COVER PAGE FOR TEST REPORT
EN 60335-1, PART 1: 1988 AND ITS AMENDMENTS
SAFETY OF HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES
EN 60335-2-44:1991, Particular requirements for electric ironers

Product	Heat Press
Model/Type	DC16
Rated values from the marking plate	240 V AC, 13.0 A, 50 Hz
Applicant	George Knight Co.

The equipment has been tested according to standard EN 60335-1, PART 1: 1988 including the following amendments: A2 (1988) + A5 (1989) + A6 (1989) + A51 (1991) + A52 (1992) + A53 (1992) + A54 (1992) + A55 (1993) and EN 60335-2-44:1991, Particular requirements for electric ironers

All applicable tests according to the above specified standard(s) have been carried out.

Test results are valid only for the tested equipment.

These tests fulfill the requirements of standard EN 45001.

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This test report includes the following documents:

1. Test report - (49 pages)
2. Temperature data - (33 pages)
3. Photos - (pages)
4. Diagrams - (pages)

*Requirements of EN 60335-2-44
(List of testing equipment used and calibration dates is available upon request)

EN TEST REPORT
EN 60335-1, PART 1: 1988

Product:	Heat Press
Model/Type:	DC16
Serial No.	562625
Name and address of applicant:	George Knight Co. 54 Lincoln Street Brockton, MA 02401
Name and address of manufacturer:	Same as above

	RESULTS			
	PASS	FAIL	N/A	ENCL.
The equipment complies with the publication	[X]	[ ]	[ ]	[ ]
National deviations:				
_____	[ ]	[ ]	[X]	[ ]
___				
Other requirements:	[ ]	[ ]	[X]	[ ]

Name and address of the testing laboratory:
TÜV PRODUCT SERVICE - SDG, 10040 Mesa Rim Road, San Diego, CA 92121

Tested by: Brad Lewis Date: 1996-06-05

Reviewed by: Bill Stinson Date: 1996-06-05

Approved by: Joe Janeliunas Date: 1996-06-05

EXPLANATIONS FOR ABBREVIATIONS OF THE RESULTS COLUMN:
N/A = Not Applicable, ENCL. = Enclosure

			RESULTS PASS	FAIL	N/A
5	**RATINGS**	(A*) or (A**)			
	Rated voltage is: 240		[X]	[ ]	[ ]
5.501	Rated voltage and frequency.		[X]	[ ]	[ ]
6	**CLASSIFICATION**				
	The appliance is Class I		[X]	[ ]	[ ]
	The degree of protection against moisture is ordinary		[X]	[ ]	[ ]
7	**MARKING**	(A5)			
7.1	The appliance must be marked with:				
	Rated voltage	240	[X]	[ ]	[ ]
	Symbol for nature of supply	AC	[X]	[ ]	[ ]
	Rated frequency	50 Hz	[X]	[ ]	[ ]
	Rated input	13.0 A	[X]	[ ]	[ ]
	Rated current of fuse	N/A	[ ]	[ ]	[X]
	Maker's name	Geo. Knight	[X]	[ ]	[ ]
	Model Rated operating time number	Continuous	[ ]	[ ]	[X]
	Symbol for class II	Class I	[ ]	[ ]	[X]
	Symbol for mois ture protection	Ordinary	[ ]	[ ]	[X]
	Motor winding classification	N/A	[ ]	[ ]	[X]
	*Rated input of lamp	N/A	[ ]	[ ]	[X]

Comments:

NOTE: (A*) or (A**) indicates that the Clause is modified by the stated Amendment

			RESULTS PASS	FAIL	N/A
7	**MARKING** (continued)				
7.2	Markings for Short-time or intermittent appliances.		[ ]	[ ]	[X]
7.3	Markings for detachable heating elements.		[ ]	[ ]	[X]
7.4	Markings for voltage setting. *Only one rated voltage*		[ ]	[ ]	[X]
7.5	Markings for rated input of different rated input voltages.		[ ]	[ ]	[X]
7.6	Symbols.	(A5)	[X]	[ ]	[ ]
7.7	Marking of terminals (Neutral, Earthing). *No ground symbol*	(A5)	[X]	[ ]	[ ]
7.8	Marking when more than one supply		[ ]	[ ]	[X]
7.9	Indication for which part of equipment switches control.		[X]	[ ]	[ ]
7.10	Marking for switches positions.		[X]	[ ]	[ ]
7.11	Marking for thermostats.		[X]	[ ]	[ ]
7.12	Special precautions.	(A5)	[X]	[ ]	[ ]
7.13	Language of instructions and precautions.		[X]	[ ]	[ ]
7.14	Markings shall be easily legible and durable. (A5 + A6)		[X]	[ ]	[ ]

Comments:

		RESULTS PASS	FAIL	N/A
8	**PROTECTION AGAINST ELECTRIC SHOCK**			
8.1	Protection against electric shock (A5+A6+A55) *No accessible hazardous live*	[X]	[ ]	[ ]
8.2	Protection of appliance for skin and hair.	[ ]	[ ]	[X]
8.3	Protection of flexible shafts.	[ ]	[ ]	[X]
8.4	Protection of accessible conducting liquids. (A6) *No liquids used in appliance*	[ ]	[ ]	[X]
8.5	Shafts of knobs handle and levers shall not be live	[X]	[ ]	[ ]
8.6	Protection of knobs handle and levers in the event of a single fault. (A5)	[X]	[ ]	[ ]
8.7	Protection of handles held in normal use.	[X]	[ ]	[ ]
8.8	Capacitors connected to accessible metal parts (class 11). *Class I appliance*	[ ]	[ ]	[X]
8.9	Store charge on the cord pins. *No capacitors in mians circuitry*	[ ]	[ ]	[ ]

