

# Technical Note

## Bonding of Screened Cabling



**Title:** TN19  
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This technical note covers the basic rules and guidelines for bonding a screened cabling system.

### Bonding of cabinets, frames and racks

Cabinets, frames and racks and their contents containing, or intended to contain, telecommunications equipment or metallic telecommunications cabling shall be bonded in accordance with BS EN 50310. The following additional requirements shall apply.

Each cabinet, frame or rack shall be connected to the Common Bonding Network (CBN) using a separate bonding conductor:

- Having a cross-sectional area in accordance with HD 60364-5-54:2007, Section 543 and not less than:
- 4 mm<sup>2</sup> for a cabinet ≤21U;
- 16 mm<sup>2</sup> for a cabinet >21U;
- That is neither coiled nor doubled back on itself.

Whilst some may think this subject is complex it is actually very simple and straightforward and will take no longer to complete than an unscreened system.

### The basic points to remember are:

- Bonding of the cabling infrastructure is only required at the Cabinet end.
- The Patch Panels are individually bonded to a grounding busbar within the Cabinet using the bonding lead supplied, which in turn is bonded to the cabinet.
- With Excel screened products by inserting the toolless Jack into the patch panel frame it has metal to metal clean contact.
- It is also important to note that Grounding Continuity is provided by the Drain Wire within the screen cable not the foil screen it should therefore be terminated in accordance to the product instructions.
- The Cabinet is then bonded to the Common Bonding Network or Main Grounding Busbar by the use of the appropriate size conductor as outlined in the above standards, following the Manufacturers Installation Guidelines.

### Recommendations:

- Multiple bonding conductors should not be attached to a single connection point (e.g. screw, bolt) due to the risk of interruption of all connections during maintenance or repair.
- The conductor (independent of cross-sectional area or shape) should be no greater than 0.5 m long where possible.

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*This Technical Note has been produced by Paul Cave, Technical Manager – Infrastructure, on behalf of Excel*

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