM-S	Metal and plastic groups III and VI	80

Alterations

a. Markings as noted above.

Factory Tests

Correct Operation Test

The safe operation shall be checked, for example, by electrical measurements, by verifying the functional devices, such as switches and manually-operated controls, and by verifying the direction of rotation of motors.

Electric Strength Test:

The insulation of the tools shall be checked by the following tests:

A voltage of substantially sine-wave form, having a frequency of 50 Hz or 60 Hz and the value shown in Table 1, is immediately applied, for 3 s, between live parts and:

a. accessible metal parts which may become live in the event of an insulation fault or as a result of incorrect assembly;

b. inaccessible metal parts.

The tests of item a) are made on the assembled tool; the test of item b) is made on the tool, either completely assembled, or in the production line.

The tests of item a) are made on all tools, the tests of item b) being only made on class II tools.

The high-voltage transformer used for the tests shall be so designed that, when the output terminals are short-circuited after the output voltage has been adjusted to the appropriate test voltage, the output current is at least 200 mA.

The overcurrent relay shall trip when the output current exceeds 5 mA.

Care shall be taken that the r.m.s. value of the test voltage applied is measured within ± 3% and that the voltage measuring device or other indicator responds to the output voltage of the transformer.

Attention is drawn to the fact that the test described cannot always be used if the tool incorporates d.c. components; in such cases, tests with d.c. may be necessary.

The inherent resistance of the d.c. source shall allow a short-circuit current of at least 200 mA.

No flashover or breakdown shall occur during the tests.

Table 1 - Test voltages for the electric strength test

Application of test voltage	Test voltage V		
	Class III tools	Class II tools	Class I tools
Over basic insulation	400	1000	1000
Over double insulation or reinforced insulation	-	2500	-

WARNING: The factory test(s) specified may present a hazard of injury to personnel and/or property and should only be performed by

persons knowledgeable of such hazards and under conditions designed to minimize the possibility of injury.

Description

Notes:

1. Component Substitution

a. Critical components (those identified by mfr name, cat no), which are NOT identified with either "INT" or "INT*" are not eligible for substitution without evaluation and report updating
b. The term "INT" means a "Certified" and/or "Listed" (or a "Recognized" and/or "Accepted") component may be replaced by one "Certified" and/or "Listed" by another certification organization accredited by the appropriate accreditation body or scheme requirements to the correct standard, for the same application; providing the applicable country identifiers are included and requirements in item "d" below are complied with.
c. The Term "(INT*)" means a "Recognized" and/or "Accepted" component may be replaced by a component that is CSA Certified. The applicable country identifiers shall be included, the requirements in item "d" below as well as any "conditions of suitability" for the component (as recorded in this descriptive report) shall be complied with;
d. Components which have been substituted, must be of an equivalent rating, configuration (size, orientation, mounting) and the applicable minimum creepage and clearance distances are to be maintained from live parts to bonded metal parts and secondary parts.
e. Substitution of a "Certified" and/or "Listed" component with a component that is "Recognized" or "Accepted" is not permitted without evaluation and report updating.
f. Substitution of a "Recognized" and/or "Accepted" component by one that is not CSA Certified is not permitted without a proper evaluation as well as a report update because the Conditions of Acceptance of the original component may be different than the Conditions of Acceptance of the substitute component.

This Electric Drywall Sander is specially designed for the most efficient sanding of drywall or plaster walls and ceilings for both new construction and renovation work. It is designed to work in conjunction with a vacuum cleaner for minimum dust.

The following table itemizes this product covered along with its electrical ratings.

MODEL DIFFERENCES BY ITEM NO

Model	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
SB9	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

No	Component Description	Manufacturer	Material Cat. No.	Rating, Comment, Dimensions	Appr Agency
1	Motor Enclosure	Nan Ya (E130155)	Polyamide 6 2210G6	Drawing 2, HB, 0.75mm, all color, HAI-0, HWI-4, CTI-0, 100 °C. Glow wire (550°C) tested at 2.5 mm thick by CB report. One piece construction.	UL
2	Motor Cover	Same as Handle	Same as Handle	Drawing 3. 2.5mm thickness. Secured to motor housing and gear box.	UL
3	Handle	Nan Ya (E130155)	Polyamide 6 2210G6	Drawing 4,5,6 and 7. HB, 0.75mm, all colour, HAI-0, HWI-4, CTI-0, 100 °C. Glow wire (550°C) tested at 2.5mm thick by CB report. Four-pieces construction. Secured together with screws.	UL

