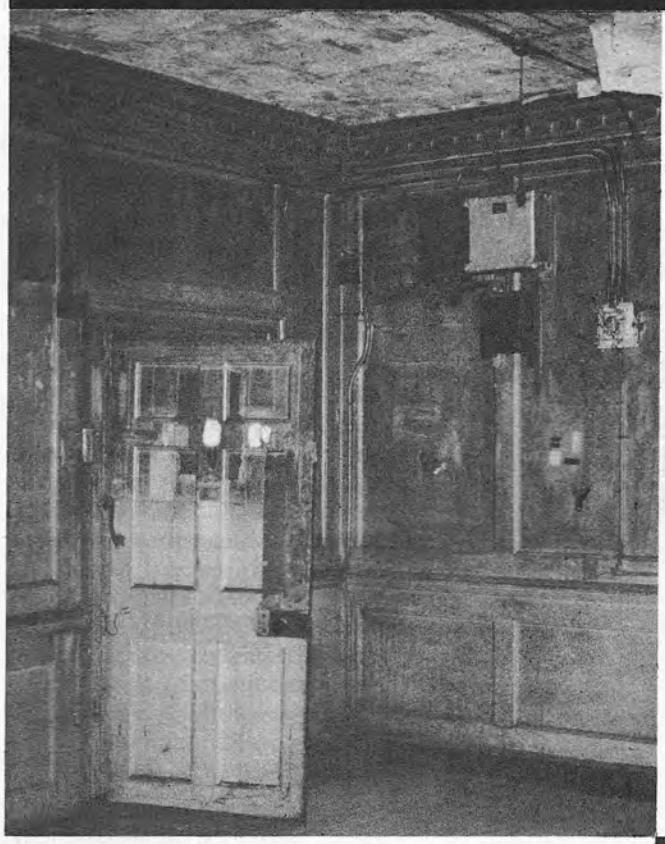
Electrical Installations in Old Buildings

by Alistair Hunt RIBA

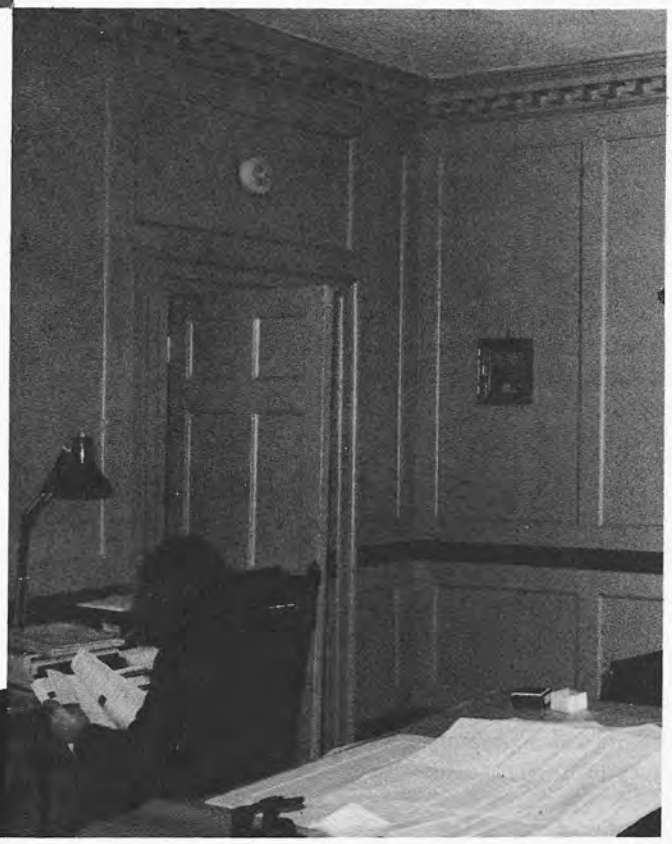
Technical Pamphlet 9



Electrical faults cause 21 per cent of fires in buildings, and the greater than average flammability of many old buildings make them particularly vulnerable.

Regulations and publications tend to concentrate on technical 'good practice' and systems in new structures. This pamphlet is concerned with the problems of rewiring an old building while preserving its character and fabric.

First floor room at the Society's headquarters at 37 Spital Square, before and after repairs. Wiring has now been concealed behind the panelling.



Contents

Society for the Protection of Ancient Buildings.
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1 Objectives of a good installation

It must be safe. The major hazards arising from faulty electrics are SHOCK AND FIRE. The 15th Edition of *Regulations for Electrical Installations,* issued by the Insitution of Electrical Engineers (IEE), does not have statutory power but defines generally accepted standards for safety of installations.

It must function satisfactorily, both by providing the power and light required for the intended use, and by avoiding problems such as damage to artwork.

