Contents

Cooperating organisations		6		
Acknowledgements			7	
Preface				
Introduction				
Chapter 1 General requirements				
1.1	Safety		11	
1.2	Require	ed competence	12	
1.3	The client			
	1.3.1	Certificates and Reports	12	
	1.3.2	Rented domestic and residential accommodation	12	
1.4	Additio	ns and alterations	13	
1.5	Record	l keeping	13	
Cha	apter 2	2 Initial verification	15	
2.1	Purpos	se of initial verification	15	
2.2	Certific	cates	16	
2.3	Require	ed information	17	
2.4	Scope		17	
2.5	Freque	ency of subsequent inspections	17	
2.6	Initial inspection			
	2.6.1	General procedure	18	
	2.6.2	Comments on individual items to be inspected	18	
	2.6.3	Inspection checklist	25	
2.7	Initial testing			
	2.7.1	Test results	31	
	2.7.2	Electrical Installation Certificate	31	
	2.7.3	Model forms	32	
	2.7.4	The sequence of tests	32	
	2.7.5	Continuity of protective conductors, including main and supplementary bonding	32	
	2.7.6	Continuity of ring final circuit conductors	35	
	2.7.7	Insulation resistance	39	
	2.7.8	Confirming SELV or PELV circuits by insulation testing	42	
	2.7.9	Testing of electrically separated circuits	43	

	2.7.10	Protection by barriers or enclosures provided during erection	44	
	2.7.11	Proving and testing of non-conducting location (insulation		
		resistance/impedance of floors and walls)	45	
	2.7.12	Polarity testing	47	
	2.7.13	Earth electrode resistance testing	48	
	2.7.14	Protection by automatic disconnection of supply	51	
	2.7.15	Earth fault loop impedance verification	52	
	2.7.16	Prospective fault current, I _{pf}	54	
	2.7.17	Phase sequence testing	57	
	2.7.18	Operational and functional testing of RCDs	58	
	2.7.19	Other functional testing	59	
	2.7.20	Verification of voltage drop	59	
	2.7.21	Verification in medical locations	60	
	2.7.22	Verification of electromagnetic disturbances	60	
Cha	pter 3	Periodic inspection and testing	61	
3.1	Purpos	e of periodic inspection and testing	61	
3.2	Necess	ity for periodic inspection and testing	61	
3.3	Electric	ity at Work Regulations	62	
3.4	Design		62	
3.5	Routine	e checks	63	
3.6	Require	ed information	63	
3.7	Freque	ncy of periodic inspections	64	
3.8	Requirements for inspection and testing			
	3.8.1	Scope	66	
	3.8.2	Process – prior to carrying out inspection and testing	66	
	3.8.3	General procedure	67	
	3.8.4	Setting inspection and testing samples	68	
3.9	Periodi	c inspection	70	
	3.9.1	Example checklist of items that require inspection	70	
3.10	Periodi	c testing	75	
	3.10.1	General	75	
	3.10.2	Tests to be made	75	
	3.10.3	Additional notes on periodic testing	76	
3.11	Electric	al Installation Condition Report	79	
3.12		c inspection of installations to an earlier edition of BS 7671 or	0.0	
	the IEE	Wiring Regulations	80	
	•	Test instruments and equipment	81	
4.1		nent standard	81	
4.2		nent accuracy	81	
4.3		sistance ohmmeters	82	
4.4		on resistance testers	83	
4.5		ault loop impedance testers	83	
4.6	Earth e	lectrode resistance testers	84	

4.7	RCD testers		
4.8	Phase rotation instruments		
4.9	Thermographic equipment	85	
Cha	pter 5 Forms	89	
5.1	Initial verification (inspection and testing) forms	89	
5.2	Minor works	89	
5.3	Periodic inspection and testing	90	
5.4	Model forms for certification and reporting	90	
App	pendix A Maximum permissible measured earth fault loop impedance	111	
A1	Tables	111	
A2	Appendix 14 of BS 7671:2008	114	
A3	Methods of adjusting tabulated values of $Z_{\mbox{\scriptsize s}}$	115	
App	pendix B Resistance of copper and aluminium		
•	conductors	119	
B1	Standard overcurrent devices	121	
B2	Steel-wire armour, steel conduit and steel trunking	122	
Ind	ndex		