



ELECTRICAL INSTALLATION CONDITION REPORT

Electrical Testing Company

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EL1 1EL

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We are an Approved Contractor enrolled with the National
Inspection Council for Electrical Installation Contracting.
37, Albert Embankment, London SE1 7UJ Enrolment No.
AB999999

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defaced/altered.

Report Number:

ECR_15-04-2013_ETC001_FS_32846_000003

A. Details of the Client

Client: **Xample Car Dealership**
Address: **Xample Trading Estate**
Xample Road
Xample
XX1 1XX

Purpose for Which This Report is Required:
To assess compliance with BS 7671

B. Details of the Installation

Occupier: **Xample Car Dealership**
Address: **Xample Trading Estate**
Xample Road
Xample
XX1 1XX

Description of Premises: **Commercial**
Estimated Age of the Electrical Installation: **10.00 years**
Evidence of Alterations and Additions: **Yes**
Estimated Age: **2 years**

Date of Last Inspection: **01/07/2007**

Records Available: **Yes**

C. Extent and Limitations of the Inspection

Extent of the electrical installation covered by this report:

Complete installation. Where remedial works have been carried out at the time of test, data has been updated.

Limitations

- Where fluorescent fittings would require every fitting to be disconnected, or electronic equipment (potential risk of damage to electrical components) is part of circuits to be tested, the insulation resistance test will only have been carried out by between phase/neutral (linked together) and earth. The phase to neutral measurement will not have been measured and therefore not recorded.
- Functional testing of fire alarms and emergency lighting has not been carried out. This will if requested be carried out under a separate report.
- Where circuits have been "Untraced", "Unable to gain access to carry out tests" or "Unable to shut down to carry out tests", this will be stated under section "N. Distribution Board / Circuit Observations and Recommendations"
- The list of deviations recorded in sections "M. Site Observations" and "N. Distribution Board / Circuit Observations and Recommendations" cannot be taken as an exhaustive list. Where deviations have been recorded as a Code FI (further investigation required), further deviations maybe found by the competent person carrying out the investigation.
- No testing has been carried out above a height of 3.5 metres. If testing is requested, the client is to provide appropriate access equipment with trained personnel as necessary unless otherwise agreed. An attempt may be made to calculate an earth loop impedance reading above 3.5 metres by estimating the length of circuit and using the R1 + R2 method. If this method is used it will be recorded as below in section "N. Distribution Board / Circuit Observations and Recommendations." "Unable to gain access to carry out measured earth loop tests, figures entered are R1 + R2 (Ohms) based on the appropriate measured length of circuit. (This figure is for guidance only)" Polarity and earth continuity have not been tested and therefore not recorded.
- No extra-low circuits have been tested with regard to burglar, fire alarm, equipment/plant control circuits and emergency lighting systems (central battery type). The 240-Volt supplies to these items of equipment will have been tested where access to equipment panels could be gained.

7. Under section "F. Supply Characteristics and Earthing Arrangements", measurement Z_e can only be accurately obtained with the electrical system de-energised and the main earthing conductor isolated from the installation. Where this is not practicable for safety considerations, the main earthing conductor will not be disconnected and that Z_e becomes Z_{db} .
8. Where suspicion that items of equipment contains asbestos (e.g. fuse flash arrestors), fuses will NOT be removed. Therefore, fuse type and size will not be verified or recorded and minimal testing and recording (see note below) of the equipment containing asbestos will be carried out. An observation will be recorded "Unable to gain access to carry out full testing of equipment due to the presence of asbestos", category Code FI (further investigation required). Note: Restricted to cable type and size, earth loop PFC and overall insulation resistance tests if accessible without dismantling the equipment.

This inspection has been carried out in accordance with BS 7671 : 2008 (IEE Regulations)

Cables concealed within trunking and conduits, or cables and conduits concealed under floors, in roof spaces and generally within the fabric of the building or underground have not been inspected.

D. Next Inspection

The interval below is based upon all observations and recommendations being carried out to bring the electrical installation up to current standards.

I/We recommend that this installation is further inspected and tested after an interval of not more than **60 Months** .

E. Declaration

To the best of our knowledge and belief we confirm that the details recorded above and in the attached Observation and Circuit Test Results are an accurate assessment, within the extent and limitations specified at C, of the condition of the electrical installation at B above.

Inspected and Tested By: Fred Sparks (Test Engineer)

Reviewed By:



Bill Gates (Qualifying Manager) on 13/05/2013

F. Supply Characteristics and Earthing Arrangements

Earthing Arrangements: **TN-C-S**

Number and Type of Live Conductors: **AC 3-phase 4-wire 400V Neutral**

Nature of Supply Parameters

Nominal Voltage, $U/U_o^{(1)}$: **400 V**

Nominal Frequency, $f^{(1)}$: **50 Hz**

Prospective Fault Current P-P-P, $I_{pf}^{(2)}$: **14.00 kA**

External Loop Impedance $Z_e^{(2)}$: **0.03 W**

Prospective Fault Current P-N, $I_{pf}^{(2)}$: **7.60 kA**

Note: (1) by enquiry, (2) by enquiry or by measurement

Supply Protective Device

BS (EN): **BS 88-2 (E&G)**

Nominal Current Rating: **160 A**

Short Circuit Capacity: **80.0 kA**

Main Supply Conductor

Material: **Three Phase Concentric (PCU/PVC/PVC)**

Csa: **35.00 mm**

G. Particulars of Installation Referred to in the Report

Means of Earthing

Means: **Suppliers facility**

Details of Installation Earth

Electrode: **NA**

Earth Electrode Location: **NA**

Electrode Resistance to Earth: **NA W**

Main Protective Conductors

Material

CSA (mm)

Unbunched Copper Cable*

25.00

Main Switch or Circuit Breaker

BS (EN): **BS 60947/3**

Current Rating: **200.00 A**

Fuse Rating or Setting: **NA A**

Number of Poles: **3**

Voltage Rating: **500.00 V**

Rated Residual Operating

Current (IDn): **NA mA**

Operating Time at IDn: **NA s**

Location: **Rear corner
of workshop**

Main Equipotential Bonding Conductors

Type

Present

Connected

Material

CSA (mm)

Water

Yes

Yes

**Copper Conductor/Steel
Armour****

72.00

Gas

No

-

-

-

Oil

No

-

-

-

Lightning

No

-

-

-

Pipework

Yes

No

-

-

Steelwork

No

-

-

-

H. Observations and Recommendations

Referring to the attached Schedule(s) of Inspection and Test Results and subject to the limitations specified at section **C** of the Inspection section:

Remedial work is required: **Yes**

If Yes, please see the observations as listed on the following pages under Site Observations and Distribution Board/Circuit Observations.

Code C1: 'Danger present'. Risk of injury. Immediate remedial action required.

Code C2: 'Potentially dangerous'. Urgent remedial action required.

Code C3: 'Improvement recommended'.

Code FI: Further investigation required to determine whether danger or potential danger exists.

Code C5: Comment only and is not a recommendation and is not part of BS7671.

I. Summary of the Inspection

Date of the Inspection: **15/04/2013**

Overall Assessment: **Unsatisfactory**

General Condition of the
Installation:

The electrical installation is in a generally good condition but has category C1 and/or category C2 codes found and recorded. (C1 - Danger present with risk of injury, therefore immediate remedial action required. C2 - Potentially dangerous, therefore urgent remedial action required).

J Schedule(s)

The attached Schedules are part of this document and this Report is valid only when all pages are present.

K. Schedule of Inspections

Item	Description	Outcome
1.0	Condition/adequacy of distributor's/supply intake equipment	
1.1	Service Cable	PASS
1.2	Service cut-out/fuse(s)	PASS
1.3	Meter Tails - distributor	PASS
1.4	Meter Tails - consumer	PASS
1.5	Metering equipment	PASS
1.6	Means of isolation	PASS
2.0	Presence of adequate arrangements for parallel or switched alternative sources (551.6; 551.7)	PASS
3.0	Automatic disconnection of supply	
3.1	Main earthing and bonding arrangements	C2
3.1.1	Presence and condition of distributors earthing arrangement	PASS
3.1.2	Presence and condition of earth electrode arrangement	PASS
3.1.3	Adequacy of earthing conductor size	PASS
3.1.4	Adequacy of earthing conductor connections	PASS
3.1.5	Accessibility of earthing conductor connections	PASS
3.1.6	Adequacy of main protective bonding conductor size(s)	C3
3.1.7	Adequacy of main protective bonding conductor connections	PASS
3.1.8	Accessibility of main protective bonding conductor connections	PASS
3.1.9	Provision of earthing/bonding labels at all appropriate locations	PASS
3.2	FELV, SELV & PELV	
3.2.1	Source providing at least simple separation	NA
3.2.2	Plugs, socket-outlets and the like not interchangeable with those of other systems within the premises	NA
3.3	Reduced Low Voltage (s/phase 55V & 3-phase 63.5V to earthed mid point)	
3.3.1	Adequacy of source	PASS
3.3.2	Plugs, socket-outlets and the like not interchangeable with those of other systems within the premises	PASS
4.0	Other methods of protection (where the methods of protection listed below are employed, details should be provided on separate sheets)	
4.1	Double insulation	NA
4.2	Reinforced insulation	NA
4.3	Use of obstacles	NA
4.4	Placing out of reach	NA
4.5	Non-conducting location	NA
4.6	Earth-free local equipotential bonding	NA
4.7	Electrical separation for one or more item(s) of equipment	NA
5.0	Distribution equipment	
5.1	Adequacy of working space/accessibility of equipment	PASS
5.2	Security of fixing	PASS
5.3	Condition of insulation of live parts	PASS
5.4	Adequacy/security of barriers	PASS
5.5	Condition of enclosure(s) in terms of IP rating	PASS
5.6	Condition of enclosure(s) in terms of fire rating	PASS
5.7	Enclosure not damaged/deteriorated so as to impair safety	PASS
5.8	Presence of main switch(es), linked where required	PASS
5.9	Operation of main switch(es) (functional check)	PASS
5.10	Correct identification of circuit protective devices	PASS
5.11	RCD(s) provided for fault protection - includes RCBOs	PASS

Pass indicates **Acceptable condition**

Limit indicates **Limitation**

NA indicates **Not applicable**

C1 or C2 indicates **Unacceptable condition**

C3 indicates **improvement recommended**

FI indicates **further investigation required** to determine whether danger or potential danger exists

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5.12	RCD(s) provided for additional protection - includes RCBOs	PASS
5.13	RCD(s) provided for protection against fire - includes RCBOs	NA
5.14	Manual operation of circuit-breakers and RCDs to prove disconnection	PASS
5.15	Confirmation that integral test button(s)/switch causes RCD(s) to trip when operated (functional check)	PASS
5.16	Presence of RCD quarterly test notice at or near equipment where required	PASS
5.17	Presence of diagrams, charts or schedules at or near equipment where required	PASS
5.18	Presence of non-standard (mixed) cable colour warning notice at or near equipment where required	PASS
5.19	Presence of alternative supply arrangement warning notice(s) at or near equipment where required	PASS
5.20	Presence of replacement next inspection recommendation label	PASS
5.21	Presence of other required labelling (specify)	PASS
5.22	Examination of protective device(s) and base(s); correct type and rating (no signs of unacceptable thermal damage, arcing or overheating)	PASS
5.23	Single-pole protective devices are in the line conductor only	PASS
5.24	Protection against mechanical damage where cables enter equipment	PASS
5.25	Protection against electromagnetic effects where cables enter metallic enclosures	PASS
6.0	Distribution/final circuits	
6.1	Identification of conductors	PASS
6.2	Cables correctly supported throughout their length	PASS
6.3	Condition of insulation of live parts	PASS
6.4	Non-sheathed cables protected by enclosure in conduit, duct or trunking	PASS
6.5	Suitability of containment systems for continued use (including flexible conduit)	PASS
6.6	Cables correctly terminated in enclosures	PASS
6.7	Examination of cables for signs of unacceptable thermal and mechanical damage/deterioration	PASS
6.8	Adequacy of cables for current-carrying capacity with regard to the type and nature of installation	PASS
6.9	Adequacy of protective devices; type and rated current for fault protection	C2
6.10	Presence and adequacy of circuit protective conductors	FI
6.11	Co-ordination between conductors and overload protective devices	C2
6.12	Wiring system(s) or cable installation methods/practices appropriate to the type and nature of installation and external influences	PASS
6.13	Cables where exposed to direct sunlight, of a suitable type	PASS
6.14	Concealed cables installed in prescribed zones (see extent and limitations)	LIMIT
6.15	Concealed cables incorporating earthed armour or sheath, or run within an earthed wiring system, or otherwise protected against mechanical damage caused by nails, screws and the like where not in prescribed zones or not protected by 30 mA RCD (see extent and limitations)	LIMIT
6.16	Provision of additional protection by 30 mA RCD for cables concealed in walls or partitions where the installation is not under the supervision of skilled or instructed persons	NA
6.17	Provision of additional protection by 30 mA RCD	
6.17.1	Where reasonably likely to be used to supply mobile equipment for use outdoors in all cases	PASS
6.17.2	For all socket-outlets of rating 20 amps or less provided for use by ordinary persons	C3
6.18	Provision of fire barriers, sealing arrangements and protection against thermal effects	PASS
6.19	Band II cables segregated/separated from Band I cables	PASS
6.20	Cables segregated/separated from non-electrical services	PASS
6.21	Termination of cables at enclosures	
6.21.1	Connections under no undue strain	PASS
6.21.2	No basic insulation of a conductor visible outside an enclosure	PASS
6.21.3	Connections of live conductors adequately enclosed	C1
6.21.4	Adequacy of connection at point of entry to enclosure (gland, bush or similar)	PASS
6.22	General condition of wiring systems	PASS
6.23	Temperature rating of cable insulation	PASS