It must not needlessly damage the building. If presented with alternatives, the selected cable route should require minimal cutting and chasing. Also, if possible, it should not damage finishes and materials that would be difficult or expensive to make good if the installation was removed at a future date.

It must not detract from the essential character of the building. For example, it may be very economic to use fluorescent fittings in a church, but the result is unlikely to be satisfactory. The convenience of electrical services should be provided discretely. A socket outlet should be toned to its background or positioned behind a curtain rather than flaunt the pastiche of a 'Georgian' brass plate.

2 Elements of the Installation

CIRCUIT PROTECTION

This is the most important safety feature in the installation. Cartridge fuses (fig. 2) are faster acting than traditional 'fuse wire' but are expensive to replace. A miniature circuit breaker (MCB) (fig. 3) reacts quickly and cannot be reset until the fault is cleared. The safety of an existing system can be markedly improved by replacing fuse wire protection by MCBs.

EARTHING

It is no longer acceptable to use water pipes for earthing. The local board will usually provide an earthing terminal at the supply head; otherwise a residual current circuit breaker (RCCB or RCB) will be needed.

Fig. 1: Cover of the IEE regulations.

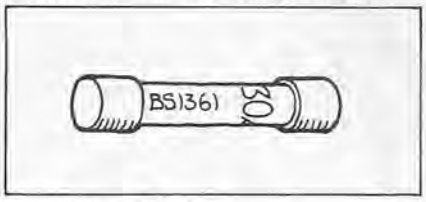


Fig. 2: Cartridge fuse

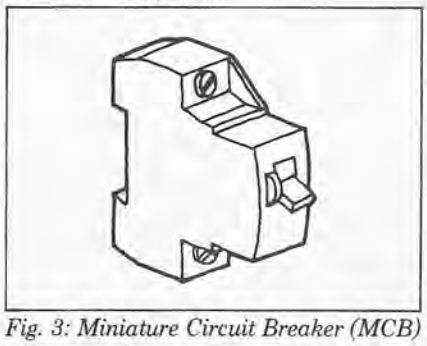


Fig. 3: Miniature Circuit Breaker (MCB)

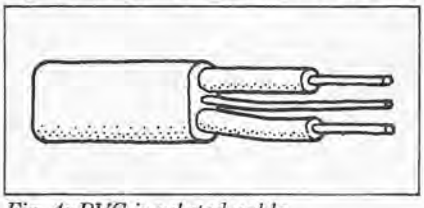


Fig. 4: PVC insulated cable

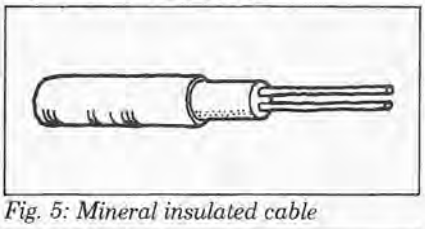


Fig. 5: Mineral insulated cable

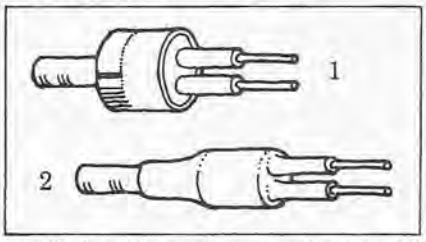


Fig. 6: 1 traditional 'screw-on' pot and 2 'shrink-on' seal

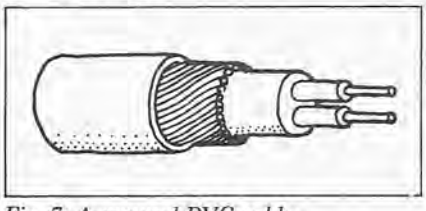


Fig. 7: Armoured PVC cable

Buildings in rural areas are often served by an overhead supply (TT System). They will need both their own earth electrode and an RCCB.

CABLING

There are just three types of cable in common use in small and medium sized installations:

PVC insulated cable — copper conductors insulated and sheathed in polyvinyl chloride (fig. 4).

This has been in use for over 25 years but has an uncertain length of life. Although comparatively cheap and easy to install, it still demands care.

PVC is vulnerable to:

* Physical damage, as may be caused to a cable running over a sharp corner or a skirting.
* Embrittlement, commonly caused by
  — High temperature resulting from close proximity to hot pipes, or reduced heat dissipation due to envelopment by insulation.
  — Contact with certain substances, such as polystyrene insulation beads and the spirit base in timber treatments and preservatives. In the latter case ensure good ventilation and protect cables, or wipe them clean as quickly as possible. Flexible cables will be worse affected. In extreme cases the exuding plasticiser can damage decorations.
* Ultra-violet light (sunlight).

Mineral insulated cable — copper conductors embedded in mineral insulation with a metal, usually copper, sheathing (MI or MIMS) (fig. 5).

