

WHITE PAPER

WHEN CONNECTIONS “RELOCATE”

Replacing and more especially relocating data connections in a single-purpose building is and always will be a challenging job. In both cases the expense can be considerable, so careful planning and costing is essential before undertaking such a project.

Since the mid 1980's copper data cables of so-called PiMF (Pair in Metal Foil) design have become prevalent in horizontal cabling, especially in German-speaking countries. These cables are known internationally as S/FTP cables.

With a view to future viability Datwyler has for many years recommended the installation of at least Category 7 data cables, specified according to standard up to 600 MHz. This is because their high bandwidths guarantee good power reserves for multimedia transmissions and future applications. In single-purpose buildings these cables can remain in place for between 15 and 20 years, sometimes even 25 years.

Change of use and redesign

As a rule, however, the use of single-purpose buildings is subject to shorter cycles – for example, when an impending change in technology requires higher performance copper connecting technology at the subscriber end, or when premises are reduced or increased in size or totally redesigned for a use other than the original one.

Existing application-neutral cabling must adapt to this change.

Any users who have not committed beforehand to Category 7 cable *and* correspondingly high-performance connecting technology (i. e. PS-GG45 or PS-TERA) can achieve a new, higher performance level in the permanent link simply by exchanging the connecting technology, for example from Category 5 to 6 or from Category 6 to 6_A.

Changing the use of premises frequently means that information technology connections – say data outlets in a gypsum wall or in dado trunking, floor boxes, indoor and



outdoor surface-mounted outlets – have to be moved from A to B. In many projects the further use or reuse of the existing cable infrastructure is also called for in a complete redesign of the building structure.

All this is naturally possible in principle, and also desirable for reasons of sustainability.

Paying attention to mechanical parameters

It goes without saying that in projects of this kind the installer has the same duty of care as when installing a new structured cabling system. The electrical capacity of high-performance Category 7 or 7_A cables must still be guaranteed, so in these projects the mechanical parameters given in the cable data sheets (maximum permissible tensile strength, lateral pressure, bending radii, etc.) must also be adhered to.

For example, the maximum permissible tensile strength for a data cable applies to “running in” as well as “pulling back”. Pulling back is often complicated by the fact that a

cable has been routed right along the bottom of a run. If so, the weight of the cables on top of it increases the force necessary to remove the cable from a bundle and move it to a defined new position.

In this context it is also imperative to comply with the specified bending radii. If a cable routed at the bottom of a cable bundle is to leave the cabling system at a different point in future, the stipulated bending radii are generally not assured without additional outlay. In this case it is advisable to pull the cable a sizeable way out of the bundle in order then to bring it into a favourable position for the new installation point.

Conclusion

The outlay for replacing data connections can still be relatively well planned and costed. On a case-by-case basis the relocation of connections or even a combination of both projects may be just as time-consuming and expensive as a new installation. It is vital that planners, users and installers take this fact into account when planning and costing corresponding projects.