Pass indicates **Acceptable condition**

Limit indicates **Limitation**

NA indicates **Not applicable**

C1 or C2 indicates **Unacceptable condition**

C3 indicates **improvement recommended**

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6.24	Condition of accessories including socket-outlets, switches and joint boxes	PASS
6.25	Suitability of accessories for external influences	PASS
7.0	Isolation and switching	
7.1	Isolators (537.2)	
7.1.1	Presence and condition of appropriate devices	PASS
7.1.2	Acceptable location	PASS
7.1.3	Capable of being secured in the OFF position	PASS
7.1.4	Correct operation verified	PASS
7.1.5	Clearly identified by position and/or durable marking(s)	PASS
7.1.6	Warning label posted in situations where live parts cannot be isolated by the operation of a single device	PASS
7.2	Switching off for mechanical maintenance	
7.2.1	Presence and condition of appropriate devices	PASS
7.2.2	Acceptable location	PASS
7.2.3	Capable of being secured in the OFF position	PASS
7.2.4	Correct operation verified	PASS
7.2.5	Clearly identified by position and/or durable marking(s)	PASS
7.3	Emergency switching/stopping	
7.3.1	Presence and condition of appropriate devices	NA
7.3.2	Acceptable location	NA
7.3.3	Capable of being secured in the OFF position	NA
7.3.4	Correct operation verified	NA
7.3.5	Clearly identified by position and/or durable marking(s)	NA
7.4	Functional switching	
7.4.1	Presence and condition of appropriate devices	PASS
7.4.2	Correct operation verified	PASS
8.0	Current-using equipment (permanently connected)	
8.1	Condition of equipment in terms of IP rating	PASS
8.2	Equipment does not constitute a fire hazard	PASS
8.3	Enclosure not damaged/deteriorated so as to impair safety	PASS
8.4	Suitability for the environment and external influences	PASS
8.5	Security of fixing	PASS
8.6	Cable entry holes in ceiling above luminaires, sized or sealed so as to restrict the spread of fire (indicate extent of sampling in Section D of report)	PASS
8.7	Recessed luminaires (e.g. downlighters)	
8.7.1	Correct type of lamps fitted	NA
8.7.2	Installed to minimise build-up of heat by use of 'fire rated' fittings, insulation displacement box or similar	NA
8.7.3	No signs of overheating to surrounding building fabric	NA
8.7.4	No signs of overheating to conductors/terminations	NA
9.0	Location(s) containing a bath or shower (Section 701)	
9.1	Additional protection for all low voltage (LV) circuits by RCD not exceeding 30 mA. Regulation 701.411.3.3	C3
9.2	Where used as a protective measure, requirements for SELV or PELV are met. Regulation 701.414	NA
9.3	Shaver sockets comply with BS EN 61558-2-5 or BS 3535. Regulation 701.512.3	NA
9.4	Presence of supplementary bonding conductors unless not required by BS 7671: 2008. Regulation 701.415.2	PASS
9.5	Low voltage (e.g. 230 volts) socket-outlets sited at least 3 m from zone 1. Regulation 701.512.3	NA
9.6	Suitability of equipment for external influences for installed locations in terms of IP rating. Regulation 701.512.2	C2

Pass indicates **Acceptable condition**

Limit indicates **Limitation**

NA indicates **Not applicable**

C1 or C2 indicates **Unacceptable condition**

C3 indicates **improvement recommended**

FI indicates **further investigation required** to determine whether danger or potential danger exists

C5 indicates **Comment only** and is not a recommendation and is not part of BS 7671

- 9.7 Suitability of equipment for installation in a particular zone. Regulation 701.512.3
- 9.8 Suitability of current using equipment for particular position within the location. Regulation 701.55

PASS

PASS

Pass indicates **Acceptable condition**
Limit indicates **Limitation**
NA indicates **Not applicable**
C1 or **C2** indicates **Unacceptable condition**
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L. Guidance for Recipients on the Recommendation Codes

Only one Recommendation Code should have been given for each recorded observation in sections M and N under column "Severity".

- It is important to note that the recommendation given at Section D (Next Inspection) of this report for the maximum interval until the next inspection is conditional upon all items which have been given a Code 1 or Code FI being remedied immediately, and all items which have been given a Code 2 being remedied as a matter of urgency. See column "Severity" in sections F, N and M.
- It would not be reasonable for the inspector to indicate that the installation is in a satisfactory condition if any observation in this report has been given a Code C1, Code C2 or Code FI classification.
- The testing engineer reserves the right to isolate any part of the installation that in the engineers opinion would give rise to immediate shock or fire risk.

Code C1 (Danger present)

Where an observation has been given a Code C1, the safety of those using the installation may be at risk and immediate remedial action is required.

The person responsible for the maintenance of the installation is advised to take action without delay to remedy the observed deficiency in the installation or to take other appropriate action (such as switching off and isolating the affected part(s) of the installation) to remove the potential danger. The Approved Contractor issuing this report will be able to provide further advice.

Code C2 (Potentially dangerous)

Code C2 indicates that whilst safety of those using the installation may not be at immediate risk, urgent remedial action should be taken as soon as possible to remove potential danger. The Approved Contractor issuing this report will be able to provide further advice.

Code C3 (Improvement recommended)

Where an observation has been given a Code C3, the inspection and/or testing has revealed a non-compliance with the current safety standard which, whilst not presenting immediate or potential danger, would result in a significant safety improvement if remedied. Careful consideration should be given to the safety benefits of improving these aspects of the installation. The Approved Contractor issuing this report will be able to provide further advice.

Code FI (Requires further investigation)

However, where "FI" has been entered against an observation in the "Severity" column at sections N and M, the inspector considers that further investigation of that observation is likely to reveal danger or potential danger that, due to the agreed extent or limitations of the inspection and/or testing, could not be fully identified at the time.

Code 5

Code 5 is a comment only and not a recommendation and is not part of BS7671. It is intended as information only, which could be useful to the person ordering this report, the engineer carrying out the inspection and/or the competent person carrying out any remedial actions.



Occupier:	Xample Car Dealership
Address:	Xample Trading Estate
	Xample Road
	Xample
	XX1 1XX

Test instrument details used in the compilation of this report:

Make	Model	Serial Number
Megger	Multi/Function	123456478

M. Site Observations and Recommendations

Ref.		Severity	Rectified By	Date
S1.	A main equipotential bonding conductor is required for the pipework between buildings where the electrical supplies are from different sources or separate DNO services. Regulation 411.3.1.2	C2		
S2.	The equipotential bonding conductor connected to the water service is too small in relationship to the cross-sectional area of the neutral of the supply. Regulation 544.1.1 Table 54.8	C3		
S3.	Where equipotential bonding to a service, structural steel-work or lightning protection system is not using a separate copper conductor e.g utilizing armouring, conduit, trunking, mineral copper sheath or core of a cable and this installation sustained a broken or poorly jointed neutral causing diverted neutral current and if cable(s) within are being operated at a significant proportion of their current carrying capacity for long periods or installed where there are higher ambient temperatures, this may result in overheating of the live conductor(s). Recommend installation of a separate copper conductor of an appropriate size to the neutral of the supply as per Regulation 544.1.1 Table 54.8 (comment only).	C5		



Occupier:	Xample Car Dealership
Address:	Xample Trading Estate
	Xample Road
	Xample
	XX1 1XX

N. Distribution Board / Circuit Observations and Recommendations

Ref.		Severity	Rectified By	Date
1.	Switch Fuse: A Location: Workshop			
	No observations or recommendations made.			
2.	Distribution Board: 1 Location: Rear corner of workshop			
2.1	Circuit 2L1, 2L2, 2L3: The maximum permissible earth loop impedance (Zs) has been exceeded therefore, the protective device may not operate in the required time as per BS7671, recommend seeking advice from the manufacturer of the device. Regulation 411.3.2.1, 411.3.2.5 & 411.3.2.6	C2		
3.	Fuse Board: 1/1L1 Location: Showroom			
3.1	Circuit 4L1: All sockets rated at 20 amps or less throughout the property require additional RCD protection having a rated residual operating current (In) not exceeding 30mA and an operating time not exceeding 40 ms at a residual current of 5 In unless it is a circuit supplying a socket(s) that is/are specifically labelled or otherwise suitably identified for a connection of a particular item(s) of equipment. Regulation 411.3.3	C3		
3.2	Circuit 8L1: Low insulation resistance reading(s) recorded. Regulation 621.3.2	C2		
3.3	<i>Suppressed observation: Protective Device Observations.</i> <i>Scope: 5L1</i> <i>Reason: Due to the characteristics of the load (resistive) - overload current protection is not required. Regulation 433.3 (ii)</i>	-		
4.	Distribution Board: 1/2L1 Location: Workshop			
4.1	Circuit 1L1, 1L2, 1L3: Although the measured earth loop impedance is within the maximum Zs permitted by BS7671, where measurements are taken at ambient temperature and the increase of resistance of the conductors due to temperature rise under load conditions, the protective device may not operate in the required time as per BS7671 (0.8*Uo/la), recommend seeking advice from the manufacturer of the device. Appendix 14	C3		
4.2	Circuit 4L1: Protective device requires de-rating. Regulation 433.1.1	C2	BJ	20/03/2013

Ref.		Severity	Rectified By	Date
4.3	Circuit 4L1: The maximum permissible earth loop impedance (Zs) has been exceeded therefore, the protective device may not operate in the required time as per BS7671, recommend seeking advice from the manufacturer of the device. Regulation 411.3.2.1, 411.3.2.5 & 411.3.2.6	C2	BJ	20/03/2013
4.4	Circuit 4L2: Unable to gain access to carry out all tests. It is the inspector's opinion that there is no apparent risk for continued use and therefore, as agreed with the client, this observation is categorized as a limitation (LIMIT). Regulation 612.1	LIMIT		
4.5	Circuit 4L3: Item of electrical equipment not suitable in terms of it's I.P rating for the environment and external influences in locations containing a bath or shower. Regulation 701.512.2	C2		
4.6	Circuit 4L3: All items of electrical equipment, cable(s) and wiring systems in locations containing a bath or shower require additional protection by RCD(s) having a rated residual operating current (In) not exceeding 30mA and an operating time not exceeding 40 ms at a residual current of 5 In. Regulation 701.411.3.3	C3		
4.7	Circuit 2L1b: The maximum permissible earth loop impedance (Zs) has been exceeded therefore, the protective device may not operate in the required time. Regulation 411.3.2.1, 411.3.2.5 & 411.3.2.6	C2		
4.8	Circuit 2L1a: Protective device requires de-rating or cables require uprating subject to the load - overload risk. Regulation 433.1.1	C2		
4.9	<i>Suppressed observation: Continuity high on ring main (voltage drop). Scope: 2L2 Reason: As the majority of equipment in this area is air driven, there are no loads that would cause excessive voltage drop.</i>	-		
4.10	<i>Suppressed observation: Protective Device Observations. Scope: 4L3 Reason: Due to the characteristics of the load (resistive) - overload current protection is not required. Regulation 433.3 (ii)</i>	-		
5.	Split RCD Fuse Board: Valet bay			
	Location: Valet bay			
5.1	A main equipotential bonding conductor is required for the pipework between buildings where the electrical supplies are from different sources or separate DNO services. Regulation 411.3.1.2	C2		
5.2	Main protective equipotential bonding conductor is too small in relationship to the cross-sectional area of the neutral of the supply. Regulation 544.1.1 Table 54.8	C3		
5.3	The equipotential bonding conductor connected to the structural steel-work is too small in relationship to the cross-sectional area of the neutral of the supply. Regulation 544.1.1 Table 54.8	C3		
5.4	Where equipotential bonding to a service, structural steel-work or lightning protection system is not using a separate copper conductor e.g utilizing armouring, conduit, trunking, mineral copper sheath or core of a cable and this installation sustained a broken or poorly jointed neutral causing diverted neutral current and if cable(s) within are being operated at a significant proportion of their current carrying capacity for long periods or installed where there are higher ambient temperatures, this may result in overheating of the live conductor(s). Recommend installation of a separate copper conductor of an appropriate size to the neutral of the supply as per Regulation 544.1.1 Table 54.8 (comment only).	C5		
5.5	Circuit 4L1: Continuity reading high on ring main (Rn), suspect loose termination or broken ring connection. Regulation 433.1.103 and Appendix 15	C2		