Comments:

		RESULTS PASS	FAIL	N/A
9	**STARTING OF MOTOR-OPERATED APPLIANCES**	[ ]	[ ]	[X]
9.1	Motor starting test. *No motors in appliance*	[ ]	[ ]	[X]
9.2	Starting current test.	[ ]	[ ]	[X]
10	**INPUT AND CURRENT**	[ ]	[ ]	[ ]
10.1	Input current test. *See test results*	[X]	[ ]	[ ]
10.2	Motor operated equipment marked with rated current.	[ ]	[ ]	[X]
10.3	Heating appliances rated with cold conditions.	[ ]	[ ]	[X]

Comments:

			RESULTS PASS	FAIL	N/A
11	**HEATING**				
11.1	Heating test. *See test results*	(A6+A53)	[X]	[ ]	[ ]
12	**OPERATING UNDER OVERLOAD CONDITIONS OF APPLIANCES WITH HEATING ELEMENTS**		[X]	[ ]	[ ]
12.1	Overload tests *See test results*		[X]	[ ]	[ ]
13	**ELECTRICAL INSULATION AND LEAKAGE CURRENT AT OPERATING TEMPERATURE**				
13.2	Leakage current test. *See test results*		[X]	[ ]	[ ]
13.3	Dielectric strength test (heating appliances only). *See test results*		[X]	[ ]	[ ]

Comments:

			RESULTS PASS	FAIL	N/A
14	**RADIO AND TELEVISION INTERFERENCE SUPPRESSION**				
14.1	Suppression devices shall not affect safety	(A5)	[ ]	[ ]	[X]
15	**MOISTURE RESISTANCE**				
15.1	Drip-proof, splash-proof and water tight appliances must meet the requirements of 15.2	(A5)	[ ]	[ ]	[X]
15.3	Appliances subject to spillage of liquid in normal use.		[ ]	[ ]	[X]
15.4	Proof against humid conditions.		[X]	[ ]	[ ]
16	**LEAKAGE CURRENT AND ELECTRIC STRENGTH**				
16.2	Leakage test (heating appliances only).	(A5)	[X]	[ ]	[ ]
16.3	Insulation resistance (motor operated appliances only).		[ ]	[ ]	[X]
16.4	Dielectric strength test.		[X]	[ ]	[ ]

Comments:

		RESULTS PASS	FAIL	N/A
17	**OVERLOAD PROTECTION**			
17.1	Overload test. *No transformers in appliance*	[ ]	[ ]	[X]
18	**ENDURANCE**			
18.2	Endurance test (1.1 and 0.9 times rated voltage).	[X]	[ ]	[ ]
18.3	Endurance cycling test (1.1 and 0.85 times rated voltage)	[ ]	[ ]	[X]
18.4	Test for centrifugal or other automatic starting switches.	[ ]	[ ]	[X]
18.5	Test for self-resetting cut-outs. *None in appliance*	[ ]	[ ]	[X]

Comments:

			RESULTS PASS	FAIL	N/A
19	**ABNORMAL OPERATION**				
19.2	Inadequate heat discharge test (0.85 times voltage). (A6) *See test results*		[X]	[ ]	[ ]
19.3	Heating elements (1.24 times rated voltage).	(A6)	[X]	[ ]	[ ]
19.4	Test of 19.3 is repeated with adequate heat discharge and any temperature control devices short circuited.		[X]	[ ]	[ ]
19.5	Test of 19.3 is repeated with adequate heat discharge.		[ ]	[ ]	[X]
19.6	Stalled motor test	(A53)	[ ]	[ ]	[X]
19.7	Three phase motor test		[ ]	[ ]	[X]
19.8	Motor running overload test.	(A53)	[ ]	[ ]	[X]
19.9	Test for appliances for short-time or intermittent operation		[ ]	[ ]	[X]
19.10	Series motor test		[ ]	[ ]	[X]
19.11	Temperature rises - Dielectric	(A6)	[ ]	[ ]	[X]

Comments: Surface supporting textile material exceeded 150°C temperature rise. See test results for additional information.

		RESULTS PASS	FAIL	N/A
20	**STABILITY AND MECHANICAL HAZARDS**			
20.1	Stability test (15° tilt test)	[X]	[ ]	[ ]
20.1	*Stability test at 10°	[X]	[ ]	[ ]
20.2	Protection against personnel injury (Moving parts)	[ ]	[ ]	[X]
20.501	No sharp edges or burrs.	[X]	[ ]	[ ]
21	**MECHANICAL STRENGTH**			
21.1	Impact hammer test. *Appliance made of metal.*	[X]	[ ]	[ ]
21.3	Screw gland test.	[ ]	[ ]	[X]
21.4	Shoulders in conduit test.	[ ]	[ ]	[X]
22	**CONSTRUCTION**			
22.1	*Appliance shall be class I, II or III	[X]	[ ]	[ ]
22.1	Protection against electric class *I* .	[X]	[ ]	[ ]
22.2	Protection against moisture is *ordinary* .	[X]	[ ]	[ ]
22.3	Correct operation in all positions of normal use.	[X]	[ ]	[ ]
22.4	Prevention of operation (portable appliance only). *stationary appliance*	[ ]	[ ]	[X]

Comments:

		RESULTS		
		PASS	FAIL	N/A
22	**CONSTRUCTION** (continued)			
22.5	Accidental changing of voltage settings. *Only one voltage*	[ ]	[ ]	[X]
22.6	Accidental changing of control devices. *Accidental changing will not create hazard*	[X]	[ ]	[ ]
22.7	Accidental resetting of reset buttons. *No non-self-resetting controls*	[ ]	[ ]	[X]
22.8	Test of wall mount appliances. *Not a wall mounted appliance*	[ ]	[ ]	[X]
22.9	Appliances for heating liquids and appliances causing undue vibration shall not have pins intended to be introduced into fixed socket outlets. *Appliance does not heat liquids or vibrate*	[ ]	[ ]	[X]
22.10	Removal of parts providing protection against moisture. *No removable parts without a tool*	[X]	[ ]	[ ]
22.11	Insulation protection against condensation and leakage from hoses and the like. *No hoses etc. in the appliance*	[ ]	[ ]	[X]
22.12	Fixing of handles, knobs, grips and the like. *Loosening handles etc. does not create a hazard*	[X]	[ ]	[ ]
22.13	Replacement of components.	[X]	[ ]	[ ]
22.14	Storage hook and the like for flexible cables or cords. *No storage hooks on appliance*	[ ]	[ ]	[X]
22.15	Material which burn fiercely.	[X]	[ ]	[ ]
22.16	Fibrous or hygroscopic materials	[X]	[ ]	[ ]
22.17	Driving belts *No driving belts in appliance*	[ ]	[ ]	[X]
22.18	Reliance on safety extra voltage. *No SELV in appliance - all hazardous voltage*	[ ]	[ ]	[X]
22.19	Reinforced insulation between live parts and accessible metal parts.	[X]	[ ]	[ ]
22.20	Reassemble of parts used as supplementary insulation or reinforced insulation (Class II only). *Class I appliance*	[ ]	[ ]	[X]

		RESULTS PASS	FAIL	N/A
22	**CONSTRUCTION** (continued)			
22.21	Jacket of flexible cable or cord used a supplementary insulation. *<HAR> approved cord*	[X]	[ ]	[ ]
22.22	Reduction of CL and CR distances due to wear (class II only) *Class I appliance*	[ ]	[ ]	[X]
22.23	Protection against dirt and dust resulting from wear of part. *No parts which wear inside appliance*	[ ]	[ ]	[X]
22.24	Protection against contact of bare live parts and thermal insulation.	[X]	[ ]	[ ]
22.25	Protection against gripping handles with excessive temperatures. *No handles with excessive temperature*	[ ]	[ ]	[X]
22.26	Protection of accessible metal parts from contact with bare heating elements. *No visibly glowing heating elements*	[ ]	[ ]	[X]
22.27	Protection against sagging of heating conductors. *Heating conductors not likely to sag.*	[X]	[ ]	[ ]
22.28	Appliances with water-spray devices. *No water-sagging devices in appliance*	[ ]	[ ]	[X]
22.29	Removal of spacers used to prevent overheating of walls and the like. Protection against excessive pressure *No spaces with appliance* (A5)	[ ]	[ ]	[X]
22.30	Corrosion of metal parts. *No signs of corrosion after testing*	[X]	[ ]	[ ]
22.31	Protection of class II appliances connected to gas or water pipes. *Class I appliance*	[ ]	[ ]	[X]
22.32	Protection of electrical connections in accessible compartments. *No accessable compartments without a tool*	[ ]	[ ]	[X]
22.33	Protection against oil, grease or similar substances. *No oil, grease etc. in appliance*	[ ]	[ ]	[X]
22.34	Protection against brushes while they are live. *No brushes in appliance*	[ ]	[ ]	[X]
22.35	Protection of radio and TV Interference suppressers.	[ ]	[ ]	[X]
22.36	(+A5) Asbestos not allowed in constructions - Exemptions	[X]	[ ]	[ ]
22.101	*Rotary ironers closed with motor	[ ]	[ ]	[X]
22.102	*Flat-bed ironers with steam-producing devices	[ ]	[ ]	[X]
22.103	*Safety devices designed and situated	[ ]	[ ]	[X]
22.104	*Thermostats provided for heated ironing surface	[X]	[ ]	[X]

		RESULTS PASS	FAIL	N/A
23	**INTERNAL WIRING**			
23.1	Wireways. *Smooth and free of sharp edges*	[X]	[ ]	[ ]
23.2	Protection of internal wiring and connections.	[X]	[ ]	[ ]
23.3	Fixing of bead and similar insulators. *None in appliance*	[ ]	[ ]	[X]
23.4	Protection against undue stress of wiring. *Parts of appliance cannot move during normal use.*	[ ]	[ ]	[X]
23.5	Fixing of internal wiring and heating conductors. *Heating conductors rigidly fixed*	[X]	[ ]	[ ]
23.6	Green/Yellow wires (only for protective earth). *Ground wire green & yellow*	[X]	[ ]	[ ]
23.7	Connection of the bottom contact of D-type fuse-bases (for permanently connected appliances).	[ ]	[ ]	[X]
23.8	Aluminum wires.	[X]	[ ]	[ ]

Comments:

		RESULTS		
		PASS	FAIL	N/A
24	**COMPONENTS** (A6+A52+A54)			
24.1	*Switches operating ironing surfaces	[X]	[ ]	[ ]
24.1	Comply with IEC 335 or the relevant component standard. *VDE approved switch* (A51+A55)	[X]	[ ]	[ ]
24.2	Components which can not be used.	[ ]	[ ]	[X]
24.3	Requirements for switches disconnecting the mains. (A51)	[X]	[ ]	[ ]
24.4	Interchangeable plugs and sockets of terminal devices. *No ELV or SELV in appliance*	[ ]	[ ]	[X]
24.5	Interchangeable plugs and sockets of flexible cables. *No interchangeable plugs or sockets*	[X]	[ ]	[ ]
24.6	Lampholders.	[X]	[ ]	[ ]
24.7	Glow discharge lamps with E - 10 caps	[ ]	[ ]	[X]
24.8	Capacitor connected to thermal cut outs. *No capacitors connected to thermal cut-out*	[ ]	[ ]	[X]
24.9	Fittings of switches for portable motor operated appliances. *Not motor operated appliance*	[ ]	[ ]	[X]
24.10	Mercury switches. *Located in sealed compartment*	[X]	[ ]	[ ]
24.11	Thermal cut outs in a unattended class 01 or I appliances with heating elements. *Not intended for unattendable use*	[ ]	[ ]	[X]
24.501	Transformers used for safety purposes. *No XFMR's in appliance*	[ ]	[ ]	[X]

Comments:

		RESULTS PASS	FAIL	N/A
25	**SUPPLY CONNECTION AND EXTERNAL FLEXIBLE CABLES AND CORDS**			
25.1	Type of connection: *Power Supply Cord*	[X]	[ ]	[ ]
25.2	Requirements for permanently connected appliance:			
	-Terminals.	[ ]	[ ]	[X]
	-Supply leads.	[ ]	[ ]	[X]
	-Cables entries, conduit entries, knock out or glands	[ ]	[ ]	[X]
	Requirements for appliances not intended for permanent connections:			
	-Power supply cord.	[X]	[ ]	[ ]
	-Appliance inlet.	[ ]	[ ]	[X]
	Drip-proof, splash-proof and watertight appliances. (Appliances inlets not allowed)	[ ]	[ ]	[X]
25.3	Requirements for appliance inlets.	[ ]	[ ]	[X]
25.4	Method of attachment of power supply cord is type M. (A2)	[X]	[ ]	[ ]
25.5	Plugs fitted to flexible cables or cords. *Only one cord fitted to plug*	[X]	[ ]	[ ]

Comments:

			RESULTS		
			PASS	FAIL	N/A
25	**SUPPLY CONNECTION AND EXTERNAL FLEXIBLE CABLES AND CORDS** (continued)				
25.6	Power supply cord. H05 VV-F	(A2)	[X]	[ ]	[ ]
25.7	Type Z attachments.		[ ]	[ ]	[X]
25.8	Inlet openings. *Provided with bushing*		[X]	[ ]	[ ]
25.9	Inlet bushings.		[X]	[ ]	[ ]
25.10	Cord guards. *Appliance not moved during operation*	(A6)	[ ]	[ ]	[X]
25.11	Cord anchorage. *See test results*	(A5)	[X]	[ ]	[ ]
25.12	Space provided for connection of supply cable or cord.	(A5)	[X]	[ ]	[ ]
25.13	Detachable and non-detachable function and interconnection flexible cable and cord.	(A5)	[ ]	[ ]	[X]
25.14	Disconnection of detachable flexible cables or cord used for interconnection between parts of the appliance. *No detachable flexible cables or cords*		[ ]	[ ]	[X]

Comments:

		RESULTS		
		PASS	FAIL	N/A
26	**TERMINALS FOR EXTERNAL CONDUCTORS**			
26.1	Connection requirements for the supply leads. (A5)	[X]	[ ]	[ ]
26.2	Terminal connection size (Cross sectional area). *Not for fixed wiring or X attachment*	[ ]	[ ]	[X]
26.3	Terminals for type M, Y, Z attachments	[X]	[ ]	[ ]
26.4	Tightening and loosing of terminals clamping means.	[X]	[ ]	[ ]
26.5	Protection against damage of conductors.	[X]	[ ]	[ ]
26.6	No special preparation of conductors and protection against conductors slipping out of clamping means.	[X]	[ ]	[ ]
26.7	Terminals of the pillar type.	[ ]	[ ]	[X]
26.8	Screw terminals.	[X]	[ ]	[ ]
26.9	Stud terminals.	[X]	[ ]	[ ]
26.10	Mechanical strength test for terminals.	[ ]	[ ]	[X]
26.11	Terminals location.	[X]	[ ]	[ ]
26.12	Accessibility of terminal. *No access without a tool*	[X]	[ ]	[ ]
26.13	Test with 8 mm stranded wire. *M type attachment*	[ ]	[ ]	[X]

Comments:

		RESULTS		
		PASS	FAIL	N/A
27	**PROVISIONS FOR EARTHING**			
27.1	Earthing of accessible metal parts	[X]	[ ]	[ ]
27.2	Earthing terminals. (A5)	[X]	[ ]	[ ]
27.3	Making and breaking of earth connection of detachable parts.	[X]	[ ]	[ ]
27.4	Risk of corrosion.	[X]	[ ]	[ ]
27.5	Ground continuity test. *See test results*	[X]	[ ]	[ ]
28	**SCREWS AND CONNECTIONS**			
28.1	Mechanical stress. *No screws likely to be tightened by the user* (A5+A54)	[X]	[ ]	[ ]
28.2	Screws in engagement with a thread of insulating material.	[ ]	[ ]	[X]
28.3	Electrical connections. *No screws thru insulating material*	[X]	[ ]	[ ]
28.4	Space-threaded and thread-cutting screws.	[X]	[ ]	[ ]
28.5	Screws used for mechanical connections, current-carrying.	[ ]	[ ]	[X]

