

# Specification for Kitchen Replacements.

## 1. Purpose

This specification sets out the requirements for the delivery of full and partial electrical rewiring works within the kitchen, bathroom and WC of a domestic properties owned and managed by Bron Afon.

## 2. Legislative & Regulatory Framework

All works must comply with current editions of the following:

- Health and Safety at Work etc. Act 1974
- Electricity at Work Regulations 1989
- Control of Asbestos Regulations 2012
- Building Regulations (specifically Approved Document P: Electrical Safety and practicable, Approved Document M: Access to and use of buildings)
- BS 7671 (Requirements for Electrical Installations) including all amendments and corrigendum
- BS5839-6\_(Fire detection and fire alarm systems for buildings - Code of practice for the design, installation, commissioning and maintenance of fire detection and fire alarm systems in domestic premises)

In addition, works must support compliance with:

- The Welsh Housing Quality Standard (WI-HQS 2023)
- Renting Homes (Wales) Act 2016

All electrical work, including design, construction and inspection and testing must be carried out by an electrical contractor registered with a competent person scheme such as NICEIC, NAPIT etc. The detailed design of each installation is the responsibility of the contractor and while each installation may differ slightly, the contractor must ensure that the design meets these specifications.

### 3. Scope of Works

Works may include:

- Implementation of a safe isolation process.
- Full or partial electrical rewires including suitable containment /wiring systems to the kitchen, bathroom and WC, exact works are property specific.
- Consumer unit replacements
- Upgrade of earthing and bonding conductors where necessary and applicable
- Installation of fire detection systems
- Replacement of accessories
- Testing, inspection and certification
- Arrangements & Installation of DNO Isolation Switch (arrangements to be made by the PC)
- Making good and reinstatement

Property types include:

- Houses
- General needs flats & bedsits
- Sheltered housing accommodation

### 4. Consideration for Works in Occupied Properties

Prior to works commencement the implementation of a safe isolation permit may be required dependant on the works required.

The customer should be informed prior to any disruption in power and given an indication as to how long this disruption will be.

The property must be left safe and secure at the end of each working day. The tenant must be left with adequate lighting and power, with particular consideration given to maintaining safety systems and where applicable cooking facilities.

### 5. Technical Specifications

#### a. Origin of Installation

To enable the safe replacement of the electrical installation, particularly the new consumer unit, the facility to isolate the main incoming electrical supply will be necessary. To enable this the DNO will need to be commissioned to supply and fit a suitable isolation switch.

The cost and arrangements to fit these isolation switches will be the sole responsibility of the PC undertaking the works.

#### b. Meter Tails and Earthing/Bonding Conductors

Meter tails should be sized in accordance with BS7671 and the DNO and will typically have a cross-sectional area of not less than 25mm<sup>2</sup>. Meter tails should not exceed three metres in length without additional overcurrent protection. Where the meter tails exceed three metres a suitably rated switch fuse should be installed at the origin.

The earthing conductor must be sized in accordance with BS7671 and will typically have a minimum cross-sectional area of 16mm<sup>2</sup>.

All required main equipotential bonding conductors must be sized and installed in accordance with BS7671 and will typically have a minimum cross-sectional area of 10mm<sup>2</sup>.

#### c. Consumer Unit

All final circuits are to be fed from a consumer unit manufactured from non-combustible material in accordance with BS7671 and contain a Type 2 SPD and 100A Main Switch. All final circuits shall be protected by a suitable RCBO of the correct type and rating to comply with BS7671. Special consideration should be given to the requirements for bi-directional protective devices and final circuits where DC current may be present to ensure that a suitable device is installed.

AFDDs are to be installed for final circuits supplying socket outlets up to 32A (including the cooker circuit if containing an integrated outlet) for all types of premises.

#### d. Final circuits

Minimum numbers of socket outlets per room are taken from Electrical Safety First and WHQS 2023 guidance, summarised in Appendix 1.

Specifications for each individual component are provided in Appendix 2.

Final circuits should be suitably designed and divided to meet the requirements of BS7671 with regards to ensuring safety and minimising inconvenience. Consideration should also be given to existing and potential future demands.

A typical circuit schedule should include but is not limited to:

- 1 Shower Supply (if present)
- 2 Cooker Supply
- 3 Suitably sized and divided ring final/radial circuits supplying socket outlets with at least a dedicated ring final circuit supplying socket outlets in the kitchen
- 4 Dedicated circuit for heating / hot water appliance(s)
- 5 Suitable number of lighting circuits (typically one per floor)

## 6 Dedicated circuit supplying fire-detection system

An adequate number of light fittings should be installed in each room to provide enough illumination for daily activities while minimising glare and shadows. A suitable number of switches should be installed at entries and exits to rooms to ensure safety and convenience to the user.