Ref.		Severity	Rectified By	Date
5.6	Circuit 8L1: Unable to gain access to carry out earth loop tests - readings entered are from carrying out an r2 test only, with a wandering lead fed from another live source to prove earth continuity - therefore, unable to ascertain whether the earth loop impedance is low enough to operate the protective device in the required time. It is the inspector's opinion that there is no apparent risk for continued use and therefore, as agreed with the client, this observation is categorized as a limitation (LIMIT) subject to safe isolation procedures are in place before any maintenance on electrical equipment is carried out. Regulation 612.9	LIMIT		
5.7	<i>Suppressed observation: Protective Device Observations. Scope: 7L1 Reason: Due to the characteristics of the load (resistive) - overload current protection is not required. Regulation 433.3 (ii)</i>	-		
6.	RCD (Metal Enclosure): RCD Tyre Bay Location: Tyre bay			
6.1	The electrical equipment is enclosed in a metal enclosure which is an exposed conductive part. Regulation 411.5.3 & 411.5.4	C2		
6.2	Time delay RCD operating in less than 130ms – discrimination might not be achieved with downstream RCD if fitted. Regulation 531.2.9	C3		
7.	Fuse Board: Tyre Bay Location: Entrance of tyre bay			
7.1	Circuit 1L1: Where an RCBO has been installed and is used for additional protection some RCBOs are so designed that they operate under type-test conditions in marginally less than 40ms at 5 In, therefore under installed conditions the RCBO may operate in a time marginally exceeding 40ms at 5 In – If there is doubt about the acceptability of the measured operating time advise that the manufacturer of the device is consulted. Regulation 415.1.1	C5		
7.2	Circuit 2L1: Low insulation resistance reading(s) recorded. Regulation 621.3.2	C2		
7.3	Circuit 2L1: RCBO does not operate in the required time. Regulation 612.10	C2		
8.	110V Transformer (RLV): 110 volt transformer - sockets Location: Workshop			
8.1	Circuit 1L1: The maximum permissible earth loop impedance (Zs) has been exceeded therefore, the protective device may not operate in the required time as per BS7671, recommend seeking advice from the manufacturer of the device. Regulation 411.3.2.1, 411.3.2.5 & 411.3.2.6	C2		
8.2	Circuit 1L2: A solid link is installed in this fuse way - a correct type and size protective device is required. Regulation 433.1.1	C2		
8.3	Circuit 1L2: The maximum permissible earth loop impedance (Zs) has been exceeded therefore, the protective device may not operate in the required time. Regulation 411.3.2.1, 411.3.2.5 & 411.3.2.6	C2		

Ref.		Severity	Rectified By	Date
9.	<p>Switch Fuse: 1/2L1/3L1b Location: Main workshop left hand rear</p> <p>No observations or recommendations made.</p>			
10.	<p>Switch Fuse: B Location: 1st floor offices</p> <p>No observations or recommendations made.</p>			
11.	<p>Fuse Board: B/1 Location: Kitchen</p> <p>No observations or recommendations made.</p>			

Type/ID:	Switch Fuse: A		Make/Frame:	Excel		Effective Upline Device		
Fed From:	DNO Supply		RCD1			RCD2	BS (EN): BS 88-2 (E&G)	
Located:	Workshop			NA			Rating: 160.0 A	
Supply Type:	AC 3-phase 4-wire 400V Neutral		Rating:	NA A		Rating:	NA A Breaking Capacity: 80.0 kA	
Cable BS Type:	6004	CSA: 16.0 mm	IDn:	NA mA		IDn:	NA mA Overload I _o /I _r : - A	
CPC Type:	Unbunched Copper Cable*	CSA: 10.00 mm	Circuits:	NA		Circuits:	NA Instant Setting I/Im: - A	
						Maximum Let-Through Current @ I _{pf} Max: 5.40 kA A		

Circuit Number	Circuit Description	Method of Installation	Number of Phases	Conductor Details				Maximum Disconnection Time Permitted by BS7671	Overcurrent Protective Device						RCBO (Fuseway)	RCD (Circuit)	Maximum Z _s Permitted by BS7671										
				Number of Cables	Live Conductor	CPC Conductor	CPC Material		Protective Switch Type	Sub Category	Rating	Short Circuit Capacity	Overload I _o /I _r	Instant Setting I/Im				BS (EN)	A	kA	A	kA	mA	mA	W		
1L1	Spare	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1L2	Spare	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1L3	Spare	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Methods of installation are formatted <table code>-<x>, where refers to column <x> of the table given in Appendix 4 of the 17th Edition regulations or in manufacturer's data. Where cables are buried in a duct or directly in the ground, a ground temperature of 15°C @ a minimum depth 0.5 metre with a ground thermal resistivity of 1.2 K.m/W is assumed.

- | | | | | | |
|----|------|---|----|--------|--|
| D1 | 4D1A | Single core 70°C thplastic sheathed cables, non-armoured (Cu) | H3 | 4H3A | Single-core 70°C armoured thplastic insulated cables (non-mag. armour) (Al) |
| D2 | 4D2A | Multicore 70°C thplastic insulated & thplastic sheathed cables, non-armoured (Cu) | H4 | 4H4A | Multi-core 70°C armoured thplastic insulated cables (Al) |
| D3 | 4D3A | Single core 70°C armoured thplastic (pvc) insulated cables (non-mag. armour) (Cu) | D5 | 4D5 | 70°C thplastic insulated & sheathed flat cable with protective conductor (Cu) |
| D4 | 4D4A | Multicore 70°C armoured thplastic insulated cables (Cu) | J1 | 4J1A | Single-core 90°C thsetting insulated cables, unarmoured, with or without sheath (Al) |
| E1 | 4E1A | 90°C thsetting insulated cables, unarmoured, with or without sheath (Cu) | J2 | 4J2A | Multicore 90°C thsetting insulated & thplastic sheathed cables, non-armoured (Al) |
| E2 | 4E2A | Multicore 90°C thsetting insulated & thplastic sheathed cables, non-armoured (Cu) | J3 | 4J3A | Single core 90° C armoured thsetting insulated cables (non-mag. armour) (Al) |
| E3 | 4E3A | Single-core 90°C armoured thsetting insulated cables (non-mag. armour) (Cu) | J4 | 4J4A | Multi-core 90° C armoured thsetting insulated cables (Al) |
| E4 | 4E4A | Multi-core 90°C armoured thsetting insulated cables (Cu) | CO | Conc | Both concentric & split concentric cables |
| G1 | 4G1A | Mineral insulated cables thplastic covered or bare & exposed to touch (Cu&Sheath) | PC | Papcop | Paper insulated, lead sheath with either cloth or PVC outer sleeving. (Cu) |
| H1 | 4H1A | Single-core 70°C thplastic insulated cables, non-armoured, with/without sheath (Al) | PA | Papalu | Paper insulated, lead sheath with either cloth or PVC outer sleeving. (Al) |
| H2 | 4H2A | Multicore 70°C thplastic insulated & thplastic sheathed cables, non-armoured (Al) | | | |

Location: *Workshop* Site Name: *Xample Car Dealership*

Results: Z_{db} : *0.10* W Outside of the Potential Zone: *No* Earthing Arrangements: *NA*

I_{pf} : *14.00* kA Means of Earthing: *NA* Earth Electrode Type: *NA*

RCD1 IDn: *NA* ms Earth Electrode Location: *NA* Electrode Resistance: *NA* W

5IDn: *NA* ms Main/Electrode Earthing Conductor: *NA* mm

RCD2 IDn: *NA* ms Water: *NA* mm Gas: *NA* mm Oil: *NA* mm Structural Steelwork: *NA* mm

5IDn: *NA* ms Metalwork Between Buildings (Separate DNO Supply): *NA* mm Other: *NA* mm

Circuit Number	Ring Main Impedances			Circuit Impedances			Insulation Resistance				Polarity	Maximum Measured Earth Loop Impedance Zs	RCBO Fuseway		RCD Circuit		Maximum Non-compliance Severity Observed	Circuit Compliance for Continued Safe Use
	RI	Rn	R2	R1 + R2	R2	CPC Continuous Throughout Circuit	Phase/Phase	Phase/Neutral	Phase/Earth	Neutral/Earth			At IDn 0° & 180° (Highest Reading)	At 5IDn (€30 mA) 0° & 180° (Highest Reading)	At IDn 0° & 180° (Highest Reading)	At 5IDn (€30 mA) 0° & 180° (Highest Reading)		
1L1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1L2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1L3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Type/ID:	Distribution Board: 1		Make/Frame:	Merlin Gerin		Effective Upline Device	BS 88-2 (E&G)	
Fed From:	DNO Supply		RCD1	NA		RCD2	NA	
Located:	Rear corner of workshop		Rating:	NA	A	Rating:	NA	A
Supply Type:	AC 3-phase 4-wire 400V Neutral		IDn:	NA	mA	IDn:	NA	mA
Cable BS Type:	6004	CSA: 35.0 mm	Circuits:	NA		Circuits:	NA	
CPC Type:	Unbunched Copper Cable*	CSA: 10.00 mm	Instant Setting I/Im:	-	A	Instant Setting I/Im:	-	A
						Breaking Capacity:	80.0	kA
						Overload Io/Ir:	-	A
						Maximum Let-Through Current @ Ipf Max:	5.40	kA

Circuit Number	Circuit Description	Method of Installation	Conductor Details					Maximum Disconnection Time Permitted by BS7671	Overcurrent Protective Device					RCBO (Fuseway)	RCD (Circuit)	Maximum Zs Permitted by BS7671	
			Number of Phases	Number of Cables	Live Conductor	CPC Conductor	CPC Material		Protective Switch Type	Sub Category	Rating	Short Circuit Capacity	Overload Io/Ir				Instant Setting I/Im
					mm	mm		BS (EN)		A	kA	A	kA	mA	mA	W	
1L1	Fuse Board: 1/1L1	D4:2	1	1	25	60.0	Fe	5.00	BS 4752	-	125.0	25.0	87.5	1.4	-	-	0.28
1L2	Spare	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1L3	Spare	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2L1	Distribution Board: 1/2L1	D4:3	3	1	35	84.0	Fe	5.00	BS 4752	-	100.0	25.0	70.0	1.2	-	-	0.28
2L2	Distribution Board: 1/2L1	D4:3	3	1	35	84.0	Fe	5.00	BS 4752	-	100.0	25.0	70.0	1.2	-	-	0.28
2L3	Distribution Board: 1/2L1	D4:3	3	1	35	84.0	Fe	5.00	BS 4752	-	100.0	25.0	70.0	1.2	-	-	0.28
3L1	Switch Fuse: B	D4:2	1	1	10	40.0	Fe	5.00	BS 4752	-	63.0	25.0	63.0	-	-	-	0.37
3L2	Spare	-	-	-	-	-	-	-	Solid Link	-	-	-	-	-	-	-	-
3L3	Spare	-	-	-	-	-	-	-	Solid Link	-	-	-	-	-	-	-	-

Methods of installation are formatted <table code>-<x>, where refers to column <x> of the table given in Appendix 4 of the 17th Edition regulations or in manufacturer's data. Where cables are buried in a duct or directly in the ground, a ground temperature of 15°C @ a minimum depth 0.5 metre with a ground thermal resistivity of 1.2 K.m/W is assumed.