Comments:

			RESULTS PASS	FAIL	N/A
29	**CREEPAGE DISTANCES, CLEARANCES AND DISTANCES THROUGH INSULATION**				
29.1	Creepage and clearance distances. *See test results* (A5+A6)		[X]	[ ]	[ ]
29.2	Distance through insulation.	(A5)	[ ]	[ ]	[X]
29.3	Appliance rated for more than 25A		[ ]	[ ]	[X]
30	**RESISTANCE TO HEAT, FIRE AND TRACKING**	(A6)			
30.1	External parts of insulating material (75°C ball pressure test).	(A2)	[ ]	[ ]	[X]
30.2	Insulating parts retaining live parts. (125°C ball pressure test)		[ ]	[ ]	[X]
30.3	Resistant to tracking.		[ ]	[ ]	[X]
31	**RESISTANCE TO RUSTING**				
31.1	Ferrous parts.		[X]	[ ]	[ ]
32	**RADIATION, TOXICITY AND SIMILAR HAZARDS**				
32.1	Protection against radiation, toxic or similar hazard.	(A5)	[ ]	[ ]	[X]

Comments:

APPENDIX B - ELECTRONIC CIRCUITS (A6)		RESULTS		
		PASS	FAIL	N/A
B8.1	Protection against electric shock	[X]	[ ]	[ ]
B8.8	Not applicable to capacitors with protective impedance *Class I appliance*	[ ]	[ ]	[X]
B11.8	Heating- Temperature rise for caps = 50K and 120K for PCB's with epoxy resin *No caps or PCB's in appliance*	[ ]	[ ]	[X]
B13.1	Protective impedance - disconnected	[ ]	[ ]	[X]
B16.1	Protective impedance is disconnected from live parts before testing	[ ]	[ ]	[X]
B16.4	Short circuit parts in Clause 19.	[ ]	[ ]	[X]
B19	Abnormal Operation Additional Subclauses B19.101 through B19.104	[ ]	[ ]	[X]
B22	Construction Additional Subclauses B22.18, B22.19, B22.20	[ ]	[ ]	[X]
B27	Provisions for earthing on PCB's *No PCB's in appliance*	[ ]	[ ]	[X]
B29	Creepage distances, clearances and distances through insulation Additional Subclauses B29.1, B29.2	[ ]	[ ]	[X]

Comments:

APPENDIX F - Motors not isolated from the supply mains and having basic insulation not designed for the rated voltage of the appliance		RESULTS		
		PASS	FAIL	N/A
F5.1	Maximum allowed voltage reduction when using series resistors or voltage dividers	[ ]	[ ]	[X]
F8.1	Metal parts not insulated for rated voltage of appliance	[ ]	[ ]	[X]
F11	Heating - Temperature rise of body of motor and its limits	[ ]	[ ]	[X]
F16.4	Insulation between live parts of motor and its other metal parts is not subject to this test	[ ]	[ ]	[X]
F19	Abnormal operation - Do not test per Subclauses 19.6 to 19.9 - Design of components providing operating voltage reduction	[ ]	[ ]	[X]
F23	Internal Wiring - Double or reinforced insulation	[ ]	[ ]	[X]
F29	Values of tables do not apply to live parts of the motor and its other metal parts			
Comments: No motors in appliance				

(PER A2) APPENDIX J - BURNING TEST	RESULTS PASS	FAIL	N/A
Burning test is made in accordance with HD441 (IEC707): Methods of test for determination of the flammability of solid electrical insulating materials when exposed to an igniting source	[ ]	[ ]	[X]
(PER A2) APPENDIX K - GLOW WIRING TEST	[ ]	[ ]	[X]
(PER A2) APPENDIX L - BAD CONNECTION TEST WITH HEATERS	[ ]	[ ]	[X]
(PER A2) APPENDIX M - NEEDLE FLAME TEST	[ ]	[ ]	[X]
(PER A2) APPENDIX N - PROOF TRACKING TEST	[ ]	[ ]	[X]

Comments:

	RESULTS PASS	FAIL	N/A
ANNEX ZA (NORMATIVE)			
Switches - Compliance with applicable clauses of CEE24 including Modifications 1, 2, 3 and 4 Part I General and Part 2 Particular Specifications	[X]	[ ]	[ ]
ANNEX ZB (NORMATIVE)			
Safety Isolating Transformers (A52) Marking, overload protection, construction and spacings - Additions	[ ]	[ ]	[X]
ANNEX ZC (NORMATIVE)			
Per A54. Capacitors for radio interference suppression or used in unattended appliances for voltage purposes - Comply with IEC384-14 and with modifications for terminology and marking	[ ]	[ ]	[X]
ANNEX ZX (NORMATIVE)			
Special National Conditions			
Denmark			
Compliance with additional requirements for the following clauses: 2.2.17, 2.2.18, 7.12, 22.1. 24.1, 25.5 and B19.101	[X]	[ ]	[ ]
Finland			
Compliance with additional requirements for the following clauses: 4.6, 25.5, and 25.6	[X]	[ ]	[ ]

Comments:

	RESULTS PASS	FAIL	N/A
CONT'D ANNEX ZX (NORMATIVE)			
Special National Conditions			
Spain			
Compliance with additional requirements for the following clauses: 5.501 and 25.5	[X]	[ ]	[ ]
United Kingdom			
Compliance with additional requirements for the following clauses: 5.501, 7.7, 7.12, 22.8, 23.6 24.4, 24.11, 25.5, and 25.6	[ ]	[ ]	[X]
Ireland			
Compliance with additional requirements for the following clauses: 7.12, 25.5, and 25.6	[X]	[ ]	[ ]
Comments:			

