Technical Information

Cable Identification Guidance

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Learning Legacy Document

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1 Purpose

This guidance note further clarifies Crossrail's requirements in regards to identifying cables and supports the Asset Identification Standard (CRL1-XRL-O6-STD-CR001-00031) which already lays out general requirements for asset identification and labelling.

This guidance note has specifically been developed to aid the identification of cabling assets and how that relates to Asset Tags and Asset Tag Labels.

2 Definitions

In the interest of clarity it was decided to elucidate the following terms, often used in Asset Information Guidance Notes and defined in the Asset Information Glossary (CRL1-XRL-Z3-GUI-CR001-50012) in regards to cabling:

Technical Term	*Definition*
Asset Tag	The virtual representation of a cable within the Asset Information Management System
Asset Tag Label	The physical representation of a cable used to identify the cable on site for asset management purposes

Sections 4 and 7 of the Asset Identification Standard describe how the contractor is to identify their cabling assets and support Crossrail's M&W specifications JY 61 (CRL1-XRL-M-RSP-CR001-50078), JY 82 (CRL1-XRL-M-RSP-CR001-50088). JY82 does not require anything extra for final circuit identification other than that already required by BS 7671 (IET Wiring Regulations), where paragraph 514.1.2 states that:

- So far as is reasonably practicable, wiring shall be so arranged or marked that it can be identified for inspection, testing, repair or alteration of the installation.

And London Underground's "Low Voltage Electrical Installations" Standard, 1-069, where paragraph 3.8.2 outlines:

- Cables (including final sub-circuit cables) shall be identified by labels and a common system which applies throughout all LU installations and has been approved by LU. Sub-main cables shall have the labelling repeated at regular intervals along their length, and final sub-circuits shall be labelled at their points of termination.

Therefore, in regards to cable identification the contractor is advised to follow the Asset Identification Standard, JY82.3205, plus the requirements of BS 7671, and 1-069.

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3 Reference Table

For ease of use, the Asset Identification Team has developed the following table as a quick reference guide.

Cables and pipes within a room/panel will generally not be recorded. Cables and pipes between rooms/locations will be recorded as Asset Tags"

Asset Type	*Asset Tag Requirement*	*(White) Asset Tag Label Requirements*	*Label Position*
Generic Cables	1 Asset Tag per circuit.	Generic cables enclosed in conduits or trunking will only be labelled at the Source and destination.	A cable shall be identified within 500mm of its source and destination.
HV Cables (including 3 single core cables working as one feeder) **(Traction and non-Traction)**	Each circuit (including 3 single core cables working as one feeder), which may include any joints, will be an individual Asset Tag e.g. Source asset to Destination asset.	Linear assets shall be clearly labelled to ensure correct identification. Multiple labels shall be required for linear assets.	A circuit (including 3 single core cables working as one feeder) shall be identified at each end, within 12m intervals in stations, within 100m intervals in tunnels and either side of penetrations along its route. In each space through which it passes, within 500mm of its entry into/ exit from a space and within 500mm of each termination.
LV Submains Cables	Each circuit, which may include any joints, will be an individual Asset Tag e.g. Source asset to Destination asset. Wiring must be mapped to the Switch Board FU which is designated as the primary feed. The contractors will have to tell us which of the 2 Switchboards provides the primary feed.	Linear assets shall be clearly labelled to ensure correct identification. Multiple labels shall be required for linear assets.	A circuit shall be identified at each end, within 12m intervals in stations, within 100m intervals in tunnels and either side of penetrations along its route. In each space through which it passes, within 500mm of its entry into/ exit from a space and within 500mm of each termination.
LV final circuitry	Each circuit will be an individual Asset Tag. For example the cables supplying a collection of luminaires within a variety of rooms will be captured as 1 asset tag.	Provide all circuits with labels fixed at each end of cable either side of wall and floor penetrations at approximately 12m intervals at convenient inspection points by means of non-releasable straps, minimum width 4mm.	A circuit shall be identified at each end, within 12m intervals in stations, within 100m intervals in tunnels and either side of penetrations along its route. In each space through which it passes, within 500mm of its entry into/ exit from a space and within 500mm of each termination.
Data / Control and Fire Cables	Each circuit, which may include any joints, will be an individual Asset Tag. For example the cables supplying a collection of smoke detectors within a variety of rooms and part of the same circuit, or loop, will be captured as 1 asset tag.	Provide all circuits with labels fixed at each section of cable and either side of wall and floor penetrations at approximately 100m intervals at convenient inspection points by means of non-releasable straps, minimum width 4mm	A circuit shall be identified at each end, between devices and within 100m intervals in tunnels and either side of penetrations along its route. In each space through which it passes, within 500mm of its entry into/ exit from a space and within 500mm of each termination.
Buried / Underground Cabling	Each cable, which may include any joints, will be an individual Asset Tag e.g. Source asset to Destination asset.	Where applicable Identify external underground cable routes by means of approved markers along their length at distances not exceeding 50m and where a change of direction occurs on such routes. Provide cables markers with a brass plate or impress concrete marker tiles to clearly indicate the reference of	A cable shall be identified at each end, within 12m intervals in stations, within 100m intervals in tunnels and either side of penetrations along its route. In each space through which it passes, within 500mm of its entry into/ exit from a space and within 500mm of each termination.

