

National Deviation		
Requirement – Test	Result – Remark	Verdict
(SE). In Sweden, requirements according to this annex ZB, subclause 6.2.1.2 apply.	No TNV.	N
(NO). In Norway, requirements according to subclause 6.2.1.2, national difference, 6.2.1.4, Note 2, and 6.3.3.2, Note 1, applied.	No TNV.	N
(NO). Note 1: In Norway, exclusions are applicable for permanently connected equipment and pluggable equipment Type B only.	No TNV.	N
Delete note 2.	No TNV.	N
Delete note 2.	No TNV.	N
(AT). Equipment shall comply with Uc = 2.0kV in cases b) and c).	No TNV.	N
(DE) a) A license is required by those who operate an X-ray emission source. b) A license in accordance with clause 1 is not required by those who operate an X-ray emission source on which the electron acceleration voltage does not exceed 20 kV, if 1) the local dose rate at a distance of 0.1m from the surface does not exceed 1µSv/h and 2) it is adequately indicated on the X-ray emission source that i) X-rays are generated and ii) the electron acceleration voltage must not exceed the maximum value stipulated by the manufacturer or importer. c) A license in accordance with clause 1 is also not required by persons who operate an X-ray emission source on which the electron acceleration voltage exceeds 20 kV, if 1) the X-ray emission source has been granted a type approval and 2) it is adequately indicated on the X-ray emission source that i) X-ray are generated, ii) the device stipulated by the manufacturer or importer guarantees that the maximum permissible local does rate in accordance with the type approval is not exceeded and iii) the electron acceleration voltage must not exceed	See Annex H.	N
	Requirement – Test (SE). In Sweden, requirements according to this annex ZB, subclause 6.2.1.2 apply. (NO). In Norway, requirements according to subclause 6.2.1.2, national difference, 6.2.1.4, Note 2, and 6.3.3.2, Note 1; applied. (NO). Note 1: In Norway, exclusions are applicable for permanently connected equipment and pluggable equipment Type B only. Delete note 2. (AT). Equipment shall comply with Uc = 2.0kV in cases b) and c). (DE) a) A license is required by those who operate an X-ray emission source. b) A license in accordance with clause 1 is not required by those who operate an X-ray emission source on which the electron acceleration voltage does not exceed 20 kV, if 1) the local dose rate at a distance of 0.1m from the surface does not exceed 1µSv/h and 2) it is adequately indicated on the X-ray emission source that i) X-rays are generated and ii) the electron acceleration voltage must not exceed the maximum value stipulated by the manufacturer or importer. c) A license in accordance with clause 1 is also not required by persons who operate an X-ray emission source on which the electron acceleration voltage exceeds 20 kV, if 1) the X-ray emission source has been granted a type approval and 2) it is adequately indicated on the X-ray emission source that i) X-ray are generated, ii) the device stipulated by the manufacturer or importer guarantees that the maximum permissible local does rate in accordance with the type approval is not exceeded and	(SE). In Sweden, requirements according to this annex ZB, subclause 6.2.1.2 apply. (NO). In Norway, requirements according to subclause 6.2.1.2, national difference, 6.2.1.4, Note 2, and 6.3.3.2, Note 1, applied. (NO). Note 1: In Norway, exclusions are applicable for permanently connected equipment and pluggable equipment Type B only. Delete note 2. (AT). Equipment shall comply with Uc = 2.0kV in cases b) and c). (DE) a) A license is required by those who operate an X-ray emission source. b) A license in accordance with clause 1 is not required by those who operate an X-ray emission source on which the electron acceleration voltage does not exceed 20 kV, if 1) the local dose rate at a distance of 0.1m from the surface does not exceed 1µSv/h and 2) it is adequately indicated on the X-ray emission source that i) X-rays are generated and ii) the electron acceleration voltage must not exceed the maximum value stipulated by the manufacturer or importer. c) A license in accordance with clause 1 is also not required by persons who operate an X-ray emission source on which the electron acceleration voltage exceeds 20 kV, if 1) the X-ray emission source has been granted a type approval and 2) it is adequately indicated on the X-ray emission source that i) X-ray are generated, ii) the electron acceleration voltage exceeds 20 kV, if 1) the device stipulated by the manufacturer or importer quarantees that the maximum permissible local does rate in accordance with the type approval is not exceeded and iii) the electron acceleration voltage must not exceed the maximum value stipulated by the manufacturer or importer guarantees that the maximum permissible local does rate in accordance with the type approval is not exceeded and iii) the electron acceleration voltage must not exceed the maximum value stipulated by the manufacturer or



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	d) Furthermore, a license in accordance with clause 1 is also not required by persons who operate X-ray emission sources on which the electron acceleration voltage does not exceed 30 kV, if			
	1) the X-rays are generated only by intrinsically safety CRTs complying with Enclosure III, No.6,			
	2) the values stipulated in accordance with Enclosure III, bi, 6.2 are limited by technical measures and specified in the device and			
	3) it is adequately indicated on the X-ray emission source that the X-rays generated are adequately screened by the intrinsically safe CRT.			
Annex P C	Replace the text of this annex by:	Replaced.	N	
	See annex ZA.			
Annex Q C	Add for IEC 60529:	Added.	N	
	Note: Endorsed by EN 60529:1991 (not modified)			
	Add for IEC 60707			
	Note: Endorsed by HD441:1983 (not modified)			
	Add for IEC 61058-1:			
	Note: Endorsed by EN 61058:1992 (not modified).			