	RESULTS PASS	FAIL	N/A
CONT'D ANNEX ZX (NORMATIVE)			
Special National Conditions			
Sweden			
Compliance with additional requirements for the following clauses: 22.1 and 25.5	[X]	[ ]	[ ]
Austria			
Compliance with additional requirements for the following clauses: 25.5 and B19.101	[X]	[ ]	[ ]
Belgium, France, Germany, Netherlands and Switzerland			
Compliance with additional requirements for the following clause: 25.5	[X]	[ ]	[ ]
Comments:			

	RESULTS PASS	FAIL	N/A
ANNEX ZY (INFORMATIVE)			
National Deviations due to Legal Requirements			
Finland: Clauses 7.12 and 23.6	[X]	[ ]	[ ]
Norway: Clauses 7.12, 11.8 and 24.3	[X]	[ ]	[ ]
Sweden: Clauses 7.1 and 24.1	[X]	[ ]	[ ]
Denmark: Clauses 30.1 and 30.2	[ ]	[ ]	[X]
Comments:			

ATTACHMENT A: TEST DATA AND RESULTS

	Test	Clause	Compl Date	Test Engineer	Comments
X	Marking Durability	7.14	5/17/96	J.T.	
X	Shock Protection	8	5/17/96	J.T.	
	Starting of motor	9			
X	Input Current	10	5/17/96	J.T.	
X	Heating	11	5/17/96	J.T.	Part 2 11.2, 11.4, 11.7, 1.15 X Rated Voltage
X	Overload	12	5/17/96	J.T.	15 Cycles
X	Leakage Current	13.2	5/24/96	J.T.	
X	Hipot	13.3	5/24/96	J.T.	
X	Moisture	15.0	5/27/96	B.S.	48 Hr.
X	Leakage Current	16.2	5/27/96	B.S.	
X	Insulation Res.	16.3	5/27/96	B.S.	
X	Hipot	16.4	5/27/96	B.S.	1250 V AC
X	Overload	17	5/28/96	J.T.	
X	Endurance	18	5/28/96	J.T.	
X	Abnormal	19	5/29/96	J.T.	Part 2
X	Stability Test	20.1	5/29/96	J.T.	Part 2 (10°)
X	Mechanical	21	5/29/96	J.T.	
N/A	Capacitor Discharge	22.5			
X	Cord Anchorage	25.11	5/29/96	J.T.	
X	Ground Continuity	27.5	6/3/96	B.S.	
X	Cr and Cl	29	5/29/96	J.T.	
	Heat Resistance	30			

Equipment Tested: Heat Press Model DC16

Ratings: 240 V AC, 13.0 A, 50 Hz

MARKING DURABILITY

Clause 7.14

Each of the marking labels is subjected to this test. The surface of each marking is to be rubbed by hand for a period of 15 seconds with a water soaked cloth, and again for a period of 15 seconds with a cloth soaked with petroleum spirits.

Label Tested	PASS	FAIL	N/A
1. Ratings Label	[X]	[ ]	[ ]
2. _____	[ ]	[ ]	[ ]
3. _____	[ ]	[ ]	[ ]
4. _____	[ ]	[ ]	[ ]

SHOCK PROTECTION

Clause 8

		PASS	FAIL	N/A
	There is adequate protection against accidental contact with live parts:			
8.1	Constructed and enclosed so that there is adequate protection against accidental contact with live parts.	[X]	[ ]	[ ]
8.1.1	Must not be possible to touch live parts (test pin figure 2) with 20 N force through openings for class 0, class II appliances or class II construction.	[ ]	[ ]	[X]
8.1.2	Must not be possible to touch live parts with (test pin figure 2) through openings for class 0, class II appliances or class II construction, except for those giving access to lamp caps and live parts in socket-outlets.	[ ]	[ ]	[X]
8.1.3	The test pin (figure 3) shall not contact visibly glowing heating elements.	[ ]	[ ]	[X]
8.1.4	Bare parts at ELV or hazardous voltage	[ ]	[ ]	[X]
Comments:				

STARTING OF MOTOR OPERATED APPLIANCES

Clause 9.0

		PASS	FAIL	N/A
9.1	Start appliances with centrifugal or automatic starting switches three times at a voltage equal to 0.85 times rated voltage, at room temperature, allowing the appliance to come to rest between each start.	[ ]	[ ]	[X]
	Test Voltage = _____ V			
	Appliances without centrifugal starting switches must repeat the above test at 1.06 times the rated voltage. (Hand started equipment must be started in both directions if possible without safety being affected)	[ ]	[ ]	[X]
	Test Voltage = _____ V			
9.2	Start appliance 10 times with a 5 minute minimum in between starts. The starting voltages shall be equal to 1.1 times the rated voltage and 0.9 times the rated voltage. The starting current shall not blow a quick-acting fuse-link.	[ ]	[ ]	[X]
	Test Voltage = _____ V (0.9x), _____ V (1.1x)			
	Fuse link = _____ Amp			
Comments:				

INPUT CURRENT

Clause 10.0

The unit is to be connected to variable voltage as indicated and then operated normally under the conditions noted below until the temperature of the unit under test has stabilized. The input current and average power measurements are to be made with suitable instruments. Test should be made at rated voltage and at +6% and -10% of rated voltage.