D1 4D1A	Single core 70°C thplastic sheathed cables, non-armoured (Cu)	H3 4H3A	Single-core 70°C armoured thplastic insulated cables (non-mag. armour) (Al)
D2 4D2A	Multicore 70°C thplastic insulated & thplastic sheathed cables, non-armoured (Cu)	H4 4H4A	Multi-core 70°C armoured thplastic insulated cables (Al)
D3 4D3A	Single core 70°C armoured thplastic (pvc) insulated cables (non-mag. armour) (Cu)	D5 4D5	70°C thplastic insulated & sheathed flat cable with protective conductor (Cu)
D4 4D4A	Multicore 70°C armoured thplastic insulated cables (Cu)	J1 4J1A	Single-core 90°C thsetting insulated cables, unarmoured, with or without sheath (Al)
E1 4E1A	90°C thsetting insulated cables, unarmoured, with or without sheath (Cu)	J2 4J2A	Multicore 90°C thsetting insulated & thplastic sheathed cables, non-armoured (Al)
E2 4E2A	Multicore 90°C thsetting insulated & thplastic sheathed cables, non-armoured (Cu)	J3 4J3A	Single core 90° C armoured thsetting insulated cables (non-mag. armour) (Al)
E3 4E3A	Single-core 90°C armoured thsetting insulated cables (non-mag. armour) (Cu)	J4 4J4A	Multi-core 90° C armoured thsetting insulated cables (Al)
E4 4E4A	Multi-core 90°C armoured thsetting insulated cables (Cu)	CO Conc	Both concentric & split concentric cables
G1 4G1A	Mineral insulated cables thplastic covered or bare & exposed to touch (Cu&Sheath)	PC Papcop	Paper insulated, lead sheath with either cloth or PVC outer sleeving. (Cu)
H1 4H1A	Single-core 70°C thplastic insulated cables, non-armoured, with/without sheath (Al)	PA Papalu	Paper insulated, lead sheath with either cloth or PVC outer sleeving. (Al)
H2 4H2A	Multicore 70°C thplastic insulated & thplastic sheathed cables, non-armoured (Al)		

Location: *Rear corner of workshop*

Site Name: *Xample Car Dealership*

Results: Z_{db} : *0.03* W Outside of the Potential Zone: *No* Earthing Arrangements: *NA*
 I_{pf} : *14.00* kA Means of Earthing: *NA* Earth Electrode Type: *NA*
RCD1 IDn: *NA* ms Earth Electrode Location: *NA* Electrode Resistance: *NA* W
5IDn: *NA* ms Main/Electrode Earthing Conductor: *NA* mm
RCD2 IDn: *NA* ms Water: *NA* mm Gas: *NA* mm Oil: *NA* mm Structural Steelwork: *NA* mm
5IDn: *NA* ms Metalwork Between Buildings (Separate DNO Supply): *NA* mm Other: *NA* mm

Circuit Number	Ring Main Impedances			Circuit Impedances			Insulation Resistance				Polarity	Maximum Measured Earth Loop Impedance Zs	RCBO Fuseway		RCD Circuit		Maximum Non-compliance Severity Observed	Circuit Compliance for Continued Safe Use				
	RI	Rn	R2	R1 + R2	R2	CPC Continuous Throughout Circuit	Phase/Phase	Phase/Neutral	Phase/Earth	Neutral/Earth			At IDn 0° & 180° (Highest Reading)	At 5IDn (£30 mA) 0° & 180° (Highest Reading)	At IDn 0° & 180° (Highest Reading)	At 5IDn (£30 mA) 0° & 180° (Highest Reading)						
	W	W	W	W	W	P/F	MW	MW	MW	MW			ms	ms	ms	ms			No.	P/F		
1L1	-	-	-	-	-	Yes	-	299.00	299.00	299.00	299.00	Pass	0.18	-	-	-	-	-	-	Pass		
1L2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
1L3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
2L1	-	-	-	-	-	Yes	299.00	299.00	299.00	299.00	299.00	Pass	0.40	-	-	-	-	-	-	C2	Fail	
2L2	-	-	-	-	-	Yes	299.00	299.00	299.00	299.00	299.00	Pass	0.40	-	-	-	-	-	-	-	C2	Fail
2L3	-	-	-	-	-	Yes	299.00	299.00	299.00	299.00	299.00	Pass	0.40	-	-	-	-	-	-	-	C2	Fail
3L1	-	-	-	-	-	Yes	-	299.00	299.00	299.00	299.00	Pass	0.20	-	-	-	-	-	-	-	-	Pass
3L2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3L3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Type/ID:	Fuse Board: 1/1L1		Make/Frame:	Wylex		Effective Upline Device	BS 4752		
Fed From:	Distribution Board: 1		RCD1	NA		RCD2	NA		
Located:	Showroom		Rating:	NA		A	Breaking Capacity:	25.0 kA	
Supply Type:	AC 1-phase 2-wire 230V Neutral		IDn:	NA		mA	Overload I _o /I _r :	87.5 A	
Cable BS Type:	6346	CSA: 25.0 mm	Circuits:	NA		Instant Setting I _l /I _m :	1.4 A		
CPC Type:	Copper Conductor/Steel Armour**	CSA: 60.00 mm	Maximum Let-Through Current @ I _{pf} Max:						4.00 kA A

Circuit Number	Circuit Description	Method of Installation	Conductor Details					Maximum Disconnection Time Permitted by BS7671	Overcurrent Protective Device							Maximum Z _s Permitted by BS7671
			Number of Phases	Number of Cables	Live Conductor	CPC Conductor	CPC Material		Protective Switch Type	Sub Category	Rating	Short Circuit Capacity	Overload I _o /I _r	Instant Setting I _l /I _m	RCBO (Fuseway)	
					mm	mm	s	BS (EN)		A	kA	A	kA	mA	mA	W
1L1	Lights - 1st floor offices	G1H:2	1	1	6	17.8	Cu	0.40	BS 60898/	B	16.0	6.0	-	-	-	2.88
2L1	Sockets - 1st floor offices	D5:6	1	2	2.5	3.0	Cu	0.40	BS 60898/	B	32.0	6.0	-	-	-	1.44
3L1	Lights - ground floor offices	D5:2	1	1	1.5	1.0	Cu	0.40	BS 60898/	B	16.0	6.0	-	-	-	2.88
4L1	Sockets - ground floor offices	D5:6	1	2	2.5	3.0	Cu	0.40	BS 60898/	B	32.0	6.0	-	-	-	1.44
5L1	Water heater	D5:6	1	1	1.5	1.0	Cu	0.40	BS 60898/	B	25.0	6.0	-	-	-	1.84
6L1	Mens toilet - hand dryer	D5:6	1	1	2.5	1.5	Cu	0.40	BS 60898/	B	16.0	6.0	-	-	-	2.88
7L1	Ladies toilet - hand dryer	D5:6	1	1	2.5	1.5	Cu	0.40	BS 60898/	B	16.0	6.0	-	-	-	2.88
8L1	Lights - stairways	D5:2	1	1	1.5	1.0	Cu	0.40	BS 60898/	B	16.0	6.0	-	-	-	2.88

Methods of installation are formatted <table code>-<x>, where refers to column <x> of the table given in Appendix 4 of the 17th Edition regulations or in manufacturer's data. Where cables are buried in a duct or directly in the ground, a ground temperature of 15°C @ a minimum depth 0.5 metre with a ground thermal resistivity of 1.2 K.m/W is assumed.

D1 4D1A	Single core 70°C thplastic sheathed cables, non-armoured (Cu)	H3 4H3A	Single-core 70°C armoured thplastic insulated cables (non-mag. armour) (Al)
D2 4D2A	Multicore 70°C thplastic insulated & thplastic sheathed cables, non-armoured (Cu)	H4 4H4A	Multi-core 70°C armoured thplastic insulated cables (Al)
D3 4D3A	Single core 70°C armoured thplastic (pvc) insulated cables (non-mag. armour) (Cu)	D5 4D5	70°C thplastic insulated & sheathed flat cable with protective conductor (Cu)
D4 4D4A	Multicore 70°C armoured thplastic insulated cables (Cu)	J1 4J1A	Single-core 90°C thsetting insulated cables, unarmoured, with or without sheath (Al)
E1 4E1A	90°C thsetting insulated cables, unarmoured, with or without sheath (Cu)	J2 4J2A	Multicore 90°C thsetting insulated & thplastic sheathed cables, non-armoured (Al)
E2 4E2A	Multicore 90°C thsetting insulated & thplastic sheathed cables, non-armoured (Cu)	J3 4J3A	Single core 90° C armoured thsetting insulated cables (non-mag. armour) (Al)
E3 4E3A	Single-core 90°C armoured thsetting insulated cables (non-mag. armour) (Cu)	J4 4J4A	Multi-core 90° C armoured thsetting insulated cables (Al)
E4 4E4A	Multi-core 90°C armoured thsetting insulated cables (Cu)	CO Conc	Both concentric & split concentric cables
G1 4G1A	Mineral insulated cables thplastic covered or bare & exposed to touch (Cu&Sheath)	PC Papcop	Paper insulated, lead sheath with either cloth or PVC outer sleeving. (Cu)
H1 4H1A	Single-core 70°C thplastic insulated cables, non-armoured, with/without sheath (Al)	PA Papalu	Paper insulated, lead sheath with either cloth or PVC outer sleeving. (Al)
H2 4H2A	Multi-core 70°C thplastic insulated & thplastic sheathed cables, non-armoured (Al)		

Location: <i>Showroom</i>		Site Name: <i>Xample Car Dealership</i>	
Results: Z_{db} : <i>0.18</i> W	Outside of the Potential Zone: <i>No</i>	Earthing Arrangements: <i>NA</i>	
I_{pf} : <i>6.00</i> kA	Means of Earthing: <i>NA</i>	Earth Electrode Type: <i>NA</i>	
RCD1 IDn: <i>NA</i> ms	Earth Electrode Location: <i>NA</i>	Electrode Resistance: <i>NA</i> W	
5IDn: <i>NA</i> ms	Main/Electrode Earthing Conductor: <i>NA</i> mm		
RCD2 IDn: <i>NA</i> ms	Water: <i>NA</i> mm	Gas: <i>NA</i> mm	Oil: <i>NA</i> mm
5IDn: <i>NA</i> ms	Metalwork Between Buildings (Separate DNO Supply): <i>NA</i> mm		Structural Steelwork: <i>NA</i> mm
			Other: <i>NA</i> mm

Circuit Number	Ring Main Impedances			Circuit Impedances			Insulation Resistance				Polarity	Maximum Measured Earth Loop Impedance Zs	RCBO Fuseway		RCD Circuit		Maximum Non-compliance Severity Observed	Circuit Compliance for Continued Safe Use
	RI W	Rn W	R2 W	R1 + R2 W	R2 W	CPC Continuous Throughout Circuit P/F	Phase/Phase MW	Phase/Neutral MW	Phase/Earth MW	Neutral/Earth MW			At IDn 0° & 180° (Highest Reading) ms	At 5IDn (£30 mA) 0° & 180° (Highest Reading) ms	At IDn 0° & 180° (Highest Reading) ms	At 5IDn (£30 mA) 0° & 180° (Highest Reading) ms		
1L1	-	-	-	-	-	Yes	-	UTT	299.00	299.00	Pass	0.34	-	-	-	-	-	Pass
2L1	0.40	0.41	0.62	-	-	Yes	-	299.00	299.00	299.00	Pass	0.34	-	-	-	-	-	Pass
3L1	-	-	-	-	-	Yes	-	UTT	299.00	299.00	Pass	0.25	-	-	-	-	-	Pass
4L1	0.56	0.55	0.70	-	-	Yes	-	299.00	299.00	299.00	Pass	0.34	-	-	-	-	C3	Pass
5L1	-	-	-	-	-	Yes	-	UTT	299.00	299.00	Pass	0.40	-	-	-	-	-	Pass
6L1	-	-	-	-	-	Yes	-	UTT	299.00	299.00	Pass	0.50	-	-	-	-	-	Pass
7L1	-	-	-	-	-	Yes	-	UTT	299.00	299.00	Pass	0.52	-	-	-	-	-	Pass
8L1	-	-	-	-	-	Yes	-	UTT	0.10	299.00	Pass	0.30	-	-	-	-	C2	Fail

Type/ID:	Distribution Board: 1/2L1	Make/Frame:	Dorman Smith	Effective Upline Device	
Fed From:	Distribution Board: 1	RCD1		BS (EN):	BS 4752
Located:	Workshop	Rating:	NA	Rating:	100.0 A
Supply Type:	AC 3-phase 4-wire 400V Neutral	Rating:	NA A	Breaking Capacity:	25.0 kA
Cable BS Type:	6346	CSA:	35.0 mm	IDn:	NA mA
CPC Type:	Copper Conductor/Steel Armour**	CSA:	84.00 mm	IDn:	NA mA
		Circuits:	NA	Circuits:	NA
				Instant Setting I/Im:	1.2 A
				Maximum Let-Through Current @ I _{pf} Max:	4.30 kA A

Circuit Number	Circuit Description	Method of Installation	Conductor Details							Overcurrent Protective Device							Maximum Zs Permitted by BS7671	
			Number of Phases	Number of Cables	Live Conductor		CPC Conductor	CPC Material	Maximum Disconnection Time Permitted by BS7671	Protective Switch Type	Sub Category	Rating	Short Circuit Capacity		Instant Setting I/Im	RCBO (Fuseway)		RCD (Circuit)
					mm	mm							BS (EN)	A				
1L1	Compressor	D1:5	3	1	4	135.0	Fe	5.00	BS 60898/	C	40.0	9.0	23.00	-	-	-	0.58	
1L2	Compressor	D1:5	3	1	4	135.0	Fe	5.00	BS 60898/	C	40.0	9.0	23.00	-	-	-	0.58	
1L3	Compressor	D1:5	3	1	4	135.0	Fe	5.00	BS 60898/	C	40.0	9.0	23.00	-	-	-	0.58	
2L1	Split Circuit	-	-	-	-	-	-	-	BS 60898/	C	20.0	9.0	-	-	-	-	-	
2L1a	4kW fan heater MOT area	D5:3	1	1	2.5	1.5	Cu	0.40	BS 60898/	C	20.0	9.0	-	-	-	-	1.15	
2L1b	Fire alarm panel	G1L:2	1	1	1.5	6.3	Cu	0.40	BS 60898/	C	20.0	9.0	-	-	-	-	1.15	
2L2	Sockets - workshop	D1:4	1	2	2.5	81.0	Fe	0.40	BS 60898/	B	32.0	6.0	-	-	-	-	1.44	
2L3	Spare	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
3L1	Split Circuit	-	-	-	-	-	-	-	BS 60898/	C	32.0	9.0	-	-	-	-	-	
3L1a	MOT Brake tester	E4:3	3	1	6	23.0	Fe	0.40	BS 60898/	C	32.0	9.0	-	-	-	-	0.73	
3L1b	Switch Fuse: 1/2L1/3L1b	D1:5	3	1	6	135.0	Fe	5.00	BS 60898/	C	32.0	9.0	-	-	-	-	0.73	
3L2	Split Circuit	-	-	-	-	-	-	-	BS 60898/	C	32.0	9.0	-	-	-	-	-	
3L2a	MOT Brake tester	E4:3	3	1	6	23.0	Fe	0.40	BS 60898/	C	32.0	9.0	-	-	-	-	0.73	
3L2b	Switch Fuse: 1/2L1/3L1b	D1:5	3	1	6	135.0	Fe	5.00	BS 60898/	C	32.0	9.0	-	-	-	-	0.73	
3L3	Split Circuit	-	-	-	-	-	-	-	BS 60898/	C	32.0	9.0	-	-	-	-	-	
3L3a	MOT Brake tester	E4:3	3	1	6	23.0	Fe	0.40	BS 60898/	C	32.0	9.0	-	-	-	-	0.73	
3L3b	Switch Fuse: 1/2L1/3L1b	D1:5	3	1	6	135.0	Fe	5.00	BS 60898/	C	32.0	9.0	-	-	-	-	0.73	
4L1	Split RCD Fuse Board: Valet bay	D1:4	1	1	10	135.0	Fe	5.00	BS 60898/	B	50.0	9.0	-	-	-	-	0.93	
4L2	RCD (Metal Enclosure): RCD Tyre Bay	D4:6A	1	1	10	40.0	Fe	5.00	BS 3871/	3	45.0	6.0	-	-	-	-	0.51	
4L3	Shower - mechanics changing room	D1:4	1	1	6	135.0	Fe	5.00	BS 3871/	3	45.0	6.0	-	-	-	-	0.51	
5L1	110V Transformer (RLV): 110 volt transformer - sockets	D1:4	1	1	4	2.5	Cu	5.00	BS 3871/	3	30.0	6.0	-	-	-	-	0.76	
5L2	Spare	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
5L3	Spare	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
6L1	Spare	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
6L2	Spare	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
6L3	Spare	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Methods of installation are formatted <table code>-<x>, where refers to column <x> of the table given in Appendix 4 of the 17th Edition regulations or in manufacturer's data. Where cables are buried in a duct or directly in the ground, a ground temperature of 15°C @ a minimum depth 0.5 metre with a ground thermal resistivity of 1.2 K.m/W is assumed.

D1	4D1A	Single core 70°C thplastic sheathed cables, non-armoured (Cu)	H3	4H3A	Single-core 70°C armoured thplastic insulated cables (non-mag. armour) (Al)
D2	4D2A	Multicore 70°C thplastic insulated & thplastic sheathed cables, non-armoured (Cu)	H4	4H4A	Multi-core 70°C armoured thplastic insulated cables (Al)
D3	4D3A	Single core 70°C armoured thplastic (pvc) insulated cables (non-mag. armour) (Cu)	D5	4D5	70°C thplastic insulated & sheathed flat cable with protective conductor (Cu)
D4	4D4A	Multicore 70°C armoured thplastic insulated cables (Cu)	J1	4J1A	Single-core 90°C thsetting insulated cables, unarmoured, with or without sheath (Al)
E1	4E1A	90°C thsetting insulated cables, unarmoured, with or without sheath (Cu)	J2	4J2A	Multicore 90°C thsetting insulated & thplastic sheathed cables, non-armoured (Al)
E2	4E2A	Multicore 90°C thsetting insulated & thplastic sheathed cables, non-armoured (Cu)	J3	4J3A	Single core 90' C armoured thsetting insulated cables (non-mag. armour) (Al)
E3	4E3A	Single-core 90°C armoured thsetting insulated cables (non-mag. armour) (Cu)	J4	4J4A	Multi-core 90' C armoured thsetting insulated cables (Al)
E4	4E4A	Multi-core 90°C armoured thsetting insulated cables (Cu)	CO	Conc	Both concentric & split concentric cables
G1	4G1A	Mineral insulated cables thplastic covered or bare & exposed to touch (Cu&Sheath)	PC	Papcop	Paper insulated, lead sheath with either cloth or PVC outer sleeving. (Cu)
H1	4H1A	Single-core 70°C thplastic insulated cables, non-armoured, with/without sheath (Al)	PA	Papalu	Paper insulated, lead sheath with either cloth or PVC outer sleeving. (Al)
H2	4H2A	Multi-core 70°C thplastic insulated & thplastic sheathed cables, non-armoured (Al)			

Location: *Workshop* Site Name: *Xample Car Dealership*

Results: Z_{db} : *0.40* W Outside of the Potential Zone: *No* Earthing Arrangements: *NA*

I_{pf} : *8.00* kA Means of Earthing: *NA* Earth Electrode Type: *NA*

RCD1 IDn: *NA* ms Earth Electrode Location: *NA* Electrode Resistance: *NA* W

5IDn: *NA* ms Main/Electrode Earthing Conductor: *NA* mm

RCD2 IDn: *NA* ms Water: *NA* mm Gas: *NA* mm Oil: *NA* mm Structural Steelwork: *NA* mm

5IDn: *NA* ms Metalwork Between Buildings (Separate DNO Supply): *NA* mm Other: *NA* mm

Circuit Number	Ring Main Impedances			Circuit Impedances			Insulation Resistance				Polarity	Maximum Measured Earth Loop Impedance Zs	RCBO Fuseway		RCD Circuit		Maximum Non-compliance Severity Observed	Circuit Compliance for Continued Safe Use
	RI W	Rn W	R2 W	R1 + R2 W	R2 W	CPC Continuous Throughout Circuit P/F	Phase/Phase MW	Phase/Neutral MW	Phase/Earth MW	Neutral/Earth MW			At IDn 0° & 180° (Highest Reading) ms	At 5IDn (£30 mA) 0° & 180° (Highest Reading) ms	At IDn 0° & 180° (Highest Reading) ms	At 5IDn (£30 mA) 0° & 180° (Highest Reading) ms		
1L1	-	-	-	-	-	Yes	UTT	-	299.00	-	Pass	0.50	-	-	-	-	C3	Pass
1L2	-	-	-	-	-	Yes	UTT	-	299.00	-	Pass	0.50	-	-	-	-	C3	Pass
1L3	-	-	-	-	-	Yes	UTT	-	299.00	-	Pass	0.50	-	-	-	-	C3	Pass
2L1	-	-	-	-	-	NA	-	-	-	-	NA	NA	-	-	-	-	-	Pass
2L1a	-	-	-	-	-	Yes	-	UTT	299.00	299.00	Pass	0.60	-	-	-	-	C2	Fail
2L1b	-	-	-	-	-	Yes	-	299.00	299.00	299.00	Pass	1.20	-	-	-	-	C2	Fail
2L2	0.90	0.90	-	-	-	Yes	-	299.00	299.00	299.00	Pass	0.30	-	-	-	-	-	Pass
2L3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3L1	-	-	-	-	-	NA	-	-	-	-	NA	NA	-	-	-	-	-	Pass
3L1a	-	-	-	-	-	Yes	UTT	-	299.00	-	Pass	0.50	-	-	-	-	-	Pass
3L1b	-	-	-	-	-	Yes	299.00	299.00	299.00	299.00	Pass	0.40	-	-	-	-	-	Pass
3L2	-	-	-	-	-	NA	-	-	-	-	NA	NA	-	-	-	-	-	Pass
3L2a	-	-	-	-	-	Yes	UTT	-	299.00	-	Pass	0.50	-	-	-	-	-	Pass
3L2b	-	-	-	-	-	Yes	299.00	299.00	299.00	299.00	Pass	0.40	-	-	-	-	-	Pass
3L3	-	-	-	-	-	NA	-	-	-	-	NA	NA	-	-	-	-	-	Pass
3L3a	-	-	-	-	-	Yes	UTT	-	299.00	-	Pass	0.50	-	-	-	-	-	Pass
3L3b	-	-	-	-	-	Yes	299.00	299.00	299.00	299.00	Pass	0.40	-	-	-	-	-	Pass
4L1	-	-	-	-	-	Yes	-	299.00	299.00	299.00	Pass	0.40	-	-	-	-	C2	Fail
4L2	-	-	-	UTT	-	NA	-	299.00	NA	NA	Pass	UTT	-	-	-	-	LIMIT	Pass
4L3	-	-	-	-	-	Yes	-	UTT	37.00	40.00	Pass	0.40	-	-	-	-	C2	Fail
5L1	-	-	-	-	-	Yes	-	UTT	299.00	299.00	Pass	0.30	-	-	-	-	-	Pass
5L2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5L3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6L1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6L2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6L3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Type/ID:	Split RCD Fuse Board: Valet bay		Make/Frame:	MEM		Effective Upline Device	BS 60898/B	
Fed From:	Distribution Board: 1/2L1		RCD1	RCD2		BS (EN):	BS 61008	
Located:	Valet bay		BS 61008	BS 61008		Rating:	50.0 A	
Supply Type:	AC 1-phase 2-wire 230V Neutral		Rating:	NA A		Breaking Capacity:	9.0 kA	
Cable BS Type:	6346	CSA: 10.0 mm	IDn:	30.00 mA		Overload I _o /I _r :	- A	
CPC Type:	Copper Conductor/Steel Armour**	CSA: 40.00 mm	Circuits:	3L1-4L1		Instant Setting I _l /I _m :	- A	
						Maximum Let-Through Current @ I _{pf} Max:	2.00 kA A	

Circuit Number	Circuit Description	Method of Installation	Conductor Details					Maximum Disconnection Time Permitted by BS7671	Overcurrent Protective Device						RCBO (Fuseway)	RCD (Circuit)	Maximum Z _s Permitted by BS7671
			Number of Phases	Number of Cables	Live Conductor	CPC Conductor	CPC Material		Protective Switch Type	Sub Category	Rating	Short Circuit Capacity	Overload I _o /I _r	Instant Setting I _l /I _m			
1L1	RCD for Adjacent Fuseway	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2L1	RCD for Adjacent Fuseway	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3L1	Sockets - left hand wall	D1:4	1	2	2.5	81.0	Fe	0.40	BS 3871/	3	32.0	6.0	-	-	-	-	1666.67
4L1	Sockets - right hand wall	D1:4	1	2	2.5	81.0	Fe	0.40	BS 3871/	3	32.0	6.0	-	-	-	-	1666.67
5L1	RCD for Adjacent Fuseway	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6L1	RCD for Adjacent Fuseway	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7L1	Water heater	D5:6	1	1	1.5	1.0	Cu	0.40	BS 3871/	2	30.0	6.0	-	-	-	-	500.00
8L1	Outside high level light	D4:2	1	1	1.5	15.0	Fe	0.40	BS 3871/	3	16.0	6.0	-	-	-	-	500.00

Methods of installation are formatted <table code>-<x>, where refers to column <x> of the table given in Appendix 4 of the 17th Edition regulations or in manufacturer's data. Where cables are buried in a duct or directly in the ground, a ground temperature of 15°C @ a minimum depth 0.5 metre with a ground thermal resistivity of 1.2 K.m/W is assumed.

D1	4D1A	Single core 70°C thplastic sheathed cables, non-armoured (Cu)	H3	4H3A	Single-core 70°C armoured thplastic insulated cables (non-mag. armour) (Al)
D2	4D2A	Multicore 70°C thplastic insulated & thplastic sheathed cables, non-armoured (Cu)	H4	4H4A	Multi-core 70°C armoured thplastic insulated cables (Al)
D3	4D3A	Single core 70°C armoured thplastic (pvc) insulated cables (non-mag. armour) (Cu)	D5	4D5	70°C thplastic insulated & sheathed flat cable with protective conductor (Cu)
D4	4D4A	Multicore 70°C armoured thplastic insulated cables (Cu)	J1	4J1A	Single-core 90°C thsetting insulated cables, unarmoured, with or without sheath (Al)
E1	4E1A	90°C thsetting insulated cables, unarmoured, with or without sheath (Cu)	J2	4J2A	Multicore 90°C thsetting insulated & thplastic sheathed cables, non-armoured (Al)
E2	4E2A	Multicore 90°C thsetting insulated & thplastic sheathed cables, non-armoured (Cu)	J3	4J3A	Single core 90° C armoured thsetting insulated cables (non-mag. armour) (Al)
E3	4E3A	Single-core 90°C armoured thsetting insulated cables (non-mag. armour) (Cu)	J4	4J4A	Multi-core 90° C armoured thsetting insulated cables (Al)
E4	4E4A	Multi-core 90°C armoured thsetting insulated cables (Cu)	CO	Conc	Both concentric & split concentric cables
G1	4G1A	Mineral insulated cables thplastic covered or bare & exposed to touch (Cu&Sheath)	PC	Papcop	Paper insulated, lead sheath with either cloth or PVC outer sleeving. (Cu)
H1	4H1A	Single-core 70°C thplastic insulated cables, non-armoured, with/without sheath (Al)	PA	Papalu	Paper insulated, lead sheath with either cloth or PVC outer sleeving. (Al)
H2	4H2A	Multicore 70°C thplastic insulated & thplastic sheathed cables, non-armoured (Al)			

Location:	Valet bay		Site Name:	Xample Car Dealership	
Results:	Z _{db} :	0.40 W	Outside of the Potential Zone:	Yes	
	I _{pf} :	2.00 kA	Means of Earthing:	Suppliers facility	
RCD1	IDn:	20.00 ms	Earth Electrode Location:	NA	
	5IDn:	5.00 ms	Main/Electrode Earthing Conductor:	40.00 mm	
RCD2	IDn:	20.00 ms	Water:	10.00 mm	Gas: None mm
	5IDn:	NA ms	Oil:	None mm	Structural Steelwork: 6.00 mm
			Metalwork Between Buildings (Separate DNO Supply):	None mm	Other: None mm

Circuit Number	Ring Main Impedances			Circuit Impedances			Insulation Resistance				Polarity	Maximum Measured Earth Loop Impedance Zs	RCBO Fuseway		RCD Circuit		Maximum Non-compliance Severity Observed	Circuit Compliance for Continued Safe Use
	RI W	Rn W	R2 W	R1 + R2 W	R2 W	CPC Continuous Throughout Circuit P/F	Phase/Phase MW	Phase/Neutral MW	Phase/Earth MW	Neutral/Earth MW			At IDn 0° & 180° (Highest Reading) ms	At 5IDn (£30 mA) 0° & 180° (Highest Reading) ms	At IDn 0° & 180° (Highest Reading) ms	At 5IDn (£30 mA) 0° & 180° (Highest Reading) ms		
1L1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2L1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3L1	0.30	0.30	-	-	-	Yes	-	299.00	299.00	299.00	Pass	0.30	-	-	-	-	-	Pass
4L1	0.30	0.45	-	-	-	Yes	-	299.00	299.00	299.00	Pass	0.20	-	-	-	-	-	C2 Fail
5L1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6L1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7L1	-	-	-	0.20	-	Yes	-	UTT	153.00	154.00	Pass	0.60	-	-	-	-	-	Pass
8L1	-	-	-	UTT	0.34	Yes	-	UTT	264.00	268.00	Pass	UTT	-	-	-	-	-	LIMIT Pass

Type/ID:	RCD (Metal Enclosure): RCD Tyre Bay		Make/Frame:	Merlin Gerin		Effective Upline Device	
Fed From:	Distribution Board: 1/2L1		RCD1	RCD2		BS (EN):	BS 3871/3
Located:	Tyre bay		BS 61008	NA		Rating:	45.0 A
Supply Type:	AC 1-phase 2-wire 230V Neutral		Rating:	NA	A	Breaking Capacity:	6.0 kA
Cable BS Type:	6346	CSA: 10.0 mm	IDn: 100.00 mA	IDn: NA	mA	Overload I _o /I _r :	- A
CPC Type:	Copper Conductor/Steel Armour**	CSA: 40.00 mm	Circuits: 1L1	Circuits: NA		Instant Setting I _l /I _m :	- A
						Maximum Let-Through Current @ I _{pf} Max:	2.00 kA A

Circuit Number	Circuit Description	Method of Installation	Conductor Details					Overcurrent Protective Device					RCBO (Fuseway)	RCD (Circuit)	Maximum Z _s Permitted by BS7671			
			Number of Phases	Number of Cables	Live Conductor	CPC Conductor	CPC Material	Maximum Disconnection Time Permitted by BS7671	Protective Switch Type	Sub Category	Rating	Short Circuit Capacity				Overload I _o /I _r	Instant Setting I _l /I _m	
1L1	Fuse Board: Tyre Bay	D1:6	1	1	10 mm	6.0 mm	Cu	1.00 s	BS (EN) Solid Link	-	A	kA	A	kA	mA	mA	W	500.00

Methods of installation are formatted <table code>-<x>, where refers to column <x> of the table given in Appendix 4 of the 17th Edition regulations or in manufacturer's data. Where cables are buried in a duct or directly in the ground, a ground temperature of 15°C @ a minimum depth 0.5 metre with a ground thermal resistivity of 1.2 K.m/W is assumed.

D1 4D1A	Single core 70°C thplastic sheathed cables, non-armoured (Cu)	H3 4H3A	Single-core 70°C armoured thplastic insulated cables (non-mag. armour) (Al)
D2 4D2A	Multicore 70°C thplastic insulated & thplastic sheathed cables, non-armoured (Cu)	H4 4H4A	Multi-core 70°C armoured thplastic insulated cables (Al)
D3 4D3A	Single core 70°C armoured thplastic (pvc) insulated cables (non-mag. armour) (Cu)	D5 4D5	70°C thplastic insulated & sheathed flat cable with protective conductor (Cu)
D4 4D4A	Multicore 70°C armoured thplastic insulated cables (Cu)	J1 4J1A	Single-core 90°C thsetting insulated cables, unarmoured, with or without sheath (Al)
E1 4E1A	90°C thsetting insulated cables, unarmoured, with or without sheath (Cu)	J2 4J2A	Multicore 90°C thsetting insulated & thplastic sheathed cables, non-armoured (Al)
E2 4E2A	Multicore 90°C thsetting insulated & thplastic sheathed cables, non-armoured (Cu)	J3 4J3A	Single core 90° C armoured thsetting insulated cables (non-mag. armour) (Al)
E3 4E3A	Single-core 90°C armoured thsetting insulated cables (non-mag. armour) (Cu)	J4 4J4A	Multi-core 90° C armoured thsetting insulated cables (Al)
E4 4E4A	Multi-core 90°C armoured thsetting insulated cables (Cu)	CO Conc	Both concentric & split concentric cables
G1 4G1A	Mineral insulated cables thplastic covered or bare & exposed to touch (Cu&Sheath)	PC Papcop	Paper insulated, lead sheath with either cloth or PVC outer sleeving. (Cu)
H1 4H1A	Single-core 70°C thplastic insulated cables, non-armoured, with/without sheath (Al)	PA Papalu	Paper insulated, lead sheath with either cloth or PVC outer sleeving. (Al)
H2 4H2A	Multicore 70°C thplastic insulated & thplastic sheathed cables, non-armoured (Al)		

Location: *Tyre bay* Site Name: *Xample Car Dealership*

Results: Z_{db} : *60.00* W Outside of the Potential Zone: *Yes* Earthing Arrangements: *TT*

I_{pf} : *2.00* kA Means of Earthing: *Installation earth electrode* Earth Electrode Type: *Rod(s)*

RCD1 IDn: *100.00* ms Earth Electrode Location: *NA* Electrode Resistance: *60.00* W

5IDn: *NA* ms Main/Electrode Earthing Conductor: *6.00* mm

RCD2 IDn: *NA* ms Water: *None* mm Gas: *None* mm Oil: *None* mm Structural Steelwork: *10.00* mm

5IDn: *NA* ms Metalwork Between Buildings (Separate DNO Supply): *None* mm Other: *None* mm

Circuit Number	Ring Main Impedances			Circuit Impedances			Insulation Resistance				Polarity	Maximum Measured Earth Loop Impedance Zs	RCBO Fuseway		RCD Circuit		Maximum Non-compliance Severity Observed	Circuit Compliance for Continued Safe Use
	RI	Rn	R2	R1 + R2	R2	CPC Continuous Throughout Circuit	Phase/Phase	Phase/Neutral	Phase/Earth	Neutral/Earth			At IDn 0° & 180° (Highest Reading)	At 5IDn (£30 mA) 0° & 180° (Highest Reading)	At IDn 0° & 180° (Highest Reading)	At 5IDn (£30 mA) 0° & 180° (Highest Reading)		
1L1	-	-	-	-	-	Yes	-	299.00	299.00	299.00	Pass	60.00	-	-	-	-	-	Pass

Type/ID:	Fuse Board: Tyre Bay		Make/Frame:	MEM		Effective Upline Device	BS 3871/3	
Fed From:	RCD (Metal Enclosure): RCD Tyre Bay		RCD1	RCD2		BS (EN):	BS 3871/3	
Located:	Entrance of tyre bay		NA	NA		Rating:	45.0 A	
Supply Type:	AC 1-phase 2-wire 230V Neutral		Rating:	NA A		Breaking Capacity:	6.0 kA	
Cable BS Type:	6004	CSA: 10.0 mm	IDn:	NA mA		Overload Io/Ir:	- A	
CPC Type:	Unbunched Copper Cable*	CSA: 6.00 mm	Circuits:	NA		Instant Setting I/Im:	- A	
						Maximum Let-Through Current @ Ipf Max:	2.00 kA A	

Circuit Number	Circuit Description	Method of Installation	Conductor Details					Maximum Disconnection Time Permitted by BS7671	Overcurrent Protective Device						RCBO (Fuseway)	RCD (Circuit)	Maximum Zs Permitted by BS7671
			Number of Phases	Number of Cables	Live Conductor	CPC Conductor	CPC Material		Protective Switch Type	Sub Category	Rating	Short Circuit Capacity	Overload Io/Ir	Instant Setting I/Im			
1L1	Lights	D1:4	1	1	1.5	1.0	Cu	0.20	BS (EN)	B	6.0	6.0	-	kA	30	-	1666.67
2L1	Sockets	D1:4	1	1	2.5	1.0	Cu	0.20	BS 61009/	C	20.0	6.0	-	-	30	-	1666.67

Methods of installation are formatted <table code>-<x>, where refers to column <x> of the table given in Appendix 4 of the 17th Edition regulations or in manufacturer's data. Where cables are buried in a duct or directly in the ground, a ground temperature of 15°C @ a minimum depth 0.5 metre with a ground thermal resistivity of 1.2 K.m/W is assumed.

D1 4D1A	Single core 70°C thplastic sheathed cables, non-armoured (Cu)	H3 4H3A	Single-core 70°C armoured thplastic insulated cables (non-mag. armour) (Al)
D2 4D2A	Multicore 70°C thplastic insulated & thplastic sheathed cables, non-armoured (Cu)	H4 4H4A	Multi-core 70°C armoured thplastic insulated cables (Al)
D3 4D3A	Single core 70°C armoured thplastic (pvc) insulated cables (non-mag. armour) (Cu)	D5 4D5	70°C thplastic insulated & sheathed flat cable with protective conductor (Cu)
D4 4D4A	Multicore 70°C armoured thplastic insulated cables (Cu)	J1 4J1A	Single-core 90°C thsetting insulated cables, unarmoured, with or without sheath (Al)
E1 4E1A	90°C thsetting insulated cables, unarmoured, with or without sheath (Cu)	J2 4J2A	Multicore 90°C thsetting insulated & thplastic sheathed cables, non-armoured (Al)
E2 4E2A	Multicore 90°C thsetting insulated & thplastic sheathed cables, non-armoured (Cu)	J3 4J3A	Single core 90' C armoured thsetting insulated cables (non-mag. armour) (Al)
E3 4E3A	Single-core 90°C armoured thsetting insulated cables (non-mag. armour) (Cu)	J4 4J4A	Multi-core 90' C armoured thsetting insulated cables (Al)
E4 4E4A	Multi-core 90°C armoured thsetting insulated cables (Cu)	CO Conc	Both concentric & split concentric cables
G1 4G1A	Mineral insulated cables thplastic covered or bare & exposed to touch (Cu&Sheath)	PC Papcop	Paper insulated, lead sheath with either cloth or PVC outer sleeving. (Cu)
H1 4H1A	Single-core 70°C thplastic insulated cables, non-armoured, with/without sheath (Al)	PA Papalu	Paper insulated, lead sheath with either cloth or PVC outer sleeving. (Al)
H2 4H2A	Multicore 70°C thplastic insulated & thplastic sheathed cables, non-armoured (Al)		

Location: Entrance of tyre bay

Site Name: Xample Car Dealership

Results: Z_{db} : 60.00 W Outside of the Potential Zone: No Earthing Arrangements: NA
 I_{pf} : 1.00 kA Means of Earthing: NA Earth Electrode Type: NA
RCD1 IDn: NA ms Earth Electrode Location: NA Electrode Resistance: NA W
5IDn: NA ms Main/Electrode Earthing Conductor: NA mm
RCD2 IDn: NA ms Water: NA mm Gas: NA mm Oil: NA mm Structural Steelwork: NA mm
5IDn: NA ms Metalwork Between Buildings (Separate DNO Supply): NA mm Other: NA mm