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Clause	Requirement – Test	Result – Remark	Verdict
APPENDIX	EMKO-TSE(74-SEC)207/94 TO EN 60950:1992+A1:1993+A2:1993+A3:1995+A4:1 REPORT	997+A11:1997 TEST	Р
	(IEC Publication 60950 2nd edition, 1991 + Amd.1 Amd.3, 1995 + Amd.4, 1996)	, 1992 + Amd.2, 1993 +	
	Nordic Explanations, and other information not cov 60950:1992, + A1:1993 + A2:1993 + A3:1995 + A4	ered by Appendix EN I:1997+A11:1997.	
EXPLANAT	ION FOR ABBREVIATIONS		
NF=Nordic I	Explanations and other information. DK=Denmark, F	FI=Finland, NO=Norway, SE=Sw	eden.
P=Pass, F=	Fail, N=Not applicable. Placed in the column to the	right.	
1.2.02.01 NF	(DK,FI,NO,SE). The heating test of separate power supplies of personal computers is carried out according to their rated output values marked on the power supplies.	Not a separated power supply unit.	N
1.5.01 NF	(DK,FI,NO,SE). The following capacitors are accepted across the mains: 1) X1 capacitor which complies with Publication IEC 60 384-14. 2) X2 capacitor which complies with Publication IEC 60 384-14 and which has been subjected to a pulse test according to § 12.11.2, except the value of the voltage is reduced to 2.5 kV. 3) X2 capacitor which complies with Publication IEC 60 384-14 in case the endurance test of § 12.11.2 has been modified so that the resistor of 220Ω through which the voltage of 1000 V rms is applied to the capacitor under test, is short circuited. 4) Capacitor which complies with Publication HD 195 S6, § 14.2.	Class III appliance	N
1.5.02 NF	(DK,FI,NO,SE). Transient protection components shall be installed in such a way that insulation for protection against electric shock will not be bridge. This means that transient protection components must not be connected to safety earthed parts in pluggable equipment or to other accessible parts.	No transient protection components connected to safety earthed parts.	Р
	-3.2.3 (DK,FI,NO,SE). Interconnection couplers in accordance with EN 60 320-2-2 are accepted. Outlets of non-standard types are not accepted.	No outlet.	N
1.7.01 NF	-1st dash (DK). When supplied in Denmark the appliances shall be set to 230 V .	Class III appliance	N
	-5th dash (DK). The equipment may instead be provided with a marking indicating name, trade-mark or identify of the responsible vendor.		N
2.1.04 NF	(DK,FI,NO,SE). For monitors, warning label is not required for repairing area, neither the partial shielding against contact although the voltage is> 42.4 V peak or > 60 V d.c.	No warning label required.	N
2.5.11 NF	(DK,FI,NO,SE). Due to installation fuses of 16A, the earth resistance shall always be controlled at 25 A.	Class III appliance	N



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2.6.06 NF	(DK,FI,NO,SE). The plug is regarded to be a disconnect device and therefore a single pole mains switch is acceptable (TC 74-WG 8's recommendation).		N
2.6.11 NF	(DK,FI,NO). The warning label on an appliance with two or several supply connections shall be in the official language of the country in question.	Only one supply	N
	(DK,FI,NO). UPS-appliances can be fitted with a signal lamp instead of a warning label, under the condition that the function and location of the signal lamp is correct. Audible signal is not acceptable as warning.	Equipment is not a UPS.	N
2.7.03 NF	(DK,FI,NO,SE). A single-pole protective device is acceptable.	No fuse	N
2.9.01 NF	(DK,FI,NO,SE). Pollution Degree 3 is considered applicable for the following equipment which is within the scope of this standard: Document Shredder Machines.	Equipment is not a shredding machine	N
4.2.07 NF	(DK,FI,NO,SE). If there are visible cracks on the apparatus after the mechanical strength test, the apparatus is not rejected, if it still complies with the other requirements of subclause 4.2.7.	Not required	N
4.4.04 NF	(DK,FI). Fire enclosure is required if the available power exceeds the values of a limited power source. The limited power source shall incorporate an isolating transformer and shall comply with the following: * The open-circuit voltage shall not exceed 42.4 V peak or d.c. and shall not generate voltages above the value and * The current which may be drawn for more than two minutes at any load, including short-circuit, shall not exceed 0.2 A.	Not required.	N
	(NO). A fire enclosure is not required in spots of the equipment where the available power does not exceeded 50 VA and the available voltage 42.4 V (peak) or 60 V d.c.	Not required.	N
5.4.06 NF	(DK,FI,NO,SE). Faults need not to be carried out in circuits which are supplied by an isolating transformer and which comply with the following: * The open-circuit voltage shall not exceed 42.4 V peak or d.c. and shall not generate voltages above the value and * The current which may be drawn for more than two minutes at any load, including short-circuit, shall not exceed 0.2 A.		N



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Clause	Requirement – Test Result – Remark			
APPENDIX	China National Differences according to CB Bulle REPORT (IEC Publication 60950 2nd edition, 191993 + Amd.3, 1995 + Amd.4, 1996)		Р	
	ION FOR ABBREVIATIONS Fail, N=Not applicable. Placed in the column to the	e riaht.	•	
	The minimum supply tolerance is –10%, +6%; GB4943 sub-clause 1.4.5 and 1.6.5: The minimum supply tolerance is –10%, +10% according to Chinese situation.	Class III appliance	N	
	IEC standard for plug is IEC 60083. The Chinese National standard for Plugs is GB1002-1996, which is not equivalent with IEC60083.	Class III appliance	N	



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	National Deviation		
Clause	Requirement – Test	Result – Remark	Verdict
APPENDIX	Japanese National Differences according to CB Bu 2001 REPORT (IEC Publication 60950 : 1991 + A1 + A1		Р
EXPLANAT	ION FOR ABBREVIATIONS		
P=Pass, F=	Fail, N=Not applicable. Placed in the column to the	right.	
2.9.2.1	Delete entire column headed by [Nominal mains supply voltage ≤150V (Transient rating 1500V)] in Table 3.	Class III appliance	N
	Delete >150V from column headed by "Nominal mains supply voltage >150V, ≤300V (Transient rating 2500V)" in Table 3.		
2.9.2.2	Delete entire column headed by "Nominal mains supply voltage ≤150V (Maximum transient in secondary circuit 800V see condition 6)" in Table 5	Class III appliance	N
2.9.4.4	Replacement: The following shall replace the entire existing paragraphs:	Different Japanese standard text considered.	N
	Title: Wounded components		
	BASIC, SUPPLEMENTARY, DOUBLE or REINFORCED INSULATION is permitted in a wounded component using one of the following a), b), or c) constructions or the wounded component must use interleaved insulation which complies with 2.9.4.1 or 2.9.4.2:		
	a) the winding wire is insulated with insulation complying with 2.9.4.1 other than solution based type enamel coatings.		
	b) the winding wire is insulated with extruded multi- layers or wrapped layers of tape (each layer can be tested for electric strength) which complies with 2.9.4.1 and complies with annex U.		
	c) the winding wire is insulated with extruded multi- layers or wrapped layers of tape (test can be only performed on finished winding wire) and complies with annex U.		



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	Note 1 – see also 6.4.1. As to c), the number of constructional layers applied to the conductor to determine the grade of insulation of the winding wire shall not be less than as follows:			
	if BASIC INSULATION is required, a minimum of two layers or one extruded layer			
	 if SUPPLEMENTARY INSULATION is required, a minimum of two layers or two extruded layers 			
	- if REINFORCED INSULATION is required, a minimum of three layers or three extruded layers			
	As to b) and c), in case the CREEPAGE DISTANCES between wrapped layers of tape are less than Table 6 under Pollution degree 1, the distance between layers must be reliably cement together with insulation compound complying with 2.9.7 and with the test voltage in annex U.2 (Type tests) increased to 1.6 times.			
	Note 2 – In case one layer of material is wrapped 50% or more, it is considered as two layers			
	Where two insulated wires or one bare wire and one insulated wire are contacted inside the component and cross each other at an angle between 45° and 90°, physical separation shall be provided, for example in the form of insulating sleeving or sheet material, or by applying two times of the specified insulating layer(s), to relieve mechanical stress at the crossover point.			
	The finished component shall pass ROUTINE TESTING for electric strength using the value of test voltage in 5.3.			
	Compliance is checked by visual inspection and measurement, and as specified in annex U. However, the tests are not repeated if the material data sheets confirm compliance with annex U.			
5.1	Addition: Add the following to 5) as specified in Conditions applicable to table 16, parts 1 and 2	For other than those complied with IEC standards, refer to added condition 8) below.	Р	
	With regards to 1), insulating materials complying with Japanese requirement (Refer to Japanese difference for current IEC 60335-1 (3 rd Edition) in CB Bulletin 94B), can be taken of data for that material to determine the appropriate maximum temperature rise.			



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Annex U	Replacement: ANNEX U (normative)	Replaced.	N	
	Insulated winding wires for use without interleaved insulation (see 2.9.4.4)			
	This annex specifies winding wire whose insulation may be used to provide BASIC, SUPPLEMENTARY or REINFORCED INSULATION in wound components without interleaved insulation.			
	This annex applies to round winding wire whose diameter is between 0.2mm and 1.00mm. With regard to other size, refer to IEC 60851.			
	U.1 Wire construction		N	
	If the wire is insulated with two or more spirally wrapped layers of tape, the overlap of layers shall be adequate to ensure continued overlap during manufacture of the wound component. In order to maintain the overlap of layers, wire insulation layer of wrapped layers of tape must be adequately secured.			
	U.2 Type tests		N	
	Unless it specifies, the wire shall pass the following six TYPE TESTS U.2.1 to U.2.4, carried out at a temperature between 15°C and 35°C and a relative humidity between 45% and 75%. Refer to the IEC 60851 first edition.			
	U.2.1 Electric strength		N	
	Test 13 of IEC 60851-5 (1988), 4.3.1 (test for twisted wire pairs), with a test voltage 2 times of appropriate voltage in Table 18 of this standard or 6kVr.m.s. whichever is the greater.			
	U.2.2 Adherence and flexibility		N	
	Test 8 of IEC 60851-3, with a test voltage not less than the appropriate voltage in Table 18 of this standard or 3kVr.m.s. whichever is the greater.			
	Table U.2.2.2 – Mandrel			
	Nominal diameter of Mandrel diameter conductor (mm) (mm±0.2mm) 0.20 – 0.34 4.0 0.35 – 0.49 6.0			
	0.50 - 0.74 8.0 0.75 - 1.00 10.0			
	The tension of winding wire while wire is wrapped around the mandrel, should be calculated so that it is equivalent to 118MPa±10% (118N/mm²±10%) from winding wire radial.			



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	U.2.3 Heat shock Test 9 of IEC 60851-6, 3.1 and IEC 60851-3, 5.1.1.1, with a test voltage not less than the appropriate voltage in Table 18 of this standard or 3kVr.m.s. whichever is the greater.		N
	The temperature of oven is specified in the following Table U.2.3. Table U.2.2 shows and explains required mandrel diameter and tension.		
	Test must be performed at room ambient after taking out from oven.		
	Table U.2.3 – Oven Temperature Class A E B F H (105) (120) (130) (155) (180) Oven 200 215 225 240 260 Temp. (°C±2°C)		
	U.2.4 Retention of electric strength after bending Test 13 of IEC 60851-5 (1988), 4.6.1 c, with a test voltage not less than the appropriate voltage in Table 18 of this standard or 3kVr.m.s. whichever is the greater.		N
	Table U.2.2 shows and explains required mandrel diameter and tension.		
	U.3 Routine test Winding wire is subjected to electric strength test during the production in accordance with U.3.1 and U.3.2 by wire manufacturer.		N
	U.3.1 Full-length test Winding wire is subjected to electric strength test during the production for full wire length, with a test voltage not less than the appropriate voltage in Table 18 of this standard or 3kVr.m.s. or 4.2kV peak minimum.		N
	U.3.2 Audit test Test must be carried out according to IEC 60851-5 (1988) for twisted wire pairs. Electric strength test, with a test voltage 2 times of appropriate voltage in Table 18 of this standard or 6kVr.m.s. or 8.4kV peak minimum.		N



	National Deviation		
Clause	Requirement – Test	Result – Remark	Verdict
APPENDIX	Korean National Differences according to CB Bulle REPORT (IEC Publication 60950 2nd edition, 199 1993 + Amd.3, 1995 + Amd.4, 1996)		Р
EXPLANA	TION FOR ABBREVIATIONS		
P=Pass, F	=Fail, N=Not applicable. Placed in the column to the	e right.	
General	LIMITATIONS - Voltage ratings	Class III appliance	N
	As national supply voltage is subject to be increased to 220V, an appliance rated 220V is to be allowed to obtain type approval in Korea. Either an appliance rated 110V or 220/110V is not allowed. When an appliance is supplied in Korea, it shall be set to and marked with 220V.		
	But free voltage appliance by SMPS (Switching Mode Power Supply) is allowed and it shall be marked with "100-220V".		
General	LIMITATIONS – Frequency	Class III appliance	N
	Only appliances having supply frequency of 60Hz or a frequency range including 60Hz are accepted. When an appliance is supplied in Korea, it shall be set to and marked with 60Hz.		
General	LIMITATIONS - Instruction	Instruction manual will be in	N
	Instruction manuals and appliance markings related to safety, including nameplate shall be in Korean or graphical symbols in IEC Publication 60417.	Korean.	
1.5.101	Addition: Plugs for the connection of the apparatus to the supply mains shall comply with the Korean requirements (KSC 8305).	Class III appliance	N
7	Addition:	The CISPR requirements	N
	Radio frequency interference	have to be considered with the end product.	
	The apparatus shall comply with the relevant CISPR requirements.	,	



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APPENDIX	Singapore National Differences according to CB B	ulletin, No.101A, December 2001	Р
	REPORT (IEC Publication 60950 2nd edition, 1991 1993 + Amd.3, 1995 + Amd.4, 1996)	01 + Amd.1, 1992 + Amd.2,	
EXPLANAT	ION FOR ABBREVIATIONS		
P=Pass, F=	Fail, N=Not applicable. Placed in the column to the	right.	
General	IT Power Systems are not allowed in the Republic of Singapore and all clauses related to IT Power Systems are not applicable.	Class III appliance	N
2.2.3	(a) After the first paragraph, insert the following:	Class III appliance	N
	Conditions described in IEC Publication 60068-2-3: Test Ca: Damp Heat, Steady State (temperature: 40±2°C, relative humidity: 90% to 95%) shall apply to insulation to be used under tropical conditions. The duration of the humidity conditioning is 5 days (120h) under tropical conditions.		
	(b) At the end of the last paragraph, insert the following note:		
	NOTE: The additional requirement on humidity conditioning is drawn from Clause 10.2 of IEC 60065:1985.		



	National Deviation		
Clause	Requirement – Test	Result – Remark	Verdict
APPENDIX	Israel National Differences according to CB Bulleti REPORT (IEC Publication 60950 2nd edition, 199		Р
	1993 + Amd.3, 1995 + Amd.4, 1996)		
	TION FOR ABBREVIATIONS		
P=Pass, F=	Fail, N=Not applicable. Placed in the column to the	e right.	
1.2.12.1	TN Power Distribution:	Class III appliance	N
	The mains system in Israel is TN-S or TN-C or TN-C-S.		
1.7	Marking and Instructions:	Shall be evaluated in national	N
	The package of the equipment shall be marked in Hebrew, and shall include: (a) The name of the manufacturer	(
	(b) The country of production		
	(c) The year of production		
	(d) The name and the address of the importer		
	(e) The marking shall be on a rectangular label (of at least 50mm X 24mm)		
	(f) The letters height should be at least 2mm		
	(g) The color of the label shall be in contrast to the color of the package.		
1.7.14	Language:	Shall be evaluated in national	N
	All instructions and warnings concerning safety should be in the Hebrew language	mark approval.	
2.101	EMC:	Shall be provided and	N
	The equipment shall comply with SI 961 part 6 (CISPR 22 + 24)	evaluated in national mark approval.	
3.2.2	Permanently connected equipment:	Class III appliance	N
	Additional note below table 10:		
	In Israel the diameter of the conduit shall comply with the Electricity Law.		



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APPENDIX	Australian National Differences according to CB B 2001 (AS/NZS 3260-1993) REPORT (IEC Publication 60950 2 nd edition, 199+ Amd.3, 1995 + Amd.4, 1996)	:	Р
EYDI ANAT	ION FOR ABBREVIATIONS		
	Fail, N=Not applicable. Placed in the column to the	right	
	Add: "TT power systems are not permitted in Australia or	-	
1.2.12.2	New Zealand."	Added.	N
1.2.12.3	Add: "IT power systems are not permitted in Australia or New Zealand." Note: Australia and New Zealand principally use multiple-earthed neutral (MEN) systems but allow TN-C for installations using metal-sheathed cables.	Added.	N
1.5.1	Add to paragraph 1: "or the other relevant Australian or New Zealand Standard."	Added.	Р
1.5.2	Add to the first and third dashed items after the words "IEC component standard": "or the other relevant Australian or New Zealand Standard."	Added.	Р
1.6.4	Add: "IT power systems are not permitted in Australia or New Zealand."	Added.	N
1.7.14	Add to paragraph 1: "In Australia and New Zealand all safety instructions shall be in English."	User manual is in English.	Р
2	Add after clause 2: "For the limit of direct current from a.c. appliances, refer to AS/NZS Appendix 3."	See Appendix 3.	N
3.2.2	Substitute for table 10: "For sizes of cables and conduits in Australia, refer to AS 3000."	Class III appliance	N
3.2.4	Substitute for table 11: "For sizes of conductors in power supply cords use following Table 11: Table 11	Class III appliance	N
4.4.1	Sizes of conductors in power supply cords Rated current (A) Cross-section area (mm²) > $0.2 \le 3$ 0.5^* > $3 \le 7.5$ 0.75 > $7.5 \le 10$ 1 > $10 \le 16$ 1.5 > $16 \le 25$ 2.5 > $25 \le 32$ 4 > $32 \le 40$ 6 > $40 \le 63$ 10 * This nominal cross-section area is only allowed for class II appliances if the length of the power supply cord, measured between the point where the cord, or cord guard, enters the appliance, and the entry to the plug, does not exceed 2m (0.5 mm² three-core supply flexible cords are not permitted; see Note 2 to table 2.17 of AS/NZS 3191).		
4.4.1	refer to Appendix 2."	Not applied for Appendix 2.	N



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6.4.2	Replace the first paragraph by: "In Australia, compliance with 6.4.1 is checked by both the test of 6.4.2.1 and 6.4.2.2". Delete the fourth paragraph 'The choice of testsmanufacturer'.	No TNV	N
6.4.2.1	Replace Clause 6.4.2.1 by: Impulse test The electrical separation is subjected to ten impulses of alternating polarity, using the impulse test generator of Annex N. The interval between successive impulses is 60s and the initial voltage Uu is: - in case (a) of 6.4.1, 7kV for hand-held telephones and for handsets; and 2.5kV for other equipment; and - in case (b) and (c) 1.5kV. Notes: 1 The seven kV impulse is to simulate measured lighting surges in typical Australian rural and semi rural network lines. 2 The value of 2.5kV has been chosen primarily to ensure adequacy of the insulation concerned, but not necessarily to simulate likely overvoltages.	No TNV	N
6.4.2.2	Replace Clause 6.4.2.2 by: Electric strength test The electrical separation is subjected for 60s to a substantially sinusoidal voltage having a frequency of 50Hz or 60Hz, or to a d.c. voltage equal to the peak value of the prescribed a.c. voltage. The a.c. test voltage is: - in case (a) of 6.4.1 3kV - in case (b) and (c) 1.5kV. The voltage is gradually raised from zero to the prescribed voltage and then held at that value for 60s. NOTE: 1. Where there are capacitors across the insulation under test, it is recommended that d.c. test voltages are used. 2. The 3 kV and 1.5kV values have been determined considering the low frequency induced voltages from the power supply distribution system.	No TNV	N
Annex A	Add. after Annex title: Alternative resistance to fire test-determination if ignitability and combustion propagation	Not applied for this Appendix	N
Appendix 2	Add. Appendix ALTERNATE RESISTANCE TO FIRE TEST DETERMINATION OF IGNITABILITY AND COMBUSTION PROPAGATION	Not applied for this Appendix	N
X2.0	GENERAL This test is an alternative to the testes in Annex A to allow approval of equipment which has inadequate documentation to verify having been tested to Annex A.		N
X2.1	SOLID INSULATION MATERIALS AND NON- METALLIC ENCLOSURES		N



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X2.1.1	GENERAL REQUIREMENTS Parts of non metallic material shall be resistant to ignition and spread of fire. This requirement does not apply to decorative trims, knobs wiring insulation and other parts not likely to be ignited or to propagate flames from inside the equipment.		N	
	Compliance is checked by the tests of Clauses X2.1.2, X2.1.3 and X2.1.4 as applicable and if necessary by the test of X2.2			
X2.1.2	NON-METALLIC MATERIAL Relevant parts of non-metallic material are subjected to the glow-wire test of AS/NZS 3350.1, the test being made at a temperature of 550°C.		N	
	The 550°C glow-wire test need not be carried out on parts which are made of material classified as FH 3-40 mm/min or better according to IEC 60707. The sample of material submitted to the test of IEC 60707 shall be thicker than the relevant part.			
	Insulating material of winding bobbins and formers are subject to the glow-wire test of AS/NZS 3350.1, the test being made a temperature of 650°C.			
	Base material of printed circuit boards with any coating or encapsulation to the needle-flame test of AS/NZS 3350.1, however, flames shall have extinguished with 15s of removal of the test flame. The flame shall be applied to an edge of the board having the lowest heat sink effect, with the board orientated in its normal position of use and at a point, if possible, not less than 10mm from a corner.			
	The needle-flame test is not carried out on base material which is made of material classified as FV-0 according to IEC 60707. The sample of material submitted to the test of IEC 60707 shall be no thicker than that of the relevant printed circuit board.			
	Notes: 1. The test is not carried out on printed circuit boards contained in a metal enclosure that prevents flames			
	or burning droplets from escaping. 2. If the printed circuit board is tested with components mounted and a component ignites during the test, this would not constitute a failure of the printed circuit board material unless it is ignited by the component.			
X2.1.3	ATTENDED EQUIPMENT For equipment which is operated while attended, parts of insulating material supporting, in contact with or in close proximity to current carrying connections, other than those in SELV circuits are subject to the glow-wire test AS/NZS 3350.1, the test being made at a temperature of 650°C. However parts of insulating material supporting, in contact with or in close proximity to screw connections which carry a current exceeding 0.5A during normal operation and which are likely to be made or remade during installation, user maintenance or when replacing a supply cord assembled with the appliance by Type X attachment, are subject to the glow-wire test AS/NZS 3350.1, the test being made at a temperature of 750°C.		N	



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	National Deviation			
Clause	Requirement – Test	Result – Remark	Verdict	
	Notes:1. The test is not carried out on parts supporting welded connections.2. 'In close proximity' is considered to be a distance not exceeding 3mm.			
X2.1.4	UNATTENDED EQUIPMENT For equipment which is operated while unattended, parts of insulating material supporting, in contact with or in close proximity to current carrying connections, other than those in SELV circuits are subject to the glow-wire test AS/NZS 3350.1, the test being made at a temperature of 750°C. However parts of insulating material supporting, in contact with or in close proximity to screw connections which carry a current exceeding 0.5A during normal operation and which are likely to be made or remade during installation, user maintenance or when replacing a supply cord assembled with the appliance by Type X attachment, are subject to the glow-wire test AS/NZS 3350.1, the test being made at a temperature of 850°C. Notes: 1. The test is not carried out on parts supporting welded connections. 2. 'In close proximity' is considered to be a distance not exceeding 3mm. During the application of glow-wire, the height and duration of flames are measured. In addition, for parts which withstand the glow-wire test but which flame during the application of the glow-wire, the surrounding parts are subject to the needle-flame test of AS/NZS 3350.1 for the measured duration of the flame after or 30s, whichever is the least if - a) They are positioned within a distance equal to the height of the flame; and b) they are likely to be impinged upon by the flame However, surrounding parts shielded by a separate barrier which meets the needle-flame test are not tested. The needle-flame test is not carried out on parts which are made of material classified as FV-0 or FV-1 according to IEC 60707. The sample of material submitted to the test of IEC 60707 shall be no thicker than the relevant part. Note: Parts likely to be impinged upon by the flame are considered to be those within the envelope of a vertical cycling having a radius of 10mm and a height equal to the height of flame, positioned above the point of the material supporting, in contact with or in close proximity to connections.		N	



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National Deviation			
Clause	Requirement – Test	Result – Remark	Verdict
X2.2	ADDITIONAL TEST REQUIREMENTS If parts, other than enclosures, do not withstand the test of clauses X2.1.3 or X2.1.4, by failure to extinguish within 30s after removal of the glow wire tip, the needle-flame test of AS/NZS 3350.1 is made on all parts of non-metallic material which are within a distance of 50mm or which are likely to be impinged upon by flame during the test of clauses X2.1.3 or X2.1.4. Parts shielded by a separate barrier which meets the flame-needle test are not tested. Notes: 1. If the enclosure does not withstand the glow-wire test the appliance is considered to have failed to meet the requirement of Appendix 2 without the need for consequential testing. 2. If other parts do not withstand the glow-wire test due to ignition of the tissue paper and if this indicates that burning or glowing particles can fall onto an external surface underneath the appliance, the appliance is considered to have failed to meet the requirement of Appendix 2 without the need for consequential testing. 3. Parts likely to be impinged upon by the flame are considered to be those within the envelope of a vertical cylinder having a radius of 10mm and a height equal to the height of the flame, positioned above the point of the material supporting, in contact with or in close proximity to connections. The needle-flame test need not be carried out on parts which are made of classified as FV-0 or FV-1 according to IEC 60707. The sample of material submitted to the test of IEC 60707 shall be no thicker than the relevant part.		N
Appendix 3	Add Appendix: D.C. COMPONENTS FROM A.C. EQUIPMENT Equipment shall be designed so that in normal use the value of any direct current in the equipment neutral will not contribute unduly to the failure of the installation earth electrode by corrosion. Any device such as isolating transformer intended to prevent direct current in the supply shall be an integral part of the equipment. Compliance is checked by inspection and by operating the equipment (a) at the rated voltage under the conditions specified in Clause 5.1; (b) on a supply free from any d.c. component; and (c) in the maximum d.c. producing mode, if any, but not exceeding normal load; and measuring the d.c. component in the supply neutral caused by the equipment as described below.		N



	National Deviation			
Clause	Requirement – Test	Result – Remark	Verdict	
	If it is evident from the design of the equipment that there will be no d.c. component, e.g. equipment provided with a full-wave mains power supply or a mains isolating transformer, this test is not conducted. The permissible direct current in the equipment neutral			
	shall not exceed (i) for equipment considered as operating continuously 5 mA; or			
	(ii) for other than continuously operated equipment where t is the assessed daily average operating time, in hours(5*24)/t mA			
	For equipment which is not continuously operated but includes a component or a device which is continuously energized, e.g. stand-by control or remote switching device, the summation of the product of the direct current from the control device over 24h and the direct current from the equipment for its assessed daily average operating time in hours shall not exceed 120mAh per day.			
	The maximum value of direct current permitted in the neutral is 1.44A which could be applicable to equipment with an assessed average daily operating time of 5 min. or less.			
	Notes:			
	When determining the assessed daily average operating time the approvals authority may accept evidence supplied by the manufacturer.			
	The d.c. peak value due to transient starting effects is ignored.			
	The measuring system used to measure any direct current produced shall have a sufficiently high normal (series) mode rejection ratio, by the use of a low pass filter if necessary, to ensure that an overall uncertainty of less than 10% can be achieved.			



	National Deviation	1	
Clause	Requirement – Test	Result – Remark	Verdict
APPENDIX	Canadian National Differences according to CB B 2001 (IEC Publication 60950 2nd edition, 1991 + Amd.		Р
EVOLANA	Amd.3, 1995 + Amd.4, 1996) TION FOR ABBREVIATIONS	····	
	=Fail, N=Not applicable. Placed in the column to the	a right	
	Special National Cond		
1.1.1	All equipment installations are required to be in accordance with the Canadian Electrical Code (CEC). Part 1, CAN/CSA C22.1, and with National Electrical Code (NEC), ANSI/NFPA 70, and, unless marked or otherwise identified, the Standard for the Protection of Electronic Computer/Data-Processing Equipment, ANSI/NFPA 75.	Class III appliance	N
1.7.1	Equipment for use on supply systems with a neutral and more than one phase conductor (e.g. 120/240 V, 3-wire) require a special marking format for electrical ratings. A voltage rating that exceeds an attachment plug cap rating is only permitted if it does not exceed the extreme operating conditions in Table 2 of CAN/CSA C22.2 No. 235, and if it is part of a range that extended into the Table 2 "Normal Operating Conditions." Likewise, a voltage rating shall not be lower than specified "Normal Operating Condition," unless it is part of a range that extends into the "Normal Operating Conditions."	Class III appliance	N
2.5.9	Terminals for permanent wiring are required to be suitable for U.S./Canadian wire gauge sizes and be rated 125 percent of the equipment rating.		N
2.5.11	When subject to impedance testing, protective earthing and bonding are required to be tested to the additional test conditions that originate in CAN/CSA C22.2 No. 0.4.	Class III appliance	N
2.6.2	Motor control devices are required for cord-connected equipment with a motor if the motor (a) has a nominal voltage rating greater than 120V, (b) in rated more than 12 A, or (c) is rated more than 1/3 hp (locked rotor current over 43 A).	Not motor control device.	N
2.6.8	Vertically-mounted disconnect switches and circuit breakers are required to have the "on" position indicated by the handle in the up position.	No vertically mounted disconnect switch or circuit breaker.	N
2.6.11	For computer room applications, equipment with battery systems capable of supplying 750 VA for five minutes are required to have a battery disconnect means that may be connected to the computer room remote power off circuit.		N



National Deviation			
Clause	Requirement – Test	Result – Remark	Verdict
2.7.1	Suitable NEC/CEC branch circuit protection is required for all standard supply outlets and medium-base or smaller lampholders if the supply branch circuit protection is not suitable.	No power outlet.	N
	Power distribution transformers distributing power at 100 volts or more, and rated 10KVA or more, required transformer overcurrent protection.		
	Panelboards provided as part of information technology equipment are required to have suitable overcurrent protection.		:
2.7.6	Fuses provided in the earthed circuit conductor (neutral) are only permitted for equipment rated 125V, 15A.	Class III appliance	N
2.11	Where a fuse is used to provide Class 2, Limited Power Source, or TNV current limiting, it shall not be operator-accessible unless it is not interchangeable.		N
3.1.12	For lengths exceeding 2 m, external interconnecting flexible cord and cable assemblies are required to be suitable cable type (e.g. DP, CL2) described in the NEC.		N
	For lengths 3.05 m or less, external interconnecting flexible cord and cable assemblies which are not types specified in the		
	CEC/NEC are required to have special construction features and identification markings.		
3.2	Wiring methods (terminals, leads, etc.) used for the connection of the equipment to the mains shall be in accordance with the CEC/NEC.		N
3.2.1	Power supply cords are required to have attachment plugs rated not less than 125 percent of the rated current of the equipment.	Class III appliance	N
3.2.2	Permanent connection of equipment to the mains by a power supply cord is not permitted, except for certain equipment, such as ATMs.	Class III appliance	N
3.2.4	Power supply cords are required to be not longer than 4.5 m in length.	Class III appliance	N
	Flexible power supply cords are required to be compatible with article 400 of the NEC		
3.2.8	Permanently connected equipment is required to have a suitable wiring compartment and wiring bending space.	Class III appliance	N
3.3	Wiring terminals and associated spacings for field wiring connections shall comply with CAN/CSA No. 0.	Class III appliance	N
3.3.3	Wiring binding screws are not permitted to attach conductors larger than 10 AWG (5.3mm²).	No wire binding screws used	N



