INTRODUCTION.

Choosing the right solutions for every job is an important task that takes knowledge and careful thought. There are lots of factors to take account of, and the proposals in the 18th Edition DPC give you more to think about. Let’s look at a few of the proposed requirements.

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A BITESIZED LOOK AT SOME OF THE PROPOSALS IN THE 18TH EDITION DPC.
A means of isolation should be included at the origin of the installation, e.g. a main switch in a consumer unit, and if that switch is to be operated by ordinary people it should switch live and neutral conductors.

This suggests that the only type of device suitable for use by ordinary people is one that switches live and neutral. This in turn suggests that ordinary people should not operate single pole devices such as MCB’s for routine maintenance tasks such as switching off a circuit while decorating, or replacing a lamp.

**GOOD TO KNOW**

It is not practical or safe for an entire installation to be switched off for routine maintenance purposes. Regardless of whether the power is isolated by an ordinary person or electrically qualified professional, it is safer to use switched neutral devices and working practices that allow live and neutral to be switched off during such activities.
Only use parts that are approved by the manufacturer. Do not mix brands. Consumer units for example are tested assemblies that are proven to perform to the required standards with the manufacturer’s parts and devices only.

Always follow the manufacturer’s instructions and ensure that competent trained operatives (e.g. qualified Electricians) carry out good workmanship with the proper materials.

GOOD TO KNOW

Installers should never use mixed brands of devices or components from different manufacturers. This invalidates manufacturer guarantees and could result in unsafe installations.
Arc fault detection devices (AFDDs) are recognised as a means of providing additional protection against fires that are caused by electrical arc faults. AFDDs are expected to be included in the 18th Edition. They are already mandated in other EU and IEC countries.

In 2016/17 there were 5,574 domestic fires recorded as having wiring, cables and plugs as the source of fire ignition. Countries using AFDD technology have recorded reductions in such incidents of as much as 10%.

**GOOD TO KNOW**

AFDDs detect faults that MCBs and RCDs can't. They can be attached to RCBOs in the consumer unit. AFDDs usefully include a self-test function on initial power-up, status indicators for healthy circuit and types of fault, AFDDs also incorporate a test button for periodic testing.

(source: www.gov.uk/government/collections/fire-statistics)
Protection against transient overvoltages is already a requirement in the wiring regulations but it’s expected that the new regulations will be more explicit about when and where these devices shall be used e.g if services to people or a large number of people are affected. It’s also expected that guidance will be provided as to when risk assessments are necessary.

So for some installations, protection against transient overvoltages will be required. For others, a risk assessment will be required.

**GOOD TO KNOW**

An exception is expected to be made for single dwelling units where the total value at risk would not justify the provision.
Under existing regulations and assessment methods where a structure is equipped with an external lightning protection system, the likely outcome of a risk assessment is that SPDs will be required at the origin of the installation. Such a provision is expected to become a requirement of the 18th Edition DPC.

**GOOD TO KNOW**

Structure without external lightning protection are expected to require Type 2 SPDs to be installed at the origin of the installation.
In Amendment 3 of the 17th Edition, regulation 521.11.201 required due consideration to be given to support of cabling systems in escape routes so that these would protect against premature collapse in the event of fire. The use of non-combustible cable fixings was mandated.

In the 18th Edition, this requirement will probably be extended (by the introduction of a new regulation) to include the whole installation. This is intended to ensure unhindered access and egress for all persons including emergency services.

**GOOD TO KNOW**

Steel cable management systems, supports, fixings and restraints will be required to meet this requirement.
To help to avoid unwanted tripping of RCDs from currents leaking through the protective conductor (PE currents) the accumulated leakage current shall be less than 30% of the RCD rating i.e. 30% of 30mA.

This is intended to allow a better match between the type of RCD and the circuit loads, and to maintain power continuity on healthy circuits to avoid danger and minimise inconvenience in the event of a fault, as required in regulation 314.1.

**GOOD TO KNOW**

To avoid unwanted tripping, designers should divide installations into as many individual circuits as necessary to prevent cumulative effects of PE currents causing unwanted tripping - which will in turn achieve power continuity and aid user safety.
Lighting circuits in domestic household installations are expected to require protection by 30mA RCD / RCBO.

Designers and installers should also take account of existing regulations that require designers to consider dangers and hazards that may be caused by a failure of circuits such as a lighting circuit.

GOOD TO KNOW

To avoid hazards and danger, and to maintain safety and power continuity, each lighting circuit should have its own 30mA RCD/RCBO.
The existing requirement to protect socket outlets up to 20A rating by use of a 30mA RCD / RCBO are expected to be extended to socket outlet ratings up to 32A.

GOOD TO KNOW

This appears to extend the requirements into installations that use higher rated sockets such as commercial and industrial applications.
ANY QUESTIONS?

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