

Technical Note

TN30: Segregation and Shared Pathways



Following numerous questions in the recent months on the above subject this Technical Note will hopefully bring some clarity to segregation and shared pathways.

There are numerous references in other key standards such as BS7671 and BS6701, however they all reference back to BS EN 50174.

The definition contained within BS EN 50174-2 is as follows:

Segregation

use of earthed electrically conductive barriers or physical separation to prevent electromagnetic interference between external noise sources, including power supply cabling, and information technology cabling

Within **Clause 4 - Requirements for planning installations of information technology cabling**, of BS EN 5074-2 there are numerous references to 'segregation'. The following are the key ones:

4.3 Pathways

4.3.1 Requirements

4.3.1.1 Cable segregation

Metallic information technology cabling and power supply cabling shall be segregated in accordance with the requirements of Clause 6.

4.3.1.2 Cable separation

Separation of cable bundles within pathways (and pathway systems) shall be adequate to support any remote powering objectives defined in the installation specification of EN 50174-1:2018, 4.11 provides details of appropriate assessments.

Where separation between different cabling systems is required this shall be maintained by physical barriers to prevent unintended change during installation or extensions to the installation.

Any reference to segregation also calls upon **Clause 6 - Segregation of metallic information technology cabling and power supply cabling**.

This lays out all the rules as well as the formulas to calculate the distances required between the two cable types, the key ones being:

For information technology cables and power supply cables within a single pathway system, or in parallel pathway systems, with dividers:

3) for cables installed in adjacent compartments of a pathway system or another pathway that incorporates a divider, the required separation shall be provided by the divider unless additional cable fixing, or restraint is present.

4) for cables installed in non-adjacent compartments of a pathway system or another pathway that incorporates more than one divider, required separation shall be provided by the distance between the dividers unless additional cable fixing, or restraint is present.

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The minimum separation requirement applies in three dimensions.

Power supply cables and cables of other "trades" shall not be installed within the same bundle or in the same compartment of a pathway or pathway system, as information technology cables unless physical separation is maintained.

Conclusion

Therefore, whilst there is nothing that states that you must have a separate pathway for each system to be installed, it is very clear that that if you are going to be doing so, it must be done with great care and ensure that the correct separation distances are maintained, preferably using metal dividers.

Also note the wording of other 'trades', which would include if separate systems are to be installed - AV, BMS, Security, Access control, Fire as well as power - it would mean each one would have to be bundled and secured in the pathway and clearly labelled to maintain the separation and in some cases this may not be possible or difficult to maintain, especially if there is a chance that the system will be expanded or added to in the future. Therefore, best practice always suggest that each system has its own dedicated pathway.

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