Input Voltage	Input Frequency	Input Current (A)	Input Power (W)
240 V AC	60 Hz	13.01 A	3042 W
216 V AC	60 Hz	11.94 A	2581 W
264 V AC	60 Hz	14.21 A	3671 W

Loads:

Comments:

HEATING

Clause 11.0, Part A

Test	Description (including test voltage, frequency)
1	240 V, 60 Hz - Normal Operation
2	276 V, 60 Hz - Normal Operation
3	216 V, 60 Hz - Normal Operation
4	
5	
6	
7	
8	

Comments: Device was placed onto a test corner and operated until thermal equalibrium was attained.

HEATING

Clause 11.0, Part B[ ] C[ ] D[ ] E[ ]

TC #	Location of Component	Temperature Stabilized Readings in Degrees Celsius			
		Test 1		Test 2	
		Max. Temp	Temp Rise	Max Temp	Temp Rise
1	Power Switch - Side	56	32	58	33
2	Solid State Relay	51	27	52	27
3	Solid State Timer TS-1622	49	25	50	25
4	Timer - MSM65W9	46	22	48	23
5	Mercury Switch	42	18	44	19
6	Buzzer	45	21	46	21
7	3 M Pot.	45	21	45	20
8	Power Cord - Line Cord	45	21	45	20
9	Temp. Control Knob	73	49	80	55
10	Ambient	24	-	25	-
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Comments:

HEATING

Clause 11.0, Part B[ ] C[ ] D[ ] E[ ]

TC #	Location of Component	Temperature Stabilized Readings in Degrees Celsius			
		Test 3		Test 4	
		Max. Temp	Temp Rise	Max Temp	Temp Rise
1	Power Switch - Side	56	31		
2	Solid State Relay	51	26		
3	Solid State Timer TS-1622	50	25		
4	Timer - MSM65W9	47	22		
5	Mercury Switch	44	19		
6	Buzzer	46	21		
7	3 M Pot.	44	19		
8	Power Cord - Line Cord	45	20		
9	Temp. Control Knob	80	55		
10	Ambient	25	-		
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Comments:

OVERLOAD

Clause 12.0

		RESULTS PASS	FAIL	N/A
12.2	15 Cycle test	[X]	[ ]	[ ]
	Test voltage = _305 V AC_			
	On time = __N/A___			
	Off time = __N/A___			
12.3	Appliances with a pressure switch	[ ]	[ ]	[X]
Comments:				

LEAKAGE CURRENT

Clause 13.2

	Heating Appliances 1.15 x Rated Voltage = 276 V AC (mA)	Motor and combined appliances 1.06 x Rated Voltage =N/A (mA)
Product On: Phase to Ground	0.125 mA	
Product On: Neutral to Ground	0.125 mA	
Product Off: Phase to Ground	0.05 mA	
Product Off: Neutral to Ground	0.05 mA	

Comments: Run test at 60 Hz

DIELECTRIC STRENGTH

Clause 13.3

		Before Humidity		
	130 V < U ≤ 250 V rms	PASS	FAIL	N/A
[ ]	500 V AC (707 V DC) basic low volt. insulation Location:	[ ]	[ ]	[X]
[Ξ]	1000 V AC (1414 V DC) other basic insulation Location: *Primary to ground*	[X]	[ ]	[ ]
[ ]	2750 V AC (3889 V DC) supplement insulation Location:	[ ]	[ ]	[X]
[ ]	3750 V AC (5303 V DC) reinforced insulation Location:	[ ]	[ ]	[X]

MOISTURE RESISTANCE

Clause 15.0

		RESULTS		
		PASS	FAIL	N/A
15.1	Drip-proof	[ ]	[ ]	[X]
	Splash-proof	[ ]	[ ]	[X]
	Watertight	[ ]	[ ]	[X]
	Dielectric Strength Test +			
DESCRIPTION OF TEST:				

		RESULTS		
		PASS	FAIL	N/A
15.3	Spillage Test	[ ]	[ ]	[X]
	Dielectric Strength Test +			
DESCRIPTION OF TEST:				

LEAKAGE CURRENT

Clause 16.2

Note: This test is run after humidity treatment.
Humidity chamber shall be set as follows: 20° C<T<30° , 91%<RH<95% time=48 hours

Heating Appliances Only	1.06 x Rated Voltage = 254 (mA)	1.06 x Rated Voltage divided by the square root of 3 = N/A (mA)
Product On: Phase to Ground	0.125	
Product On: Neutral to Ground	0.125	
Product Off: Phase to Ground	0.05	
Product Off: Neutral to Ground	0.05	

Comments: Run test at 60 Hz

INSULATION RESISTANCE TEST

Clause 16.3

The insulation resistance is measured with d.c. voltage of approximately 500 v applied, the measurement being made 1 minute after application of the voltage, heating elements, if any, being disconnected.

Note: This test is run after humidity treatment.
Humidity chamber shall be set as follows: 20° C<T<30° , 91%<RH<95% time=48 hours

The insulation resistance shall be no less than that shown in the following table.

Insulation to be tested	Insulation resistance required (M ohm)	Insulation resistance recorded (M ohm)
Between live parts and the body -for basic insulation -for reinforced insulation	2 7	>999 M ohm
Between live parts and metal parts of class II appliances which are separated from live parts by basic insulation only.	2	
Between class II of metal appliances which are separated from live parts by basic insulation only and the body	5	
Comments:		

DIELECTRIC STRENGTH

Clause 16.4

Note: This test is run after humidity treatment.