Extractor fans are to be installed in the kitchen and bathroom and supplied from a local lighting / sockets circuit via a switched / unswitched fused spur as appropriate. Fixed external grills are to be installed for each fan, although high-rise kits are permitted where necessary to avoid unreasonable working at height.

Typical heating circuits shall supply a combination boiler via a switched fused spur fitted with a 3A fuse. Controls / Programmers should be left in situ unless deemed necessary to replace.

A 45A cooker control unit incorporating a single socket outlet should be installed to one side of the cooker position and a 45A cooker connection unit installed at low level behind the cooker space.

All large appliances (washing machine, tumble dryer, fridge freezer etc.) should have a dedicated single socket outlet installed behind the appliance, switched via a switched fused spur / 20A double pole switch above worktop level.

A new fire detection system must be installed as part of the kitchen rewire to meet Category LD2 requirements, using Grade DI interlinked detectors as per BS5839-6 and need to be installed in circulation areas (optical detectors), kitchen (heat / CO multi sensor detector) and principle living area (optical) which is typically the living room but an assessment needs to be made on-site to determine this. Consideration should be given to the possible presence of electrical equipment in the loft space and the installation of an additional multi-sensor detector in the loft to satisfy the above requirements. Where an additional detector is installed in the loft space, a suitable remote test switch should be installed close to the consumer unit to facilitate testing of the detectors.



#### e. Cabling and Containment – Kitchen

All wiring is to be BASEC approved and will generally be thermoplastic insulated and sheathed flat cabling (6242Y/6243Y) appropriately sized for circuit loads. As far as practicable, cabling is to be routed within the wall space, ceiling voids, loft spaces or below floorboards. Where necessary, cabling can be installed surface mounted in suitably sized PVC mini-trunking using supports that will prevent premature collapse of the wiring system in the event of a fire.

Surface-mounted wiring systems and accessories should generally be installed in a neat and tidy fashion with every attempt made to minimise visual impact and disruption to decoration, utilising corners of rooms, sides of door / window frames etc, and tight to the ceiling where necessary.

### 6. Customers' Fixtures & Fittings

In some instances, in occupied properties, customers may have had their own light fittings fitted throughout their homes. Where this is the case, an assessment of the fittings should be made and provided that they are deemed safe to be put back into service, then they should be re-fitted following the rewire, unless the customer no longer wants to keep them. If any fittings are deemed to be unsafe, then they should be replaced with the specified fittings and the tenant informed.

Where customers have installed their own electrical supplies to outbuildings, sheds, water features, hot tubs, garden lights etc. these should be assessed for their continued suitability to be put back into service. If not deemed suitable, should be disconnected and the tenant should be informed accordingly.

If the property is unoccupied, all non-standard fittings should be removed and replaced with the specified fittings. Any supplies to outbuildings etc. should be disconnected and removed.

### 7. Making Good

Any redundant points should be made good with suitable blanking plates or filled accordingly. All holes and openings created as a result of the works should be suitably filled and where necessary and fire stopping put in place to ensure that the existing fire safety of the property isn't compromised. Whenever possible, light switches should be reinstated in their original locations, to minimise any need for blanking off or redecorating.

### 8. Handover in Occupied Properties

On completion of the works the customer should be advised on how to operate all newly installed equipment (consumer unit, RCBOs, smoke detectors etc.). Copies of all relevant

user instructions provided by product manufacturers should be left with the customer for their information.

In unoccupied properties, copies of user instructions should be left at the property.

## 9. Inspection, Testing & Certification

On completion of the electrical works and prior to putting the new installation into service, the installation is to be inspected and tested in accordance with BS7671. The below certification / documentation should be accurately and promptly completed and submitted to the person ordering the work:

- Electrical Installation Certificate.
- Certificate Of Design, Installation and Commissioning of A Fire Detection and Fire Alarm System of Grade C, D Or F in Domestic Premises.
- Building Control Notification / Certificate of Compliance.

**Notification of the work to building control is the responsibility of the PC.**

## **Appendix 1 —Guidance on minimum provision of socket outlets, referencing WHQS23.**

**Kitchens must have sufficient conveniently located power sockets.**

**With a minimum provision of electrical socket-outlets**

The charity Electrical Safety First provide a document 'Guidance on: Minimum provision of electrical Socket-outlets in the home'

<https://www.electricalsafetyfirst.org.uk/media/1204/guidance-on-minimum-provisionsocketsv2.pdf>

Not having sufficient socket-outlets may lead to risks such as:

- DIY extensions to circuits undertaken unsafely if the work is carried out by unskilled persons
- DIY extension to equipment flexes
- Cascading (daisy chaining) of extension leads
- Stacking of adaptor plugs

All of the above will create potential hazards, such as risk of tripping over leads, electric shock or injury and damage to property through fire.

Please read the Bron Afon specifications in line with Appendix 3 – Pricing Schedule, Appendix 4 – PCI and Appendix 6 – Scope of Work from the Tender Documents.

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