

QUARTZ HEATING

Guidance note

from the Diocesan Advisory Committee for the Care of Churches
2016

This Code of Practice gives guidelines to PCCs considering the installation of Quartz Heating. Whilst the DAC accepts that this type of heater is not pleasing in appearance, and that it is usually only considered when there is no feasible alternative, Quartz Heaters are economical to install and operate, and are 'reversible' in the event of being superseded by improved heating methods without seriously impairing church fabric.

The purpose of these guidelines is to encourage a common approach to the installation of Quartz Heaters by PCCs, contractors and suppliers, thereby reducing as far as possible the visual impact on church architecture.

GENERAL PRINCIPLES

It is recommended that Quartz Heaters be installed in 'Linear Format' at wall plate level, and focussed on the pews and other areas in use below.

- To reduce glare on the clergy and choir it is advised no attempt be made to 'angle' the heaters toward the front/altar area of the church.
- Quartz Heaters provide instant radiant heat that warms the object it strikes rather than the space. Only those persons within the beam radiated by the heater will derive benefit.
- Quartz Heaters are now available in linear form in single, twin and triple units. Typical lengths are 0.42m, 0.855m, and 1.28m respectively.
- Heating elements utilising the '**Gold Helen**' type of lamp should be specified.
- Mounting Height: It is important that the appropriate heater element capacity is selected in relation to the mounting height, as recommended by the manufacturers.

DESIGN OF HEATING INSTALLATIONS

- Design assistance is available from:
 - Manufacturers, many of whom offer a free design service.
 - Electrical contractors who are registered (full scope) with the NICEIC, ECA, or NAPIT.
- The general principle recommended is that:



- Only linear pattern Quartz Heaters should be considered and mounted at wall plate level.
 - Heaters should be focussed on the pews and not angled toward the east end.
 - The mounting of Quartz Heaters over the apex of archways is usually acceptable providing that sufficient wall space exists between the apex of the arch and the wall plate. The heaters should not impinge on the arch.
- **Flat ceilings**
Where a flat ceiling exists (e.g. in the case of some north and south aisles) a minimum of 0.5M clear air space should be allowed above the top of the Quartz Heater.
 - **Focussing of Quartz Heaters**
 - NAVE: Quartz Heaters mounted at wall plate level in the nave should be focussed on the pews on the opposite side of the nave aisle.
 - ORGANS: Church organs can be adversely affected by excessive application of heat. Quartz Heaters should not be directed toward organs and some local heating (e.g. a convector) may have to be provided for the organist.

ADVANTAGES

- The overall installation and operating costs can be economical compared with alternative heating systems.
- Flexibility of operation is possible leading to further economy in running costs; e.g. with small congregations only a small number of heaters need be switched on.
- Pre-heating is not necessary; the heating effect is instantaneous.
- Time switch control is not necessary.
- Silent operation.
- Possibly favourable electricity tariffs at weekends and evenings.

DISADVANTAGES

- Quartz Heating tends to heat the upper part of the body without creating a general feeling of comfort warmth.
- Quartz Heating does not benefit the fabric.
- Persons sitting/standing outside the heating 'beam' derive no benefit.
- Intrusive visual impact.

INSTALLATION

- The installation must be carried out by a registered full scope NICEIC, ECA, or NAPIT electrical contractor.
- PCC's are advised to obtain alternative quotations to ensure they are getting value for money.

- The installation should be designed and installed in order to comply with BS 7671 (IET regulations inc. latest amendments).

Cable

The installation should be wired in LSF (low smoke and fume) sheathed MIC or FP200 cable. The colour of the cable sheath should be selected to blend with the surfaces to which it is fixed, otherwise painted to match. The type of paint used should be approved by the cable manufacturer, so as not to adversely affect the integrity of the cable sheath. Each heater should be connected via heat resistant cable to a metal isolator.

Controls

In order to reduce the risk of unauthorised use of the Quartz Heating, the controlling switchgear should be in a secure location, alternatively the distribution board should be lockable. The heaters should be individually switched (or in pairs if 1.5kw and under). The installation designer and installer should be aware that Quartz Heaters have a high 'start up' current when initially switched on. For a very short duration the inrush current could be 7-10 times the full load running current. Appropriate circuit protection devices should be selected.

Quartz Heating controllers, which work on a dimming principle are now available. These could be considered to provide general control of the whole system or for the control of an individual heater where excess heat could cause discomfort.

Electrical loading

Written acceptance of any additional load should be obtained from the church's electricity supplier. Installing Quartz Heaters could mean that the existing service would need upgrading, and could involve significant costs.

Insurance

Approval of a proposed Quartz Heating scheme should be obtained from the church's insurers.

Installation certificate

On completion of works an installation certificate should be provided and held in church's log book.

APPLICATION

- Applications for a faculty for the proposed work should include:
- Confirmation that the PCC has considered all other forms of heating.
- Proposed installation details and the preferred contractors' quotation with clear Specification.
- Drawings (both plan and elevation) and photographs showing exact positions of proposed heaters and equipment.
- Manufacturers' illustrations of proposed heaters and equipment.
- Details of cable routes.
- Confirmation that the church's architect or surveyor is content with the proposals.
- Confirmation that the church's insurers are content with the proposals.

If you have any queries, contact:

Church Buildings Office, The Old Deanery, The Cloisters, Exeter EX1 1HS (01392 294945)
dac@exeter.anglican.org; or consult the diocesan website:

<http://exeter.anglican.org/resources/church-buildings/>