

Further, extinguishing the display lighting will help to conserve those objects responsive to light exposure.

13.2.10 Security and emergency

The objects contained in museums and art galleries are frequently valuable so the security of the building is important. Different security systems require different lighting. Where patrolling after closing is in use, lighting systems that enable the guard to move safely and effectively through the spaces is necessary. A minimum illuminance at floor level of 20 lx should be provided for safe movement. Museums and art galleries are open to the public, many of whom may be unfamiliar with the layout. Emergency lighting to help with egress, should it be necessary, is required by law (see Chapter 8).

13.2.11 Maintenance

For any lighting system to be effective it has to be maintained. Access for maintenance needs to be considered when designing the lighting of museums and art galleries, as it may not be convenient to move exhibits.

13.2.12 Flexibility

Many museums and art galleries change their displays regularly or house temporary exhibitions. Different displays or exhibitions require different lighting so it is essential to have flexibility. Flexibility of positioning can be provided by using a track system to power spotlights. Flexibility in the amount of light can be provided by having different elements of the lighting on different dimming circuits. Flexibility in light distribution can be achieved by using spotlights with different beam widths.

13.3 Lighting approaches for museums and art galleries

13.3.1 Wall mounted displays

Lighting paintings hung on a wall requires care if veiling reflections and shadows are to be avoided. Uniform lighting over the whole wall can be achieved using wall washing luminaires. Uniform lighting over individual pictures can be achieved using spotlights. In this case, some spill light around each picture will soften the effect and illuminate any label. Where a painting is hung so that it can be viewed by a standing observer looking straight ahead, spotlights aimed so that the centre of the beam is on the centre of the painting and 30 degrees from the downward vertical usually produce satisfactory conditions. Where paintings are double hung, i.e. one above the other, the upper painting should be tilted down to minimise veiling reflections.

13.3.2 Three-dimensional displays

Freestanding, three-dimensional objects need to be lit from several different directions. The usual approach is key-, fill-, background- and up-lighting (see Section 12.4). Back lighting determines the context in which the object will appear and sets the levels that will be required for key-, fill- and up-lighting to be noticeable.

Key-lighting consists of a narrow beam aimed at the most important features of the object. This will create shadows and highlights on the object. Highlights reveal the nature of surfaces. Shadows reveal form and texture. However, excessive highlights can be glare sources and strong shadows can hide detail. Key-light is offset by fill-light and up-light, diffuse lighting that softens shadows and diminishes glare. By balancing key-, fill- and up-light in direction and amount relative to the back-light, a wide range of appearances can be created.