This has been in common use for over 40 years and has a very long life. But its use requires skill and care, and defective seals are the most common fault. Many people prefer the traditional 'screw-on' pots to 'shrink-on' ones (fig. 6). The latter can be fitted using a special 'oven', which is safer than a torch; but 'hot work permit' precautions should still be taken. An installation will be about 70 to 80% more expensive than a PVC insulated one.

Armoured PVC cable — copper conductors insulated with PVC and sheathed in galvanised wire and PVC (SWA) (fig. 7).

Although larger, stiffer and about twice as expensive as ordinary PVC cable, it is very resistant to physical damage.

Note: Good workmanship can be more important in achieving a good standard of installation than the choice of cable, but this is still an

important and sometimes difficult decision.

Cable types are considered again later in the pamphlet in the section covering the effect of the structure on the design of the installation.

ACCESSORIES

Inevitably switches and socket outlets are going to be a conspicuous part of the installation, so they should be chosen and located to avoid detracting from the quality of the interior (figs. 8 and 9).

Brass may have the connotation of quality but often it will be too obtrusive. It is preferable to match to the tone of the background by using, for example, a dark bronze or black plate on dark timber and an ivory plastic or white plate on a light coloured surface. If brass is used, then generally avoid the decorated 'period' piece and use a plain plate. Plastic plates can be painted but they will become scratched and soiled if much used.

Switches. They cannot be tucked away and still be convenient, but mounting switches at waist height or a little lower may make them less obtrusive. In some cases they can be positioned outside a room or grouped centrally. Using pull cord switches will avoid damage to walls. Although expensive, it is possible to use an old dome-covered tumbler 'dolly' switch as a low voltage switch to a remote relay on the lighting circuit (fig. 10). It is still possible to obtain replacement dolly switches for flat plates (fig. 8).

Power socket outlets. Old mechanisms should be replaced and, if a standard accessory is unsuitable, a new mechanism or 'interior' can be fitted to either the existing or a new purpose-made plate.

There must be an adequate provision of socket outlets so as to avoid 'Christmas trees' of adaptors and long trailing flexible cables.

LIGHT FITTINGS (Luminaires)

An old or reproduction fitting will probably be quite heavy and need proper fixings, with no risk of wiring taking the load.

If the installation of the fitting is to be made without the use of a plastic ceiling rose, then connections should be isolated from the floor void and preferably enclosed in a metal box (fig. 11).

Old installations may not have the earthing to the rose necessary for safe fixing of a metal luminaire.

Light fittings in a roof space should be of the well glass or bulkhead type.

Fig. 8: Switches at Castle Drogo: retained in the rewiring.

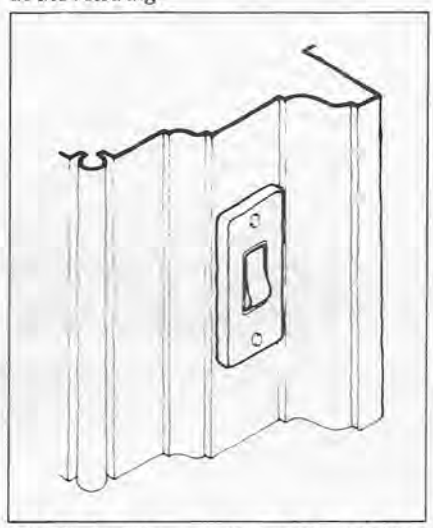


Fig. 9: Architrave switch at the SPAB's offices in Spital Square

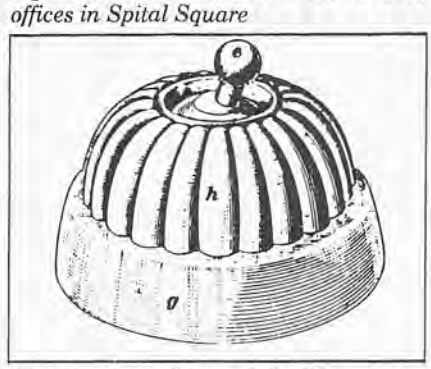


Fig. 10: A tumbler switch: this must be retained: if electrically unsound it should be disconnected.

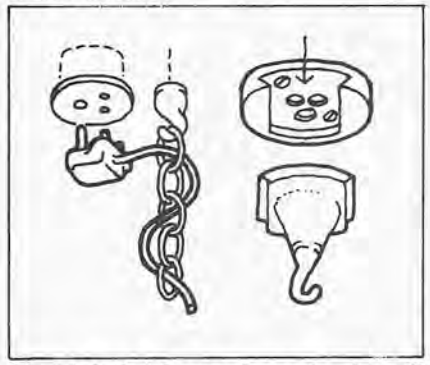


Fig. 11: Left: A 5 amp plug and socket will allow easy removal of a pendant luminaire for cleaning. Right: A proprietary alternative.

3 Influences on the Design of the Installation

THE CHARACTER OF THE STRUCTURE

A major influence on the approach to cabling will be whether the structural elements are 'solid' or 'hollow', always assuming in the latter case that there is satisfactory access. Obviously there is a loose-chronological change from the solid floors and walls of early mediaeval to the wall and floor cavities of Georgian and later buildings.

SOLID WALLS AND FLOORS

Surface wiring may be inevitable, but advantage should be taken of areas beyond the normal field of view, such as the tops of beams and cornices. Preferably cables should follow the 'lines' of the building; running along and not crossing mouldings, studs and beams, and avoiding passing from one material onto another. Cable should be coloured or toned to blend with its background.

All these comments apply equally well to external wiring.

Suitable cabling

* *PVC insulated.* This is very difficult fo fix neatly, but it can look satisfactory if secured with buckle clips at close centres and painted in with the wall. It is sufficiently flexible to be bent to closely follow a moulding, but it needs protection from physical damage. Flexible cable ('cord' or 'flex'), for use with portable appliances, is smaller than its fixed cable equivalent as it has a thinner and weaker sheathing. For this reason it should not be used for fixed wiring.
* *PVC insulated cable in steel or PVC conduit.* Steel conduit used to be the answer to surface wiring. It has a more substantial appearance than its PVC equivalent, which can be an asset in a location such as church tower. A PVC conduit system could be 20% cheaper than MIMS.

* *Mineral insulated cable (MIMS).* This has good resistance to damage and is more inconspicuous than conduit but it does need more fixings. The copper sheath will dull to blend in well with an old buildings, but PVC oversheathing must be specified if there is risk of dampness or chemical attack, or if the cable is to be encased in plaster or other cementitious material. The PVC is most commonly coloured orange, which can of course be painted, but white is also 'standard' and costs the same. Other colours are made to order by specilaist manufacturers and cost at least 10% extra, depending on quantity. 'Splitter boxes' can be an eyesore and their positioning needs careful consideration.

Dampness. Preferably no part of the installation should be potentially at risk from roof defects, water penetration, leaking water pipes or rising damp. But, if unavoidable, conduits should be galvanised and fixed with hospital saddles (fig. 12). Consumer units and accessories may need to be fixed clear of the wall and have damp resistant enclosures. Residual current circuit breaker protection is essential in damp areas. Efflorescent salts from rising damp can concentrate attack on MIMS cables touching the surface of masonry. Cable must be PVC oversheathed with shrouds to terminations and fixed with PVC coated or stainless steel clips.

Precautions must be taken against electrolytic and corrosive action. For example, the usually harmless contact between an MIMS copper sheath and a galvanised clamp is disastrous in damp conditions.

Wooden casings. These traditional enclosures for surface wiring can be reused if well constructed, readily accessible and at no risk from damp. An old patress or timber panelling should not form the rear enclosure to an accessory or luminaire connection. If this is hard to avoid, then it will be necessary to investigate the use of purpose-made protection plates, intumescent paste and high temperature sleevings.

Masonry joints. With care, it is possible to push PVC sheated MIMS cable into a joint raked out by a skilled mason or bricklayer (fig. 13). It can also be laid in mortar or sand under stone flags.

Mini trunking. This is neater than conduit, but it requires careful fitting and does not cope well with uneven surfaces.

VOID IN FLOORS AND WALLS

The degree of success in concealing cables depends on the level of care applied to opening up and the ingenuity used in evading obstacles and threading through small gaps.

Suitable cabling

* *PVC insulated.* Whilst easy to pull through small and contorted gaps, it is vulnerable to physical damage. The cable must be run in conduit if there is any risk of rodent attack. Fixing it to the sides of joists or using poison is not adequate.

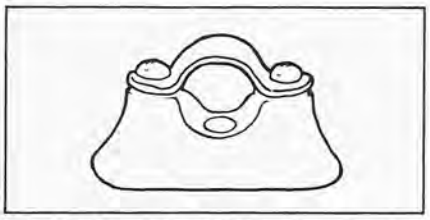


Fig. 12: Hospital saddle for clamping conduit in position

The sheathing is self extinguishing but has poor resistance to overheating. In the event of bad design, poor workmanship or damage, the risk of fire will be less with MIMS cable.

The quality of workmanship must be particularly good if PVC cable is to be acceptable in an historic building. All accessories must be fitted to metal boxes, all joints made at accessories and MCBs used as circuit protection.

* *PVC insulated cable in concealed conduit.* There can be excessive and unacceptable damage to the building unless the conduit can be inserted as part of extensive building repairs. Conduit does permit easy rewiring, but the validity of this advantage hangs on the assumption that the life of the installation will be limited by old age rather than changing requirements.

* *Mineral insulated cable.* It can safely be adapted and reused for future alterations. It is not easily pulled through gaps and can be damaged by using force.