Humidity chamber shall be set as follows: 20° C<T<30° , 91%<RH<95% time=48 hours

Points of application	Test Voltage	Results
Primary to ground	1250 V AC	Pass

Comments:

OVERLOAD PROTECTION

Clause 17

	PASS	FAIL	N/A
Transformer Abnormal Testing (List abnormal test performed and results of test)	[ ]	[ ]	[X]
Comments:			

ENDURANCE

Clause 18.0

		PASS	FAIL	N/A
18.2	Normal operation test	[X]	[ ]	[ ]
	Test 1: N/A - Testing covered by overload test at 298 V~ Voltage = ____ (1.1 x), operating time = _____			
	Test 2: Voltage = 216 (0.9 x), operating time = 48 Hrs			
18.3	Cycle test	[ ]	[ ]	[X]
	Voltage = ____ (1.1 x), 50 times.			
	Voltage = ____ (0.85 x), 50 times.			
	On time = _____, Off time = _____			
18.4	Appliances provided with a centrifugal or other automatic starting switch.	[ ]	[ ]	[X]
	Voltage = ____ (0.9 x), 10,000 times.			
	On time = _____, Off time = _____			
18.5	Appliances provided with self -resetting thermal cut outs.	[ ]	[ ]	[X]
	Voltage = ____ (1.1 x), 200 cycles			

Note: After each test (18.2 to 18.5) a hipot test must be run.

Dielectric strength test = 1000 V AC

ABNORMAL OPERATING AND FAULT CONDITIONS

Clause 19.2

	PASS	FAIL	N/A
Component Abnormal Testing (List component ID, component type, abnormal test performed and results of test)	[X]	[ ]	[ ]
Comments:			

The unit was operated at 0.85 times the rated input voltage (204 V AC) without adequate heat discharge until the temperatures stabilized. The temperature of the surface intended to support the textile material exceed 150°C rise, however the appliance did not emit flames or molten material, or poisonous or ignitable gas in hazardous amounts. The enclosure did not deform to an extent that would impair compliance with the standard. A hot surface warning label will be attached to the surface.

Dielectric Strength Test = _1000 V AC_____

ABNORMAL OPERATING AND FAULT CONDITIONS (cont.)

Clause 19.3

	PASS	FAIL	N/A
Component Abnormal Testing (List component ID, component type, abnormal test performed and results of test)	[X]	[ ]	[ ]
Comments:			

The unit was operated at 1.24 times the rated input voltage (298 V AC) without adequate heat discharge until the temperatures stabilized. The temperature of the surface intended to support the textile material exceeded 150°C rise, however the appliance did not emit flames or molten material or poisonous and ignitable gas in hazordous amounts. The enclosure did not deform to an extent that would impair compliance with the standard. A hot surface warning label will be attached to the front of the surface.

Dielectric Strength Test = 1000 V AC

ABNORMAL OPERATING AND FAULT CONDITIONS (cont.)

Clause 19.4

	PASS	FAIL	N/A
Thermostats, Temperature limiters, Thermal cut-outs (List component ID, component type, abnormal test performed and results of test)	[X]	[ ]	[ ]
Comments:			

The unit was operated at 1.24 times the rated voltage (298 V AC) with adequate heat discharge with the thermostat shorted until the temperatures stabilized. Approximately five minutes into the test, the on/off switch shut off, removing power from the appliance.

Dielectric Strength Test = 1000 V AC

STABILITY TEST

Clause 20.1

	PASS	FAIL	N/A
- A unit shall not overbalance when tilted to an angle of 10° from its normal upright position. Doors, drawers, etc. shall be opened or closed during this test, whichever is most unfavorable.	[X]	[ ]	[ ]
- A unit with heating elements is further tested at an angle of 15° from its normal upright position. Doors, drawers, etc. shall be opened or closed during this test, whichever is most unfavorable.	[X]	[ ]	[ ]

15° test is not required but was run anyway

MECHANICAL STRENGTH

Clause 21

		PASS	FAIL	N/A
21.1	Internal enclosures shall be subject to 3 blows of impact energy 0.5 J of force, applied by a means of a impact hammer as in IEC 187.	[X]	[ ]	[ ]
21.2	Screw glands and shoulders in conduit entries.	[ ]	[ ]	[X]
Comments: *.5 Nm- 3 blows to indicator lenses and control knobs*				

CORD ANCHORAGE

Clause 25.11

Equipment Mass (kg)	Pull (N)	PASS	FAIL	N/A	Torque (Nm)	PASS	FAIL	N/A
m < 1	30	[ ]	[ ]	[X]	0.1	[ ]	[ ]	[X]
1 ≤ m ≤ 4	60	[ ]	[ ]	[X]	0.25	[ ]	[ ]	[X]
4 < m	100	[X]	[ ]	[ ]	0.35	[X]	[ ]	[ ]

Comments:

GROUND CONTINUITY

Clause 27.5

Test current = 1.5 x current capacity of hazardous voltage circuit or maximum of 25 Amps.

Test Point	Test Current (A)	Resistance (mΩ)
Front left corner of heating plate	25	*32.8*
Front right corner of heating plate	25	*34.1*
Rear left corner of heating plate	25	*33.2*
Rear right corner of heating plate	25	*32.5*
Top front of control box	25	*33.2*
Top rear of control box	25	*33.8*
Bottom left of control box	25	*34.2*
Bottom right of control box	25	*32.7*
Support arm in center of unit	25	35.4
Handle	25	34.9
Base	25	33.1

Comments:

CREEPAGE AND CLEARANCE

Clause 29

Insulation between	Clearance required (mm)	Clearance measured (mm)	Creepage required (mm)	Creepage measured (mm)	Comments
Primary and ground	3.0	4.10	4.0	4.10	Pass

Comments: