

Active shading devices, such as louvres and awnings, are located on the exterior of a building. Motorised louvres can be effective at maximising the amount of daylight available, whilst reducing the penetration of the sunlight. Movement of louvres can be distracting. They also impose a maintenance requirement. The same concerns apply to motorised awnings but in addition, there is a need to sense wind speed so that the awnings can be retracted if necessary. Screening is usually provided by some sort of blind fitted to the window. Blinds can be used to reduce glare and direct radiation but in so doing they may also restrict daylight and view out. Some blind materials, such as perforated fabric, allow a degraded view out to be retained while limiting daylight admission.

Others, such as venetian and vertical blinds allow the user to adjust blind coverage and the angle of the blades to preserve a limited view out while restricting the admission of sunlight. Yet others, such as roller blinds allow the view of the sky to be restricted while preserving a view of the ground outside. While such adjustments are possible in principle, in practice human inertia usually means that blinds are adjusted rarely with the consequence that the amount of daylight in the interior is less than expected by the designer (see Figure 7.1). Such inertia can be overcome by using motorised rather than manual blinds linked to sunlight on the façade but this is expensive and is another maintenance issue. All blinds should have a reflectance of at least 0.5. Where they are likely to be subject to direct sunlight, blinds should have a transmittance of less than 0.1.

### 7.6.2 Thermal problems

Daylight admitted to a building represents a heat load. In winter this may be useful but in summer it can represent an additional cooling load. Therefore, when considering the energy balance of the whole building, it is essential to consider the contribution of daylighting. On a local scale, sunlight directly incident on people near a window can cause thermal discomfort. This is a good reason for not positioning workplaces close to a window but rather to use this space for circulation. When selecting shading devices, consideration should be given to these effects.

### 7.6.3 Privacy problems

Extensively glazed buildings can present privacy problems, particularly on the ground floor. Concerns about privacy can lead to blinds being closed at all times with a consequent lack of daylight and view out. There is little that can be done about the admittance of daylight but a degraded view out can be preserved without sacrificing privacy by using blinds made from perforated fabric, particularly when the outside face of the blind is of high reflectance and the inside face is of low reflectance. An alternative solution is to move workplaces away from the windows and to use this space for circulation.

Recommendations for daylighting and supplementary electric lighting are given in BS 8206: Part 2.

## 7.7 Maintenance

Dirt will build up on the exterior and interior surfaces of windows and rooflights. This will reduce the transmittance of the glass and therefore the amount of daylight entering the building. The degree to which this will occur will depend largely on the inclination of the glass and the air quality of the local environment. A busy urban environment will produce more dirt than a rural one. To minimise the problem a regular window cleaning programme is needed, which will require easy and safe access to the windows. Without this, window cleaning will be expensive and is likely that it will not be carried out as often as necessary.