

# Imperial College London

**Information & Communications Technology  
Network Infrastructure Group**

**Network Infrastructure Standards**  
**January 2018**

**Appendix D – Completion**

Version 1.5

## Appendix D – Completion

To be considered complete a project should follow this check list:

Designation	Completed by (date)
To be filled in by main contractor	
<b>CWC Construction</b>	
Walls (1hr fire rating)	
Check if access to CWC is unrestricted (from public accessible space)	
Room height (minimum 2,4m)	
Floor covering (no carpets, anti-static)	
Wet services (no wet services within space or water storage above)	
Dado containment (no dado containment)	
Doors 1 (minimum 84mm wide x 2200mm height)	
Doors 2 (not accessible directly from the outside of the building)	
Doors 3 (room designation – CWC XXX, ROOM YYY)	
Doors 4 (room notices “Permit to work”)	
Windows 1 (no windows if so check with ICT if they have been approved)	
Windows 2 (all necessary works on the windows have been done)	
<b>CWC Security</b>	
Swipe access	
ICT over-ride barrel installed (001)	
Alarm (if deemed necessary)	
<b>CWC Power</b>	
2 x 16 amp commando sockets per maximum number of cabinets	
2 x power bars with 8 no. 13 amp sockets each cabinet	
1 x double electrical socket (13 amp dirty power)	
1 x 63amp commando socket per Router location only	
All electrical sockets have been labelled with circuit ID	
1 x Electrical safety earth presented to the earth bar	
1 <sup>st</sup> cabinet connected to earth bar	
Remainder of the cabinets connected to 1 <sup>st</sup> cabinet or earth bar	
<b>CWC Light</b>	
Lighting Installation (162Lux at floor level and emergency lighting)	

<b>CWC Temperature (environmental)</b>	
AC unit installed (if required)	
Temperature tested (18 deg to 24 deg Celsius)	
Humidity tested (30% to 60% non-condensing)	
Visual verification that no other services are running in the CWC (i.e. water, heat, sewage, ...)	
Cleaning. This will include wet cleaning (note that due care with the installed infrastructure will have to be taken into consideration).	
<b>CWC Fire Detection and Suppression</b>	
Fire Detector / Optical Smoke Detector installed and connected	
Fire Detector / Optical Smoke Detector tested	
Electrical fire extinguisher outside door (2Kg Co2 extinguisher).	
EZ-Path cableways installed	
<b>CWC Miscellaneous</b>	
All cable entry holes to be sleeved	
Hard plastic pouch for documents in the room (wall)	
Caddy Cat J-Hooks installed on the wall, 4 no. per CWC	
<b>Documentation required</b>	
Electrical certificates	
UTP cabling schematics (M&E and/or ICT consultants)	
Cabinet Layouts (M&E and/or ICT Consultant)	
Summary of the test results for the installed cables	
As installed drawings (minimum A3) placed in clear pouch	
<b>Hand-over stages</b>	
CWC ready for cabling contractors (Main Contractor)	
Cable routes ready and available for cabling contractors (Main Contractor)	
Horizontal cabling installed, labelled and tested (Cabling Contractor)	
Vertical cabling installed, labelled and tested (Cabling Contractor)	
Backbone cabling installed, labelled and tested (Cabling Contractor)	
CWC ready for final inspection and hand-over to IC (Main Contractor)	
CWC ready for active equipment (Project Manager / Main Contractor)	
Patching schedule (to be provided by client)	
All documentation ready and delivered (Project Manager / Main Contractor)	
Final hand-over (Project Manager)	
To be filled in by cabling contractor (verification by ICT)	