Fig. 13: A suitably wide mortar joint has been raked out to allow the MIMS cable to be run around this pier without cutting across any mouldings. Careful pointing with mortar matching the original disguises the cable run. (Photo courtesy of British Insulated Callender's Cables Ltd)

* *Armoured PVC cable.* The 'ring' main size and larger are stiff and unwealdy, but a small cable could be pulled through behind panelling to provide a vermin-resitant run to a wall switch.

Opening up. Preliminary investigations using non-destructive surveying techniques such as radio detection and other methods, can locate existing or disused services, including cables and conduit. This can save time later and help avoid unnecessary opening up.

Lifting floor boards will always cause some damage, and care must be exercised to keep this to a minimum. There may be boards which have been lifted before. Some floors will be unacceptably damaged, including those with metal tongues or secret fixing, and parquet, woodblock and hardwood closeboarding.

All routes should be agreed in advance, and the lifting and relaying should be carried out by a skilled carpenter. Boards should be refixed with screws to stop squeaks and aid future access. Brass cups and screws will usually be the most suitable fixing for exposed boards.

Floor box outlets. If the floor is not of quality, a concealed floor box located near the skirting can house a power socket, telephone outlet or TV aerial outlet, but avoid the need to chase a wall or cut panelling (fig. 14).

Walls. Many classical buildings have timber panelling or hessian lining set slightly away from the masonry or fixed to timber framing. These voids can be used for running cables, but care needs to be taken as hessian and wall coverings can be fragile. Skirtings, wide door linings and architraves can offer suitable locations for accessories and the gap between the grounds can be used as a cable route (figs. 9 and 16)

Skirting trunking. This can provide the large number of outlets and the flexibility required by an office, but it can sit uneasily against an old skirting.

Ribbon type under-carpet wiring. This new development may be the least destructive way to provide for commercial use, but it has not yet been widely used. There may be problems laying it over old floors.

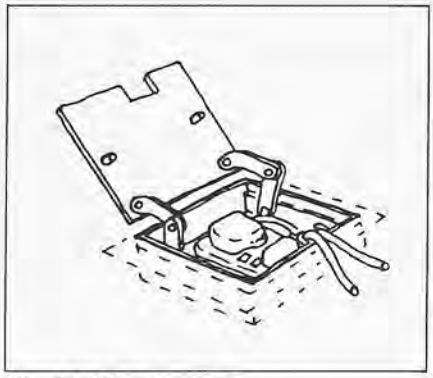


Fig. 14: Floor box outlet

Fig. 15: Wiring at Dorchester Abbey: Cables follow the line of the mouldings, but perhaps there was an alternative route. Damp has eroded the copper clips — they should be made of stainless steel, or be PVC coated.

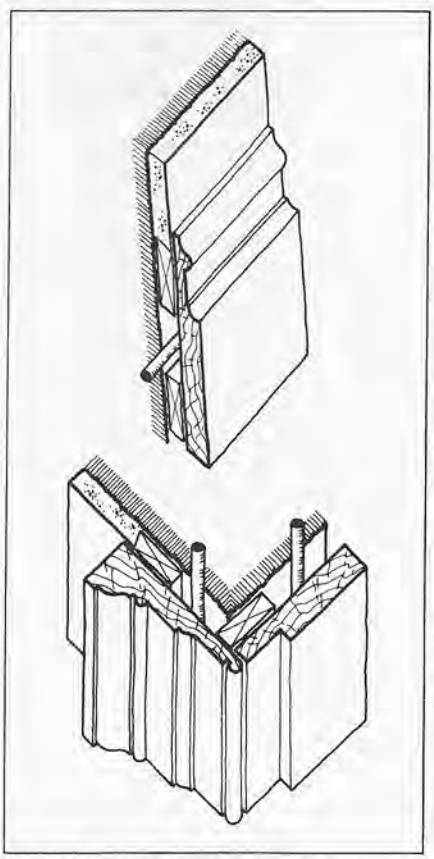


Fig. 16: Potential cable routes between the double grounds to the skirting, architrave and door lining

PROTECTION OF THE STRUCTURE AND INTERIOR

For both historical and practical reasons the building should not be drilled, sawn or cut into more than is necessary and appropriate to the case. For example, it would be reasonable to consider prohibiting any damage to original timbers in a mediaeval building.

Drilling joists. Modern standards for notching and drilling will be inappropriate. It is tempting to think that all old buildings possess generously sized timbers, but many may be at their practical structural limit as a result of original undersizing or later decay. A timber should be carefully checked before drilling. Notching is rarely acceptable, and old notches should only be reused if the cable is protected by a steel plate.

Chasing walls. Statutory limits on sizes for chases in new walls will probably be too generous, and greater care is necessary with old walls. Cutting by hand may be practical for limited work but it is usually better to use an abrasive wheel masonry cutter. A percussion chisel makes too much vibration and should never be used. In most cases a patch or strip of replastering will be shown up by oblique lighting and the use of lining or wallpaper is virtually essential. There may be wall paintings on the plaster or on the stonework below the plaster. Chasing may not reveal this, but the damage will have been done.

4 Lighting an historic interior

As the range of interiors is vast, extending from cottages to cathedrals, any comments on lighting will have to be generalisations. But a simple goal could be proposed: the qualities and character of the interior should be reinforced, and the space must function satisfactorily.

Concealed lighting is an attractive proposition as it sidesteps the problems involved in selecting luminaires that are neither pastiche nor obtrusively out of character.

Often the techniques of concealed and *indirect lighting* are combined to provide diffused lighting, but obviously the wall or ceiling surface must be worthy of being lit and

possess a reasonable reflective value. It is usually a mistake to try and achieve a high level of illumination by this method.

Spotlights can be directed onto walls or ceilings from behind furniture or the tops of cupboards. The new miniature spot can even be hidden behind a vase on a table.

The modern *uplighter* uses a high efficiency lamp to provide economic glare-free lighting. It is successfully used in historic interiors, but there are the potential problems mentioned above and the slow warm-up can by annoying.

Direct lighting using wide angle high intensity fittings may be economic, but it tends to 'flatten' the interior with an unnaturally even light. Shadows to mouldings are lost and the fittings can cause glare. Fluorescent fittings are inclined to produce the same result. Selective spotlighting will produce a more interesting result and minimise the above problems.

Subtle grading of lighting levels and directioning of fittings can be an important element in a good scheme. One example is the technique of directing slightly more light from the south than the north side of a church nave.

Some spaces are helped by the inclusion of *pendant fittings*, and of course a formal room will look 'bare' without the 'chandelier'. Some types of fittings, such as opal globes, can provide a satisfactory source of high illumination, but it is usually an error to try and do this using more traditional designs of fitting.

Luminaires incorporating fully *exposed lamps* can cause glare. It will help to reduce the problem if clear lamps are used and they are controlled by a dimmer (fig. 18).

The light fitings in an old industrial interior are often open metal shades. Instead of trying to achieve safe lighting levels using higher wattage lamps, it may be better to discretely supplement the lighting with fluroescent fittings.

A clear 'candle' lamp on a dimmer control makes a more pleasant substitute for a candle than a proprietary 'flicker' lamp.

Downlighters have been used very successfully in churches, but they usually need to be complimented by a small amount of lighting directed onto walls and ceiling or roof.

Many interiors can best be lit, aesthetically and functionally, by

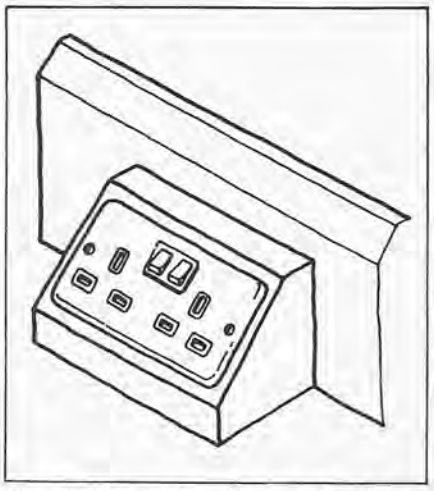


Fig. 17: Outlet pedestal box used against a low skirting to provide socket outlets

Fig. 18: Old luminaire at Standen: fittings like this must be retained in any rewiring. Note the correct use of a clear lamp.

table lamps. They were traditionally plugged into small two or five amp outlets, often with common switching. But now, as all plates are the same size, it may give more flexibility if certain 13 amp outlets are given low ampage protection and common switching. Table lamps are often fitted with 'silk' covered flexible cable and the insulation is normally rubber. This is softer than pvc and should be treated with respect. Rubber is more vulnerable to overheating so special heat resisting sleeving may be required at the lamp holder.

The selection and planning of *controls* is important. Correctly zoned subcircuits in a church will permit economies to be made at times when, for instance, only the Lady Chapel is in use. Dimmers permit essential 'fine tuning'.

Heat and light may damage sensitive objects such as *paintings and fragile fabrics.* Tungsten lamps produce a great deal of heat. Tungsten halogen lamps may generate less, but they emit significant levels of infra red and ultra violet light. Some manufacturers are now developing designs that minimise these emissions. The comparatively new compact fluorescent lamps produce a cool source of light which could be useful in the display of sensitive items.

EMERGENCY LIGHTING

Standard luminaires, whilst sometimes neatly designed, can look very conspicuous. It is possible to purchase only the working parts, on a 'chassis', and fit them within a purpose made enclosure.

Provision, where required by the enforcing Authority, must be in accordance with BS 5266 Part I: 1967.

EXTERNAL FLOODLIGHTING

There can be a number of reasons why floodlighting a particular building is a good idea, but often a powerful justification is that it helps to reduce vandalism. It is generally more effective, and more economic, to illuminate selected elements rather than literally 'flood' lighting the building. Sometimes it will be necessary to locate luminaires on roofs and special fixing points, supports or maintenance access may be required.

LIGHTNING PROTECTION

Strictly speaking this is not a part of the electrical installation, but the proper installation and operation of the lightning conductor system could well entail co-ordination with the electrical system.

The protection should be in accordance with BS Code of Practice 326: 1965, now due for revision.

Security or lighting cables that are vulnerable to the sideflash from a down conductor must be bonded to the protection system.

5 Specification

In a large or important building, or one with problems, a consultant engineer experienced in old buildings should be asked to advise and prepare a design and specification. But for an easier project it may be satisfactory for the Architect to carefully adapt a standard electrcial specification to include such matters as the following.

PRELIMINARIES

Procedure. Maintained supplies may be required for security, and temporary supplies or phasing may be necessary if the building is occupied.

Drawings. These must be supplied if record drawings are required.

STANDARDS OF PRACTICE

General clauses resticting damage for example:

'No holes or cutting may be carried out to the structure, internal finishes, columns, cornices and joinery without the consent of the architect.'

Clauses covering approval of routes for example:

'The contractor will be required before starting the works to . . . obtain agreement on site/to submit plans for approval showing . . . cable routes.'

'Cable is not to be laid over the surface of mouldings, cornices etc . . .'

It may not be acceptable to take the shortest route and the Contractor should make allowance for this in tendering.

Clauses giving precise information on permitted chasing, cutting or drilling. 'Chasing, cutting, or drilling should be confined to those joists marked on drawings, or on site, by the architect/surveyor.'

Clauses giving precise information on permitted opening up. The architect may decide that some floors should not be disturbed, or select the boards which may be raised.

Who is to carry out *builders' work* if there is only an electrical contractor on site?

Clauses requiring special protection or care for the building.

INSTALLATION

Supply. Is the incoming main in the best position? Does it meet current and expected future needs? Can an overhead supply be rerouted underground?

Intake position. Arrangements must not be left to the Contractor's discretion. A standard external box is rarely suitable and a special enclosure may have to be constructed.

Alterations or additions to normal practice or particular specification requirements. Redundant wiring and gear should be removed, wherever practical.

Special accessories or fittings, including arrangements for specialist repair of old fittings.

Other services. Are there fire, security, TV or telephone installations that should be co-odinated with the works. Is this the time to tidy up existing wiring to these services?

RECORDS

Requirements will depend on the size and complexity of the installation. A large building will need full layout drawings, switchgear diagrams, schedules, etc., but a house may only require:

* Circuit lists, in or along side distribution boards.
* Record of the position of access traps and other information helpful to inspection or alteration.
* Readings for insulation and continuity on all circuits and subcircuits at handover.
* Readings and details of earthing arrangements.

Lists and diagrams must be clear and durable.

6 The Contractor and the Contract

The Contractor must be a certificate holder of the National Inspection Council for Electrical Installation Contracting (NICEIC). The Council carries out random checks to monitor compliance with the IEE Regulations. There are some additional advantages if the Contractor is also a member of the Electrical Contractors' Association (ECA): their literature gives information on quality and completion guarantees.

In addition, and just as important, the Contractor must have experience of working on old buildings and be prepared to work with greater care and patience than would be needed in a new building.

It is very important for the Architect to go around with the Contractor at the start of the job, to 'talk through' the specification and agree such matters as cable runs. Frequent site visits are also necessary.

7 Inspection and Testing

Until about 30 years ago all domestic cabling was insulated with vulcanised india rubber (VIR). Usually this was run in wooden casings or steel conduit, but sometimes the cable was sheathed in lead. Unfortunately VIR becomes brittle and disintegrates with age, causing the whole length of lead sheathing to become 'live'. VIR cable requires frequent testing and must be treated with great care when carrying out alterations and additions. It must be replaced at the first sign of trouble.

The fate of a poor installation may be sealed by a brief visual check, but in most cases one must consider two degrees of investigation.

A full test. The procedure is laid down in Part 6 of the IEE Regulations, and it is time consuming and expensive. If only rarely carried out, it does not remove the need for regular inspection.

A visual inspection with selective testing. This must be carried out by a consultant electrical engineer or a very experienced contractor if it is to be useful or satisfactory. A report must be submitted commenting on each of the following:

* A description of the installation and its approximate age.
* An appraisal of condition and safety based on:

— inspection of accessible parts of the system
— loosening off selected accessory plates
— carefully selected spot checks on earth loop impedence, polarity, insulation efficiency and circuit continuity.

* Recommendations for repairs or works necessary to ensure safety.
* Necessity for further or full testing.
* Recommended period before reinspection.