Circuit Number	Ring Main Impedances			Circuit Impedances			Insulation Resistance				Polarity	Maximum Measured Earth Loop Impedance Z_s	RCBO Fuseway		RCD Circuit		Maximum Non-compliance Severity Observed	Circuit Compliance for Continued Safe Use		
	RI	Rn	R2	R1 + R2	R2	CPC Continuous Throughout Circuit	Phase/Phase	Phase/Neutral	Phase/Earth	Neutral/Earth			At IDn 0° & 180° (Highest Reading)	At 5IDn (£30 mA) 0° & 180° (Highest Reading)	At IDn 0° & 180° (Highest Reading)	At 5IDn (£30 mA) 0° & 180° (Highest Reading)				
1L1	-	-	-	-	-	Yes	-	UTT	299.00	299.00	299.00	Pass	62.00	80	42	-	-	No.	C5	Pass
2L1	-	-	-	-	-	Yes	-	299.00	299.00	0.80	299.00	Pass	64.00	400	20	-	-	C2	C2	Fail

Type/ID:	110V Transformer (RLV): 110 volt transformer - sockets		Make/Frame:	Unknown		Effective Upline Device	BS 3871/3		
Fed From:	Distribution Board: 1/2L1		RCD1	NA		RCD2	NA		
Located:	Workshop		Rating:	NA		A	Rating:	30.0 A	
Supply Type:	AC 1-phase 2-wire 230V Neutral		IDn:	NA		mA	Breaking Capacity:	6.0 kA	
Cable BS Type:	6004	CSA: 4.0 mm	Circuits:	NA		mA	Overload I _o /I _r :	- A	
CPC Type:	Bunched Copper Cable	CSA: 2.50 mm	Circuits:	NA		mA	Instant Setting I/Im:	- A	
							Maximum Let-Through Current @ I _{pf} Max:	2.00 kA A	

Circuit Number	Circuit Description	Method of Installation	Conductor Details					Maximum Disconnection Time Permitted by BS7671	Overcurrent Protective Device						Maximum Z _s Permitted by BS7671
			Number of Phases	Number of Cables	Live Conductor	CPC Conductor	CPC Material		Protective Switch Type	Sub Category	Rating	Short Circuit Capacity	Overload I _o /I _r	Instant Setting I/Im	
					mm	mm	s	BS (EN)	A	kA	A	kA	mA	mA	W
1L1	110volt sockets right hand wall of workshop	D1:5	2	1	2.5	81.0	Fe	5.00	BS 60898/	B	16.0	9.0	-	-	-
1L2	110volt sockets right hand wall of workshop	D1:5	2	1	2.5	81.0	Fe	5.00	Solid Link	-	-	-	-	-	-
2L1	110volt sockets left hand wall of workshop	D1:5	2	1	2.5	81.0	Fe	5.00	BS 60898/	B	16.0	9.0	-	-	0.69
2L2	110volt sockets left hand wall of workshop	D1:5	2	1	2.5	81.0	Fe	5.00	BS 60898/	B	16.0	9.0	-	-	0.69

Methods of installation are formatted <table code>-<x>, where refers to column <x> of the table given in Appendix 4 of the 17th Edition regulations or in manufacturer's data. Where cables are buried in a duct or directly in the ground, a ground temperature of 15°C @ a minimum depth 0.5 metre with a ground thermal resistivity of 1.2 K.m/W is assumed.

- | | | | | | |
|----|------|---|----|--------|--|
| D1 | 4D1A | Single core 70°C thplastic sheathed cables, non-armoured (Cu) | H3 | 4H3A | Single-core 70°C armoured thplastic insulated cables (non-mag. armour) (Al) |
| D2 | 4D2A | Multicore 70°C thplastic insulated & thplastic sheathed cables, non-armoured (Cu) | H4 | 4H4A | Multi-core 70°C armoured thplastic insulated cables (Al) |
| D3 | 4D3A | Single core 70°C armoured thplastic (pvc) insulated cables (non-mag. armour) (Cu) | D5 | 4D5 | 70°C thplastic insulated & sheathed flat cable with protective conductor (Cu) |
| D4 | 4D4A | Multicore 70°C armoured thplastic insulated cables (Cu) | J1 | 4J1A | Single-core 90°C thsetting insulated cables, unarmoured, with or without sheath (Al) |
| E1 | 4E1A | 90°C thsetting insulated cables, unarmoured, with or without sheath (Cu) | J2 | 4J2A | Multicore 90°C thsetting insulated & thplastic sheathed cables, non-armoured (Al) |
| E2 | 4E2A | Multicore 90°C thsetting insulated & thplastic sheathed cables, non-armoured (Cu) | J3 | 4J3A | Single core 90° C armoured thsetting insulated cables (non-mag. armour) (Al) |
| E3 | 4E3A | Single-core 90°C armoured thsetting insulated cables (non-mag. armour) (Cu) | J4 | 4J4A | Multi-core 90° C armoured thsetting insulated cables (Al) |
| E4 | 4E4A | Multi-core 90°C armoured thsetting insulated cables (Cu) | CO | Conc | Both concentric & split concentric cables |
| G1 | 4G1A | Mineral insulated cables thplastic covered or bare & exposed to touch (Cu&Sheath) | PC | Papcop | Paper insulated, lead sheath with either cloth or PVC outer sleeving. (Cu) |
| H1 | 4H1A | Single-core 70°C thplastic insulated cables, non-armoured, with/without sheath (Al) | PA | Papalu | Paper insulated, lead sheath with either cloth or PVC outer sleeving. (Al) |
| H2 | 4H2A | Multi-core 70°C thplastic insulated & thplastic sheathed cables, non-armoured (Al) | | | |

Location: *Workshop* **Site Name:** *Xample Car Dealership*
Results: Z_{db} : *0.30* W **Outside of the Potential Zone:** *No* **Earthing Arrangements:** *NA*
 I_{pf} : *2.00* kA **Means of Earthing:** *NA* **Earth Electrode Type:** *NA*
RCD1 IDn : *NA* ms **Earth Electrode Location:** *NA* **Electrode Resistance:** *NA* W
 $5IDn$: *NA* ms **Main/Electrode Earthing Conductor:** *NA* mm
RCD2 IDn : *NA* ms **Water:** *NA* mm **Gas:** *NA* mm **Oil:** *NA* mm **Structural Steelwork:** *NA* mm
 $5IDn$: *NA* ms **Metalwork Between Buildings (Separate DNO Supply):** *NA* mm **Other:** *NA* mm

Circuit Number	Ring Main Impedances			Circuit Impedances			Insulation Resistance				Polarity	Maximum Measured Earth Loop Impedance Zs	RCBO Fuseway		RCD Circuit		Maximum Non-compliance Severity Observed	Circuit Compliance for Continued Safe Use
	RI	Rn	R2	R1 + R2	R2	CPC Continuous Throughout Circuit	Phase/Phase	Phase/Neutral	Phase/Earth	Neutral/Earth			At IDn 0° & 180° (Highest Reading)	At 5IDn (£30 mA) 0° & 180° (Highest Reading)	At IDn 0° & 180° (Highest Reading)	At 5IDn (£30 mA) 0° & 180° (Highest Reading)		
1L1	-	-	-	-	-	Yes	UTT	UTT	156.00	157.00	Pass	0.26	-	-	-	-	C2	Fail
1L2	-	-	-	-	-	Yes	UTT	UTT	156.00	157.00	Pass	0.26	-	-	-	-	C2	Fail
2L1	-	-	-	-	-	Yes	UTT	UTT	170.00	175.00	Pass	0.28	-	-	-	-	-	Pass
2L2	-	-	-	-	-	Yes	UTT	UTT	170.00	175.00	Pass	0.28	-	-	-	-	-	Pass

Type/ID:	Switch Fuse: 1/2L1/3L1b		Make/Frame:	MEM		Effective Upline Device	BS 60898/C	
Fed From:	Distribution Board: 1/2L1		RCD1	RCD2		BS (EN):	BS 60898/C	
Located:	Main workshop left hand rear		NA	NA		Rating:	32.0 A	
Supply Type:	AC 3-phase 4-wire 400V Neutral		Rating:	NA A		Breaking Capacity:	9.0 kA	
Cable BS Type:	6004	CSA: 6.0 mm	IDn:	NA mA		Overload I _o /I _r :	- A	
CPC Type:	Steel Trunking**	CSA: 135.00 mm	Circuits:	NA		Instant Setting I/Im:	- A	
						Maximum Let-Through Current @ I _{pf} Max:	4.00 kA A	

Circuit Number	Circuit Description	Method of Installation	Conductor Details					Overcurrent Protective Device							Maximum Z _s Permitted by BS7671		
			Number of Phases	Number of Cables	Live Conductor	CPC Conductor	CPC Material	Maximum Disconnection Time Permitted by BS7671	Protective Switch Type	Sub Category	Rating	Short Circuit Capacity	Overload I _o /I _r	Instant Setting I/Im		RCBO (Fuseway)	RCD (Circuit)
					mm	mm	s	BS (EN)		A	kA	A	kA	mA	mA	W	
1L1	Compressor 2	D1:5	3	1	10	135.0	Fe	5.00	BS 88-2 (E&G)	-	40.0	80.0	-	-	-	-	1.35
1L2	Compressor 2	D1:5	3	1	10	135.0	Fe	5.00	BS 88-2 (E&G)	-	40.0	80.0	-	-	-	-	1.35
1L3	Compressor 2	D1:5	3	1	10	135.0	Fe	5.00	BS 88-2 (E&G)	-	40.0	80.0	-	-	-	-	1.35

Methods of installation are formatted <table code>-<x>, where refers to column <x> of the table given in Appendix 4 of the 17th Edition regulations or in manufacturer's data. Where cables are buried in a duct or directly in the ground, a ground temperature of 15°C @ a minimum depth 0.5 metre with a ground thermal resistivity of 1.2 K.m/W is assumed.

D1	4D1A	Single core 70°C thplastic sheathed cables, non-armoured (Cu)	H3	4H3A	Single-core 70°C armoured thplastic insulated cables (non-mag. armour) (Al)
D2	4D2A	Multicore 70°C thplastic insulated & thplastic sheathed cables, non-armoured (Cu)	H4	4H4A	Multi-core 70°C armoured thplastic insulated cables (Al)
D3	4D3A	Single core 70°C armoured thplastic (pvc) insulated cables (non-mag. armour) (Cu)	D5	4D5	70°C thplastic insulated & sheathed flat cable with protective conductor (Cu)
D4	4D4A	Multicore 70°C armoured thplastic insulated cables (Cu)	J1	4J1A	Single-core 90°C thsetting insulated cables, unarmoured, with or without sheath (Al)
E1	4E1A	90°C thsetting insulated cables, unarmoured, with or without sheath (Cu)	J2	4J2A	Multicore 90°C thsetting insulated & thplastic sheathed cables, non-armoured (Al)
E2	4E2A	Multicore 90°C thsetting insulated & thplastic sheathed cables, non-armoured (Cu)	J3	4J3A	Single core 90° C armoured thsetting insulated cables (non-mag. armour) (Al)
E3	4E3A	Single-core 90°C armoured thsetting insulated cables (non-mag. armour) (Cu)	J4	4J4A	Multi-core 90° C armoured thsetting insulated cables (Al)
E4	4E4A	Multi-core 90°C armoured thsetting insulated cables (Cu)	CO	Conc	Both concentric & split concentric cables
G1	4G1A	Mineral insulated cables thplastic covered or bare & exposed to touch (Cu&Sheath)	PC	Papcop	Paper insulated, lead sheath with either cloth or PVC outer sleeving. (Cu)
H1	4H1A	Single-core 70°C thplastic insulated cables, non-armoured, with/without sheath (Al)	PA	Papalu	Paper insulated, lead sheath with either cloth or PVC outer sleeving. (Al)
H2	4H2A	Multicore 70°C thplastic insulated & thplastic sheathed cables, non-armoured (Al)			

Location: *Main workshop left hand rear*

Site Name: *Xample Car Dealership*

Results: Z_{db} : *0.40* W Outside of the Potential Zone: *No* Earthing Arrangements: *NA*
 I_{pf} : *6.00* kA Means of Earthing: *NA* Earth Electrode Type: *NA*
RCD1 IDn: *NA* ms Earth Electrode Location: *NA* Electrode Resistance: *NA* W
 5IDn: *NA* ms Main/Electrode Earthing Conductor: *NA* mm
RCD2 IDn: *NA* ms Water: *NA* mm Gas: *NA* mm Oil: *NA* mm Structural Steelwork: *NA* mm
 5IDn: *NA* ms Metalwork Between Buildings (Separate DNO Supply): *NA* mm Other: *NA* mm