<b>Cabinet installation</b>	
Assembly of cabinet(s)	
Installation of power bars (2 per cabinet)	
Confirmation of electrical earth safety	
Cabinets bayed together and electrically protected	
Cabinet labelling	
Installation of cable management bars (vertical and horizontal) – full cab	
<b>Containment installation</b>	
CWC - 600mm basket from room entry point to the cabinet(s)	
Install or confirm installation of containment in public space – Confirmation	
Certify containments electrical protection and earth bonding	
<b>CAT 5e installation</b>	
Cables fed from the top reach floor – Confirmation	
Bundles loomed with maximum 48 cables – Confirmation	
Sheath integrity is maintained – Confirmation	
Labelling on every concealment points on bundles (risers, holes)	
Labelling on every outlet and patch panel - Confirmation	
Testing. All outlets tested (Contractor)	
Testing. Witness testing with ICT. (Cabling Contractor)	
Completion documentation review (Cabling Contractor & ICT)	
Patch cords provided – Confirmation by ICT of type and length	
Completion Documentation accepted in digital format	
<b>Copper backbone (Voice)</b>	
Cables installed and terminated	
Cables tested and certified	
Cables labelled	
Testing. Witness testing with ICT (Cabling Contractor)	
Completion Documentation accepted in digital format	
<b>Fibre installation</b>	
Cable installed	
Cable terminated	
Cable tested and certified	
Cable labelled	
Fibre presentation panel installed flush to 19" uprights	
Dust caps confirmed & termination couplers fixed tight	
Completion Documentation accepted in digital format	

Fire Suppression	
All cable entry holes fire stopped with bags or intumescent foam	
Miscellaneous	
Documentation required for hand over	
- CWC digital photos	
- CAT5e certificates	
- Voice copper cable certificates	
- Fibre certificates	
- As fitted drawings	
- UTP test results	
- Cabinet Layouts	
- Electrical Tests	
(see appropriate Appendixes)	
Comments	

**Form completion**

All boxes will be completed with:

- Date of installation or verification of work
- "N/A" if not applicable. In this situation please fill in comments with *brief* information.

Daily operations and other small works

Tick where appropriate

Work requested	
CWC & cabinet completion	
Horizontal cabling	
Vertical cabling	
Backbone cabling	

Fill in the appropriate(s) form(s).

### 1. CWC & cabinet completion

Designation	Completed by (date)
<b>CWC Power</b>	
1 <sup>st</sup> cabinet connected to earth bar	
Remainder of the cabinets connected to 1 <sup>st</sup> cabinet or earth bar	
<b>CWC Miscellaneous</b>	
All cable entry holes to be sleeved	
Hard plastic pouch for documents in the room (wall)	
Cleaning	
Caddy Cat J-Hooks installed on the wall, 4 no. per CWC	
<b>Documentation required</b>	
Electrical certificates	
UTP cabling schematics (M&E and/or ICT consultants)	
Cabinet Layouts (M&E and/or ICT Consultant)	
<b>Hand-over stages</b>	
CWC ready for cabling contractors - If new (ICT / Project Manager)	
Cable routes installed (Cabling contractors)	
Horizontal cabling installed, labelled and tested (Cabling Contractor)	
CWC ready for final inspection and hand-over to IC (Cabling Contractor)	
CWC ready for active equipment (Project Manager / Cabling Contractor)	
All documentation ready and delivered (Project Manager / cabling	

contractor)	
Final hand-over (Project Manager)	
<b>Cabinet installation</b>	
Assembly of cabinet(s)	
Installation of power bars (2 per cabinet)	
Confirmation of electrical earth safety	
Cabinets bayed together and electrically protected	
Cabinet labelling	
Installation of cable management bars (vertical and horizontal) – full cab	
<b>Containment installation</b>	
CWC - 600mm basket from room entry point to the cabinet(s)	
Install or confirm installation of containment in public space – Confirmation	
Certify containments electrical protection and earth bonding	
<b>Fire Suppression</b>	
All cable entry holes fire stopped with bags or intumescent foam	
<b>Miscellaneous</b>	
Documentation required for hand over	
- CWC digital photos	
- As fitted drawings	
- Cabinet Layouts	
- Electrical Tests	
(see appropriate Appendixes)	
<b>Comments</b>	

## 2. Horizontal cabling

Designation	Completed by (date)
<b>Documentation required</b>	
Electrical certificates	
UTP cabling schematics (M&E and/or ICT consultants)	
Cabinet Layouts (M&E and/or ICT Consultant)	
Summary of the test results for the installed cables	
As installed drawings (minimum A3) placed in clear pouch	
<b>Hand-over stages</b>	
Cable routes installed (Cabling contractors)	
Horizontal cabling installed, labelled and tested (Cabling Contractor)	
CWC ready for final inspection and hand-over to IC (Cabling Contractor)	
CWC ready for active equipment (Project Manager / Cabling Contractor)	
Patching schedule (to be provided by client / ICT)	
All documentation ready and delivered (Project Manager / Cabling Contractor)	
Final hand-over (Project Manager)	
<b>Containment installation</b>	
Install or confirm installation of containment in public space – Confirmation	
Certify containment electrical protection and earth bonding	
<b>CAT 5e installation</b>	
Cables fed from the top reach floor – Confirmation	
Bundles loomed with maximum 48 cables – Confirmation	
Sheath integrity is maintained – Confirmation	
Labelling on every concealment points on bundles (risers, holes)	
Labelling on every outlet and patch panel - Confirmation	
Testing. All outlets tested (Contractor)	
Testing. Witness testing by ICT.	
Testing documentation	
Patch cords provided – Confirmation by ICT of type and length	
Documentation delivered	
<b>Fire Suppression</b>	
All cable entry holes fire stopped with bags or intumescent foam	