National Deviation			
Clause	Requirement – Test	Result – Remark	Verdict
4.3.12	Equipment with lasers is required to meet Code of Federal Regulations 21 CFR 1040 and Canadian Radiation Emitting Devices Act, REDR C 1370, as applicable.	No Laser.	N
4.4.1	For computer room application, automated information storage systems with combustible media greater than 27 cubic feet are required to have a provision for connection of either automatic sprinklers or a gaseous agent extinguishing system with an extended discharge.		N
4.4.4	For computer room applications, enclosures with combustible material measuring greater than 0.9 m² or a single dimension greater than 1.8 m, are required to have flame spread rating of 50 or less. For other applications, enclosures with the same dimensions require a flame spread rating of 200 or less.		N
4.4.8	The maximum quantity of flammable liquid stored in equipment is required to meet NFPA 30.	No liquid.	N
Annex H	Equipment that produces ionizing radiation is required to comply with Code of Federal Regulations, 21 CRF 1020 and/or Canadian Radiation Emitting Devices Act, REDR C1370, as applicable.		N
	Other Differences		
1.5.1	Components of equipment must be suitable for the application, and must comply with the requirements of the equipment standard and the Canadian or U.S. components standards, as far as they may apply.	Components are UL or CSA approved, see component list 1.5.1.	Р
	The acceptance will be based on the following:		
	A) A component certified by a Canadian or U.S. NCB to a Canadian or U.S. component standard will be checked for correct application and use in accordance with its specified rating. Where necessary, it will also be subjected to the applicable tests of the equipment standard.		
	B) A component which has a CB Test Certificate for compliance with a relevant IEC component standard will be checked for correct application and use in accordance with its specified ratings. Where necessary, it will also be subjected to the applicable tests of the equipment standard, and to the applicable tests of the Canadian and U.S. component standard, under the conditions occurring in the equipment.		
	C) A component which has no approval as in A) or B) above or which is used not in accordance its specified ratings, will be subjected to the applicable tests of the equipment standard, and to the applicable tests of the Canadian or U.S. component standard, under the conditions occurring in the equipment.		
	D) Some components may require annual re-testing which may be carried out by the manufacturer, CSA or another laboratory.		



	National Deviation			
Clause	Requirement – Test	Result – Remark	Verdict	
3.4	Equipment connected to a centralized d.c. power system is required to meet special earthing wiring and marking requirements.		N	
4.1.6	Wall and ceiling mounted equipment is required to comply with special loading tests.		N	
4.1.7	Equipment with handles is required to comply with special loading tests.		N	
4.2.9	Enclosures around C.R.T's having a diagonal dimension of 160 mm or more are required to reduce the risk of injury due to the implosion of the CRT.	No CRT used.	N	
6.2.1.1	Under normal operating conditions, the maximum acceptable TNN-2 and TNV-3 circuit levels for other than ringing signals are: (Uac/42.4 + Udc/60) < = 1.	No TNV.	N	
6.2.2.2	Access restrictions to TNV-2 and TNV-3 circuits in battery compartment also apply to TNV-1 circuits.	No TNV.	N	
6.3.4.3	Equipment intended to receive telecommunication ringing signals is required to comply with special leakage current measurement tests.	No TNV.	N	
6.4.1	Enamel coating on winding wire not considered electrical separation unless subject to special investigation.	No TNV.	N	
6.4.3	Equipment connected to a telecommunications network and supplied with an earphone intended to be held against the ear is required to comply with special acoustic pressure tests.	No TNV.	N	
6.5	Where a fuse is used to provide current limiting, it shall not be operator-accessible unless it is not interchangeable.	No TNV.	N	
6.6	Equipment intended for connection to telecommunication network outside plant cable is required to be protected against overvoltage from power line crosses.	No TNV.	N	
M.2	Continuous ringing signals up to 16 mA only are permitted if subject to special installation and performance restrictions.	No TNV.	N	



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	National Deviation	1	
Clause	Requirement – Test	Result – Remark	Verdict
APPENDIX	US National Differences according to CB Bulletin for IEC 60950 (1991) 2nd Edition, Amendment No. (1993), Amendment No. 3 (1995) and Amendmen	o.1 (1992), Amendment No. 2	Р
EXPLANAT	ION FOR ABBREVIATIONS		1
P=Pass, F=	Fail, N=Not applicable. Placed in the column to the	e right.	
The following	g national differences are based on national regula	tory requirements.	
1.1.1	All equipment installations are required to be in accordance with the National Electrical Code (NEC), ANSI/NFPA 70, and unless marked or otherwise identified, the Standard for the Protection Electronic Computer/Data-Processing Equipment, ANSI/NFPA 75.	Class III appliance	N
1.7.1	Equipment for use on supply systems with a neutral and more than one phase conductor (e.g. 120/240V, 3-wire) require a special marking format for electrical rating.	Class III appliance	N
	A voltage rating that exceeds an attachment plug cap rating is only permitted if it does not exceed the extreme operating conditions in Table 2 of CAN/CSA C22.2 No. 235, and if it is part of a range that extends into the Table 2 "Normal Operating Conditions". Likewise, a voltage rating shall not be lower than the specified "Normal Operating Conditions", unless it is part of a range that extends into the "Normal Operating Conditions".		
2.5.9	Terminals for permanent wiring are required to be suitable for U.S./Canadian wire gauge sizes and be rated 125 percent of the equipment rating.		N
2.5.11	The capacity of the connection between the earthing terminal and parts required to be earthed is required to comply with CAN/CSA C22.2 No. 0.4.	Class III appliance	N
2.6.2	Motor control devices are required for cord-connected equipment with a motor if the motor (a) has a nominal voltage rating greater than 120V, (b) is rated more than 12A, or (c) is rated more than 1/3 hp (locked rotor current over 43A).	Not motor control device.	N
2.6.8	Vertically mounted disconnect switches and circuit breakers are required to have the "on" position indicated by the handle in the "up" position.	Not vertically mounted disconnect switch or circuit breaker.	N
	For computer room applications, equipment with battery systems capable of supplying 750VA for five minutes are required to have a battery disconnect means that may be connected to the computer room remote power-off circuit.	No such battery.	N