Circuit Number	Ring Main Impedances			Circuit Impedances			Insulation Resistance				Polarity	Maximum Measured Earth Loop Impedance Zs	RCBO Fuseway		RCD Circuit		Maximum Non-compliance Severity Observed	Circuit Compliance for Continued Safe Use
	RI W	Rn W	R2 W	R1 + R2 W	R2 W	CPC Continuous Throughout Circuit P/F	Phase/Phase MW	Phase/Neutral MW	Phase/Earth MW	Neutral/Earth MW			At IDn 0° & 180° (Highest Reading) ms	At 5IDn (£30 mA) 0° & 180° (Highest Reading) ms	At IDn 0° & 180° (Highest Reading) ms	At 5IDn (£30 mA) 0° & 180° (Highest Reading) ms		
1L1	-	-	-	-	-	Yes	299.00	-	299.00	-	Pass	0.30	-	-	-	-	-	Pass
1L2	-	-	-	-	-	Yes	299.00	-	299.00	-	Pass	0.30	-	-	-	-	-	Pass
1L3	-	-	-	-	-	Yes	299.00	-	299.00	-	Pass	0.30	-	-	-	-	-	Pass

Type/ID:	Switch Fuse: B		Make/Frame:	MEM		Effective Upline Device	BS 4752	
Fed From:	Distribution Board: 1		RCD1	RCD2		BS (EN):	BS 4752	
Located:	1st floor offices		NA	NA		Rating:	63.0 A	
Supply Type:	AC 1-phase 2-wire 230V Neutral		Rating:	NA A		Breaking Capacity:	25.0 kA	
Cable BS Type:	6346	CSA: 10.0 mm	IDn:	NA mA		Overload I _o /I _r :	63.0 A	
CPC Type:	Copper Conductor/Steel Armour**	CSA: 40.00 mm	Circuits:	NA		Instant Setting I _l /I _m :	- A	
						Maximum Let-Through Current @ I _{pf} Max:	3.70 kA A	

Circuit Number	Circuit Description	Method of Installation	Conductor Details					Overcurrent Protective Device					RCBO (Fuseway)	RCD (Circuit)	Maximum Z _s Permitted by BS7671		
			Number of Phases	Number of Cables	Live Conductor	CPC Conductor	CPC Material	Maximum Disconnection Time Permitted by BS7671	Protective Switch Type	Sub Category	Rating	Short Circuit Capacity				Overload I _o /I _r	Instant Setting I _l /I _m
1L1	Fuse Board: B/1	D4:2	1	1	16 mm	46.0 mm	Fe	5.00 s	BS (EN) BS 3871/	3	A 45.0	kA 9.0	A -	kA -	- mA	- mA	0.51 W

Methods of installation are formatted <table code>-<x>, where refers to column <x> of the table given in Appendix 4 of the 17th Edition regulations or in manufacturer's data. Where cables are buried in a duct or directly in the ground, a ground temperature of 15°C @ a minimum depth 0.5 metre with a ground thermal resistivity of 1.2 K.m/W is assumed.

D1 4D1A	Single core 70°C thplastic sheathed cables, non-armoured (Cu)	H3 4H3A	Single-core 70°C armoured thplastic insulated cables (non-mag. armour) (Al)
D2 4D2A	Multicore 70°C thplastic insulated & thplastic sheathed cables, non-armoured (Cu)	H4 4H4A	Multi-core 70°C armoured thplastic insulated cables (Al)
D3 4D3A	Single core 70°C armoured thplastic (pvc) insulated cables (non-mag. armour) (Cu)	D5 4D5	70°C thplastic insulated & sheathed flat cable with protective conductor (Cu)
D4 4D4A	Multicore 70°C armoured thplastic insulated cables (Cu)	J1 4J1A	Single-core 90°C thsetting insulated cables, unarmoured, with or without sheath (Al)
E1 4E1A	90°C thsetting insulated cables, unarmoured, with or without sheath (Cu)	J2 4J2A	Multicore 90°C thsetting insulated & thplastic sheathed cables, non-armoured (Al)
E2 4E2A	Multicore 90°C thsetting insulated & thplastic sheathed cables, non-armoured (Cu)	J3 4J3A	Single core 90° C armoured thsetting insulated cables (non-mag. armour) (Al)
E3 4E3A	Single-core 90°C armoured thsetting insulated cables (non-mag. armour) (Cu)	J4 4J4A	Multi-core 90° C armoured thsetting insulated cables (Al)
E4 4E4A	Multi-core 90°C armoured thsetting insulated cables (Cu)	CO Conc	Both concentric & split concentric cables
G1 4G1A	Mineral insulated cables thplastic covered or bare & exposed to touch (Cu&Sheath)	PC Papcop	Paper insulated, lead sheath with either cloth or PVC outer sleeving. (Cu)
H1 4H1A	Single-core 70°C thplastic insulated cables, non-armoured, with/without sheath (Al)	PA Papalu	Paper insulated, lead sheath with either cloth or PVC outer sleeving. (Al)
H2 4H2A	Multi-core 70°C thplastic insulated & thplastic sheathed cables, non-armoured (Al)		

Location: *1st floor offices* **Site Name:** *Xample Car Dealership*
Results: Z_{db} : *0.20* W **Outside of the Potential Zone:** *No* **Earthing Arrangements:** *NA*
 I_{pf} : *5.00* kA **Means of Earthing:** *NA* **Earth Electrode Type:** *NA*
RCD1 ID_n : *NA* ms **Earth Electrode Location:** *NA* **Electrode Resistance:** *NA* W
 $5ID_n$: *NA* ms **Main/Electrode Earthing Conductor:** *NA* mm
RCD2 ID_n : *NA* ms **Water:** *NA* mm **Gas:** *NA* mm **Oil:** *NA* mm **Structural Steelwork:** *NA* mm
 $5ID_n$: *NA* ms **Metalwork Between Buildings (Separate DNO Supply):** *NA* mm **Other:** *NA* mm

Circuit Number	Ring Main Impedances			Circuit Impedances			Insulation Resistance				Polarity	Maximum Measured Earth Loop Impedance Zs	RCBO Fuseway		RCD Circuit		Maximum Non-compliance Severity Observed	Circuit Compliance for Continued Safe Use
	RI	Rn	R2	R1 + R2	R2	CPC Continuous Throughout Circuit	Phase/Phase	Phase/Neutral	Phase/Earth	Neutral/Earth			At ID_n 0° & 180° (Highest Reading)	At $5ID_n$ (£30 mA) 0° & 180° (Highest Reading)	At ID_n 0° & 180° (Highest Reading)	At $5ID_n$ (£30 mA) 0° & 180° (Highest Reading)		
1L1	-	-	-	UTT	-	Yes	-	299.00	299.00	299.00	Pass	0.30	-	-	-	-	-	Pass

Type/ID:	Fuse Board: B/1		Make/Frame:	Wylex		Effective Upline Device	BS 3871/3	
Fed From:	Switch Fuse: B		RCD1	RCD2		BS (EN):	BS 3871/3	
Located:	Kitchen		Rating:	NA		Rating:	45.0 A	
Supply Type:	AC 1-phase 2-wire 230V Neutral		Rating:	NA A		Breaking Capacity:	9.0 kA	
Cable BS Type:	6346	CSA: 16.0 mm	IDn:	NA mA		Overload I _o /I _r :	- A	
CPC Type:	Copper Conductor/Steel Armour**	CSA: 46.00 mm	Circuits:	NA		Instant Setting I _l /I _m :	- A	
						Maximum Let-Through Current @ I _{pf} Max:	3.40 kA A	

Circuit Number	Circuit Description	Method of Installation	Conductor Details					Maximum Disconnection Time Permitted by BS7671	Overcurrent Protective Device						Maximum Z _s Permitted by BS7671	
			Number of Phases	Number of Cables	Live Conductor	CPC Conductor	CPC Material		Protective Switch Type	Sub Category	Rating	Short Circuit Capacity	Overload I _o /I _r	Instant Setting I _l /I _m		RCBO (Fuseway)
					mm	mm	s	BS (EN)		A	kA	A	kA	mA	mA	W
1L1	Lights rear offices	D5:6	1	1	1.5	1.0	Cu	0.40	BS 60898/	B	10.0	6.0	-	-	-	4.60
2L1	Lights front offices	D5:6	1	1	1.5	1.0	Cu	0.40	BS 60898/	B	10.0	6.0	-	-	-	4.60
3L1	Sockets 1st floor offices	D5:6	1	2	2.5	3.0	Cu	0.40	BS 60898/	B	32.0	6.0	-	-	-	1.44

Methods of installation are formatted <table code>-<x>, where refers to column <x> of the table given in Appendix 4 of the 17th Edition regulations or in manufacturer's data. Where cables are buried in a duct or directly in the ground, a ground temperature of 15°C @ a minimum depth 0.5 metre with a ground thermal resistivity of 1.2 K.m/W is assumed.

D1	4D1A	Single core 70°C thplastic sheathed cables, non-armoured (Cu)	H3	4H3A	Single-core 70°C armoured thplastic insulated cables (non-mag. armour) (Al)
D2	4D2A	Multicore 70°C thplastic insulated & thplastic sheathed cables, non-armoured (Cu)	H4	4H4A	Multi-core 70°C armoured thplastic insulated cables (Al)
D3	4D3A	Single core 70°C armoured thplastic (pvc) insulated cables (non-mag. armour) (Cu)	D5	4D5	70°C thplastic insulated & sheathed flat cable with protective conductor (Cu)
D4	4D4A	Multicore 70°C armoured thplastic insulated cables (Cu)	J1	4J1A	Single-core 90°C thsetting insulated cables, unarmoured, with or without sheath (Al)
E1	4E1A	90°C thsetting insulated cables, unarmoured, with or without sheath (Cu)	J2	4J2A	Multicore 90°C thsetting insulated & thplastic sheathed cables, non-armoured (Al)
E2	4E2A	Multicore 90°C thsetting insulated & thplastic sheathed cables, non-armoured (Cu)	J3	4J3A	Single core 90' C armoured thsetting insulated cables (non-mag. armour) (Al)
E3	4E3A	Single-core 90°C armoured thsetting insulated cables (non-mag. armour) (Cu)	J4	4J4A	Multi-core 90' C armoured thsetting insulated cables (Al)
E4	4E4A	Multi-core 90°C armoured thsetting insulated cables (Cu)	CO	Conc	Both concentric & split concentric cables
G1	4G1A	Mineral insulated cables thplastic covered or bare & exposed to touch (Cu&Sheath)	PC	Papcop	Paper insulated, lead sheath with either cloth or PVC outer sleeving. (Cu)
H1	4H1A	Single-core 70°C thplastic insulated cables, non-armoured, with/without sheath (Al)	PA	Papalu	Paper insulated, lead sheath with either cloth or PVC outer sleeving. (Al)
H2	4H2A	Multi-core 70°C thplastic insulated & thplastic sheathed cables, non-armoured (Al)			

Location: *Kitchen* **Site Name:** *Xample Car Dealership*
Results: Z_{db} : *0.30* W **Outside of the Potential Zone:** *No* **Earthing Arrangements:** *NA*
 I_{pf} : *4.00* kA **Means of Earthing:** *NA* **Earth Electrode Type:** *NA*
RCD1 ID_n : *NA* ms **Earth Electrode Location:** *NA* **Electrode Resistance:** *NA* W
 $5ID_n$: *NA* ms **Main/Electrode Earthing Conductor:** *NA* mm
RCD2 ID_n : *NA* ms **Water:** *NA* mm **Gas:** *NA* mm **Oil:** *NA* mm **Structural Steelwork:** *NA* mm
 $5ID_n$: *NA* ms **Metalwork Between Buildings (Separate DNO Supply):** *NA* mm **Other:** *NA* mm

Circuit Number	Ring Main Impedances			Circuit Impedances			Insulation Resistance				Polarity	Maximum Measured Earth Loop Impedance Zs	RCBO Fuseway		RCD Circuit		Maximum Non-compliance Severity Observed	Circuit Compliance for Continued Safe Use
	RI	Rn	R2	R1 + R2	R2	CPC Continuous Throughout Circuit	Phase/Phase	Phase/Neutral	Phase/Earth	Neutral/Earth			At $ID_n 0^\circ$ & 180° (Highest Reading)	At $5ID_n$ (£30 mA) 0° & 180° (Highest Reading)	At $ID_n 0^\circ$ & 180° (Highest Reading)	At $5ID_n$ (£30 mA) 0° & 180° (Highest Reading)		
1L1	-	-	-	-	-	Yes	-	UTT	299.00	299.00	Pass	0.50	-	-	-	-	-	Pass
2L1	-	-	-	-	-	Yes	-	UTT	299.00	299.00	Pass	0.50	-	-	-	-	-	Pass
3L1	0.60	0.60	0.70	-	-	Yes	-	299.00	299.00	299.00	Pass	0.40	-	-	-	-	-	Pass