<b>Miscellaneous</b>	
Documentation required for hand over	
- CWC digital photos	
- CAT5e certificates	
- As fitted drawings	
- UTP test results	
- Cabinet Layouts	
(see appropriate Appendixes)	
<b>Comments</b>	

### 3. Vertical Cabling

Designation	Completed by (date)
<b>Documentation required</b>	
Electrical certificates	
UTP cabling schematics (M&E and/or ICT consultants)	
Cabinet Layouts (M&E and/or ICT Consultant)	
Summary of the test results for the installed cables	
As installed drawings (minimum A3) placed in clear pouch	
<b>Hand-over stages</b>	
Cable routes installed (Cabling contractors)	
Vertical cabling installed, labelled and tested (Cabling Contractor)	
CWC ready for final inspection and hand-over to IC (Cabling Contractor)	
CWC ready for active equipment (Project Manager / Cabling Contractor)	
All documentation ready and delivered (Project Manager / Cabling Contractor)	
Final hand-over (Project Manager)	
<b>Containment installation</b>	
CWC - 600mm basket from room entry point to the cabinet(s)	
Install or confirm installation of containment in public space – Confirmation	
Certify containment electrical protection and earth bonding	
<b>Copper backbone (Voice)</b>	
Cables installed and terminated	
Cables tested and certified	
Cables labelled	
Documentation	
<b>Fibre installation</b>	
Cable installed	
Cable terminated	
Cable tested and certified	
Cable labelled	
Dust caps confirmed	
Documentation delivered	
<b>Fire Suppression</b>	

All cable entry holes fire stopped with bags or intumescent foam	
<b>Miscellaneous</b>	
Documentation required for hand over	
- CWC digital photos	
- Voice copper cable certificates	
- Fibre certificates	
- As fitted drawings	
- UTP test results	
- Cabinet Layouts	
(see appropriate Appendixes)	
<b>Comments</b>	

#### 4. Backbone cabling

Designation	Completed by (date)
<b>Documentation required</b>	
Electrical certificates	
UTP cabling schematics (M&E and/or ICT consultants)	
Cabinet Layouts (M&E and/or ICT Consultant)	
Summary of the test results for the installed cables	
As installed drawings (minimum A3) placed in clear pouch	
<b>Hand-over stages</b>	
Cable routes installed (Cabling contractors)	
Vertical cabling installed, labelled and tested (Cabling Contractor)	
CWC ready for final inspection and hand-over to IC (Cabling Contractor)	
CWC ready for active equipment (Project Manager / Cabling Contractor)	
All documentation ready and delivered (Project Manager / Cabling Contractor)	
Final hand-over (Project Manager)	
<b>Containment installation</b>	
Install or confirm installation of containment in public space – Confirmation	
Certify containment electrical protection and earth bonding	
<b>Copper backbone (Voice)</b>	
Cables installed and terminated	
Cables tested and certified	
Cables labelled	
Documentation	
<b>Fibre installation</b>	
Cable installed	
Cable terminated	
Cable tested and certified	
Cable labelled	
Dust caps confirmed	
Documentation delivered	

<b>Fire Suppression</b>	
All cable entry holes fire stopped with bags or intumescent foam	
<b>Miscellaneous</b>	
Documentation required for hand over	
- CWC digital photos	
- Voice copper cable certificates	
- Fibre certificates	
- As fitted drawings	
- Cabinet Layouts	
(see appropriate Appendixes)	
<b>Comments</b>	

### Form completion

All boxes will be completed with:

- Date of installation or verification of work
- "N/A" if not applicable. In this situation please fill in comments with *brief* information.