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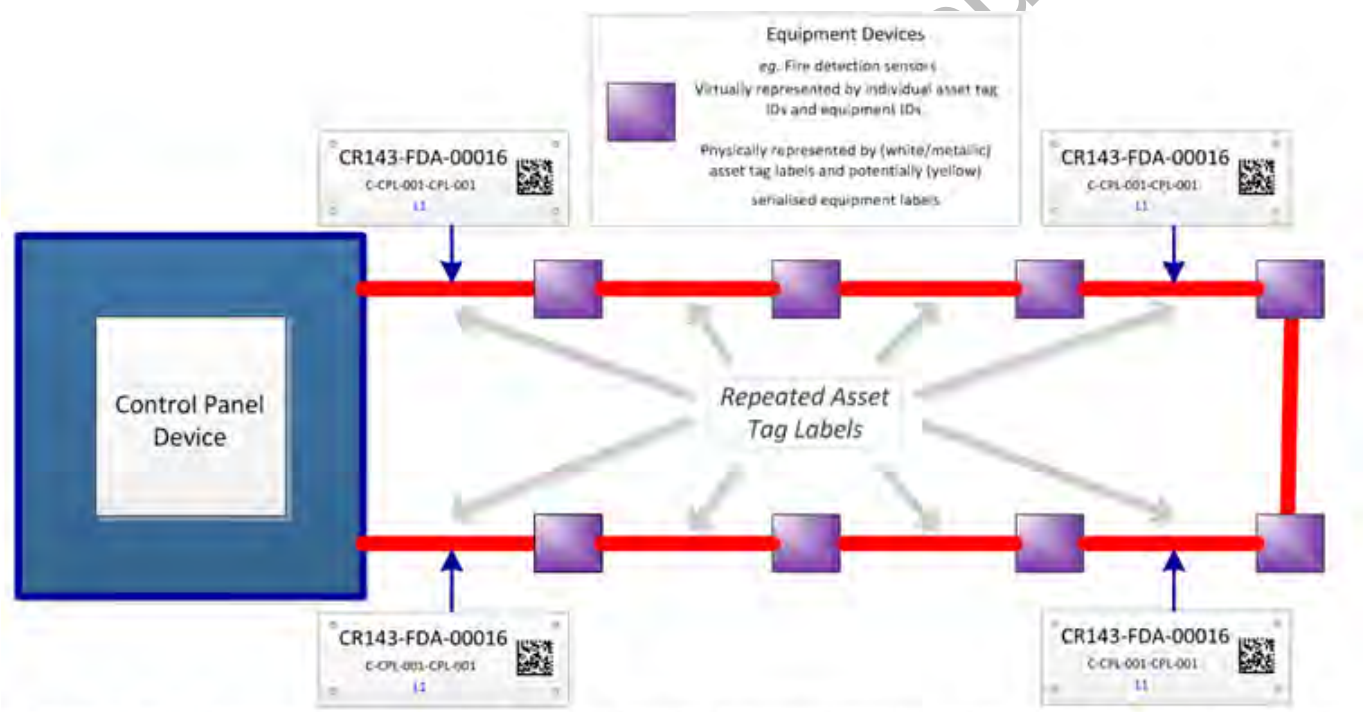
		group of cables or reference number of cable and operating voltage of cable. Provide key to any reference system used at switchgear. Mark and protect direct buried cables with plastic tape yellow or concrete marker tiles printed black "DANGER ELECTRIC CABLES".	

4 Data / Control and Fire Cables

The following diagram shows an example of how to Asset Tag and Asset Tag Label Fire Alarm & Data / Control cables, and the connected devices. These asset classes are treated just as you would for LV circuitry. However, an Asset Tag Label shall be fixed to each section of the circuit, between devices and shall include the identification of the source and destination using the 3 letter code and number as shown in the example below. Therefore, repeated labels containing the same information will be required so that each cable section has an Asset Tag Label. The Asset Tag Labelling position should be as stated within the table in section 3. However, Labels are not required at points where the Cable is contained within trunking or conduit.



Note: *see the section 13 appendices of the Asset Identification Standard (CRL1-XRL-O6-STD-CR001-00031) for details regarding the specific formulation of labels.*

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5 Reference Documents

Ref:	Document Title	Document Number:
1.	Asset Identification Standard	CRL1-XRL-O6-STD-CR001-00031
2.	Material and Workmanship Specification: Mechanical, Electrical and Public Health JY61 LV Cables and Wiring	CRL1-XRL-M-RSP-CR001-50078
3.	Material and Workmanship Specification: Mechanical, Electrical and Public Health JY82 Identification Electrical	CRL1-XRL-M-RSP-CR001-50088
4.		

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