The location of checks, tests and faults must be marked on drawings or clearly described.

Frequency of inspection. The 'official' maximum period between inspections is five years, but this should be reduced to two years in the case of buildings of historical importance. In

some cases it will be necessary to inspect annually.

The inspector. A contractor must be experienced, well trained and on the roll of the NICEIC. He should not be responsible for both inspection and repairs over a long period. Preferably a consultant engineer should carry out the inspection of a problematic installation or that in an important building.

Inspection by the building user. Cooking, heating and other appliances are a more likely source of fire and shock than the actual installation. Vigilance and regular checks by the user will give early warning of defective appliances, frayed flexible cables and damaged or hot switches and outlets.

References

ADDRESSES

Institute of Electrical Engineers,
Savoy Place, London WC2R 0BL

Publications from: Station House,
Nightingale Road,
Hitchin, Herts SG5 1RJ

National Inspection Council for Electrical Installation Contracting,
237 Kennington Lane,
London SE11 5QI

Electrical Contractors Association,
Esca House,
34 Palace Court, London W2 4HY

BRIEF BIBLIOGRAPHY

Electricity and Buildings
(Edited by G. J. Hughes: Peter Peregrinus for the Institution of Electrical Engineers. 1984) £58

Regulations for Electrical Installations
(15th Edition: I.E.E.; 1981, with later amendments). Obtainable from: IEE Publications, PO Box 26, Hitchin, Herts, price £15.00

Roll of Approved Electrical Installation Contractors
(N.I.C.E.I.C.)

List of Members (E.C.A.)

Various guides to the 15th Edition, including:

A Guide to the 15th Edition of the I.E.E. Wiring Regulations
(J.F. Whitfield: Peter Peregrinus Ltd. 1981)

Easiguide to Electrical Installations in Housing
(Building Design and National Building Agency, 1979)

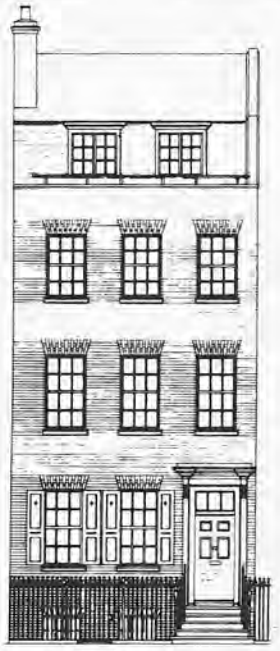
Lighting and Wiring of Churches
(General Synod: CIO Publishing: 1981)

Developments in Lighting — I
(Edited by J.A. Lynes: Applied Science Publishers Ltd., 1978)

Specification
(Architectural Press: annual)

Standard Specification (M&E) No. 1 — Electrical Installations (Property Services Agency: HMSO: 1985)

The SPAB



The Society's offices in Spital Square.

The Society for the Protection of Ancient Buildings was founded by William Morris in 1877 to oppose the destructive restoration of old buildings. Today the SPAB occupies a leading role in advising on all aspects of repair and maintenance of old buildings, large and small, through its Technical Panel of experts.

The Society continues to advocate conservative repairs to buildings, maintaining as much original fabric as possible, and to oppose harmful over-restoration.

The SPAB also:

* Investigates hundreds of buildings suffering from neglect or threatened with destruction or damaging treatment. We are consulted on applications for Listed Building Consent to demolish or part-demolish pre-1714 buildings.
* Campaigns for more enlightened policies affecting old buildings and greater public awareness about their needs.
* Runs a nine-month scholarship programme, which allows architectural, surveying or engineering students to learn first-hand about repair techniques.
* Holds courses for professionals and lay people on the repair of old buildings.
* Publishes a quarterly journal containing news and features.
* Publishes a quarterly list of old buildings in need of repairs for sale, lease or auction (available to members only).
* Runs a mail-order service for specialist publications (a publication list is available from the SPAB).
* Arranges public lectures and visits.
* Runs a Wind and Watermills Section (further details are available on application).

Technical pamphlets published by the SPAB:

1. *Outward Leaning Walls* by John E Macgregor OBE, FSA, FRIBA
2. *Strengthening Timber Floors* by John E M Macgregor OBE, FSA, FRIBA
3. *Chimneys in Old Buildings* by Gilbert Williams FRIBA
4. *Cleaning Stone and Brick* by John Ashurst DArch, RIBA
5. *Pointing Stone and Brick Walling* by Gilbert Williams FRIBA
6. *Fire Safety in Historic Buildings* by Alan Parnell FRIBA, FSIAD, FIFE, DipTP and David Ashford CAII
7. *Fire Safety in Historic Buildings — Part II* (to be published)
8. *Treatment of Damp in Old Buildings* by Andrew Thomas AA Dipl, RIBA

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