4	Gear Box	-	Aluminum Alloy	Drawing 8. Combination with Gear housing and Gear base, secured together with screws and spring washers. Min. 3 mm thickness.	-
5	Power Supply Cord (INT)	TA AN (E300888)	Type SJT	300Vac, 16/3 AWG, min. 105°C. 1.8m long min. Provided with NEMA 5-15P plug, polarized. Line/Neutral connects with switch by a screw. Type Y attachment.	UL CUL
6	Cord Guard Bushing	-	Rubber	Drawing 9. Projected outside the tool beyond the inlet opening of 60mm (at least 5 times the overall diameter of power supply cord). Fitted over Power Supply Cord and trap-fitted in Handle.	-
7	Support Arm	-	Plastic	Drawing 10 and 11. Secure to extension column.	-
8	Pivot bracket	-	Plastic	Drawing 12. Secured to support arm by bushing and screws.	-
9	extension column	-	Aluminum Alloy	Drawing 13. Proivide an extension for the sanding pad and provide the interconnecting wire.	-
10	Sanding pad	-	Plastic	Drawing 14. Provide the sanding function and connect with motor housing.	-
11	Strain Relief	Same as Handle	Same as Handle	Drawing 15. Secured to integral U-shaped boss on Handle with two screws.	UL
12	Switch Panel	TLOAD	P/N: SB9DP	Accepted by tests. Detail see Att3 Schematics page 2. For signal transition to main control board only. Provide 1. On 2. Off 3. Speed up (+) 4. Speed lower (-).	-
13	Internal wiring (INT)	Yi Huan (E250011) MS#114612	TEW/ 1015/ 3321	16AWG. Rated 600V, 105°C. One end soldered to Printed Wiring Board; the other terminated in a recognized Crimp type connector to motor or bare wire type terminal to switch.	CSA UL
14	Motor driver board	--	--	Min V-0, Detail see Att3 Schematics page 2. Provide the function for motor control and safety protection. (overcurrent and overvoltage) control by button of Switch Panel. Consist of the following component:	UL
a	Capacitor (X2) (INT)	CARLI (E120045)	MPX	275 ac, 0.47 uF, -40~+100C.	UL CSA

b	Capacitor (X1) (INT)	CARLI (E120045)	MPX	275 ac, 0.33 uF, -40~+100C.	UL CSA
c	IC (IC4)	Microchip	dsPIC33EP32MC202-I	16-Bit Microcontrollers and Digital Signal Controllers with High-Speed PWM, Op Amps and Advanced Analog.	--
d	IC (IPM)	SANKEN (E118037)	SIM6891M	600 V High Voltage 3-phase Motor Drivers. Main Supply Voltage450Vdc. Logic Supply Voltage 20 Vdc Output Current IO:2.5 A	UL
15	Armature	-	Laminated Steel	Drawing 16. 24 mm OD by 14.5mm stack.	-
a	Shaft		Steel	72.1 mm long.	
b	Fan Impeller	-	Plastic	Drawing 17. Radial type. Secured to shaft by press-in.	-
16	Stator	-	Laminated Steel	60 mm OD by 34.8 mm ID by 15mm stack. Class 120 insulation.	-
I	Stator Winding	TAI-I (E85640)	Polyester-imide Copper Wire, PEWN (MW 24-C)	155°C. 0.45 mm diameter, 240 turns. Polyester film coated electrical paper insulation to space min. 2.5mm from laminations.	UL
-	Sleeving	Li Hua (E119887)	LH-001	Flame retardant silicone coated fiberglass sleeving.	UL
II	Stator Slot Liner	Shanghai Yuxiang Electrical Materials Co Ltd (E472622)	Yohann-NH, Yohann-NHN, Yohann-NM, Yohann-NMN	Class 200(N), 0.25mm thick. Extends min 1.5mm beyond lamination. Slot liner is double folded to retain winding.	UL
III	Stator Leads (INT)	Yi Huan (E250011)	1015	18AWG, min. 300V, min. 80°C. One end is mechanically secured and welded to the coil end, and sleeved with a certified silicone coated fiberglass tube; the other end is connected to motor control circuit board by connector.	UL CUL

Test History

Edition 1 (80122531)

Original certification for drywall sander, model SB9.
Edition 1 : Project 80122531

The following tests were performed by "DEKRA Testing and Certification GmbH" and CB certificate NL-67221 and CB test report 6055395.50 accepted by CSA under CB Scheme. Refer to Att1 CBTC and CBTR.

Test items:

All tests are provided by CB report at CBTL DEKRA Testing and Certification (Shanghai) Ltd. Only the following tests were considered necessary.

The following tests were conducted basead on standards (UL 60745-1-2020 (Fourth Ed.))
W= Waived; P= Passed

Tests Location
Taiwan Taipei City

Clause Number	Requirement	Comments	Verdict
18	**Abnormal operation**		
18.10.2	Fault conditions a) to f) conducted as applicable (See Table 18.10.2)		P
23	**Components**		
23.1.10	Adequate breaking capacity of mains switches with no electrical mechanical failure		P
23.1.11	Switches, not separately tested and found to comply with IEC 61058-1 under the conditions occurring in the tool, comply with Annex I		P

Construction review performed with satisfactory results by CB report.

---End Of Report---