

Technical Note

TN33: Loose Lay of Cables onto Concrete Floor Slabs



Background

There are no documented national or international standards that dictate whether it is permitted to lay cables directly on to a concrete floor slab. It is dependent upon the manufacturers' installation guidelines.

The main reason for this question relates to newly laid concrete floor slabs and confusion regarding two terms used; Curing and Drying.

Curing relates to the setting or hardening of the concrete and does not relate to how dry it is, this usually takes from a few days up to around 28 days. Also note Concrete can cure under water.

Drying is the more important term we need to look at, as this relates to all the moisture evaporating from the concrete. Whilst the slab may be cured and have weight loading capability it is not necessarily fully dry. The common rule for estimating the time required to be fully dried is 30 days for every 1"/25mm of slab thickness.

Therefore, the drying time could be 12 months or even longer in some modern buildings, it also depends upon how watertight the building is, the time of year, if HVAC is operational etc.

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Excel's Standpoint

The Excel Networking Guidelines for laying cables on to the concrete are as follows:

It is acceptable for cables to be laid directly on to the floor slab, subject to the following conditions being met:

- Concrete Floor must be fully dry and sealed
- Cable matting is used on the routes (as a Moisture Barrier)
- Cables are bundled at the edges to ensure they remain on the cable matting
- All corners and transition points are bundled to maintain correct bend radii (random bundles allowed)
- All cable leaving the main route to floor boxes and GOP boxes must be bundled

Conclusion

If in any doubt about the condition and relative dryness of the concrete slab, it is always best to err on the side of caution and install some form of cable matting.

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

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