National Deviation			
Clause	Requirement – Test	Result – Remark	Verdict
2.7.1	Suitable NEC/CEC branch circuit protection is required for all standard supply outlets and medium-base or smaller lampholders if the supply branch circuit protection is not suitable. Power distribution transformers distributing power at 100 volts or more, and rated 10kVA or more, require		N
	transformer overcurrent protection. Panelboards provided as part of information technology equipment are required to have suitable overcurrent protection.		
2.7.6	Fuses provided in the earthed circuit conductor (neutral) are only permitted for equipment rated 125V, 15A.	Class III appliance	N
2.11	Where a fuse is used to provide current limiting, it shall not be operator-accessible unless it is not interchangeable.	Class III appliance	N
3.1.12	For lengths exceeding 3.05m, external interconnecting flexible cord and cable assemblies are required to be a suitable cable type (e.g. DP, CL2) described in the NEC.		N
	For length 3.05m or less, external interconnecting flexible cord and cable assemblies which are not types specified in the NEC are required to have special construction features and identical markings.		
3.2	Wiring methods (terminals, leads, etc.) used for the connection of the equipment to the mains shall be in accordance with the NEC and CEC.		N
3.2.1	Power supply cords are required to have attachment plugs rated not less than 125 percent of the rated current of the equipment.		N
3.2.2	Permanent connection of equipment to the mains by a power supply cord is not permitted.		N
3.2.4	Power supply cords are required to be no longer than 4.5m in length. Flexible power supply cords are required to be compatible with Article 400 of the NEC and Table 12 of		N
3.2.8	the CEC. Permanently connected equipment is required to have a suitable wiring compartment and wiring bending space.		N
3.3	Wiring terminals and associated spacings for field wiring connections shall comply with CSA C22.2 No. 0.		N
3.3.3	Wire binding screws are not permitted to attach supply conductors larger than 10 AWG (5.3mm²).		N
4.3.12	Equipment with lasers is required to meet Code of Federal Regulations 21CFR 1040 and Canadian Radiation Emitting Devices Act, REDR C1370.	No Laser.	N



National Deviation				
Clause	Requirement – Test	Result – Remark	Verdict	
4.4.1	For computer room applications, automated information storage systems with combustible media greater than 27 cubic feet are required to have a provision for connection of either automatic sprinklers or a gaseous agent extinguishing system with an extended discharge.		N	
4.4.4	For computer room applications, enclosures with combustible material measuring greater than 0.93mm² or having a single dimension greater than 1.8m are required to have a flame spread rating of 50 or less. For other applications, enclosures with the same dimensions require a flame spread rating of 200 or less.		N	
4.4.8	The maximum quantity of flammable liquid stored in equipment is required to meet NFPA 30.	No liquid.	N	
The followi	ng national differences are based on requirements other that	an national regulatory requirements.		
1.5.1	Some components and materials associated with the risk of fire, electric shock, or personal injury are required to have component or material ratings in accordance with the applicable national (U.S. and Canadian) component or material requirements. These components include:	Components are UL approved, see component list 1.5.1.	P	
	attachment plugs, cathode ray tubes, circuit breakers, communication circuit accessories, cord sets and power supply cords, enclosures (outdoor), flexible cords and cables, fuses, fuseholders, ground-fault current interrupters, industrial control equipment, insulating tape, lampholders, limit controls, printed wiring, protectors for communication circuits, receptacles, solid state controls, supplementary protectors, surge suppressors, switches, thermal cutoffs, thermostats, tubing, wire connectors, and wire and cables.			
3.4	Equipment connected to a centralized d.c. power system is required to meet special earthing, wiring and marking requirements.		N	
4.1.6	Wall and ceiling mounted equipment is required to comply with special loading tests.		N	
4.1.7	Equipment with handles is required to comply with special loading tests.		N	
4.2.9	Enclosures around CRT's with a face area of 160mm or more are required to reduce the risk of injury due to the implosion of the CRT.	No CRT used.	N	



National Deviation				
Clause	Requirement – Test	Result – Remark	Verdict	
6.2.1.1	The maximum acceptable TNV circuit levels for other than ringing signals are:	No TNV.	N	
	normal condition-			
	$(Uac/42.4 + Udc/42.4 \le 1 \text{ for Udc} \le 21.2 (Uac/32.8 + Udc/60) \le 1 \text{ for Udc} > 21.2$			
	abnormal conditions-			
	(Uac/70.7 + Udc/120) ≤1			
6.2.2.2	Access restrictions to TNV-2 and TNV-3 circuits in battery compartments also apply to TNV-1 circuits.	No TNV.	N	
6.3.4.3	Equipment intended to receive telecommunication ringing signals is required to comply with special leakage current measurement test.	No TNV.	N	
6.4.1	Enamel coating on winding wire are not considered electrical separation unless subjected to special investigation.	No TNV.	N	
6.4.3	Equipment connected to a telecommunication network and supplied with an earphone intended to be held against the ear is required to comply with special acoustic pressure tests.	No TNV.	N	
6.5	Equipment intended to provide power over the telecommunication wiring system is required to limit output current to values which will not damage the telecommunication wiring system.	No TNV.	N	
6.6	Equipment intended for connection to telecommunication network outside plant cable is required to be protected against overvoltage.	No TNV.	N	
M.2	Continuous ringing signals up to 16mA only are permitted if subjected to special installation and performance restriction.	No TNV.	N	