APPENDIX 2:

Perforated Metal Screening:

Ineffective for privacy applications to prevent overlooking

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Perforated metal sheeting is sometimes used for veranda, balcony and window privacy screening in new or renovated buildings, especially private dwellings.

The use of this form of screening for public areas like car-parks is effective for allowing light entry, ventilation and monitoring. However, it is not appropriate for domestic applications where greater privacy is required.

In these situations, it is much more effective to use obscure glass or horizontal angled slats, because perforated screening with small round regularly-spaced holes becomes virtually transparent at a distance of only a few metres due to the phenomenon of diffraction.

This is exacerbated when the screening separates two areas of different light intensity - for example, looking through a screen to a bright external view from within a dwelling (see photos 4 & 5).

In this situation, the effect is similar to a view through clear tinted glass or a much less dense material like flywire.

Conversely, at night it is easy to see through this type of perforated metal screening into an illuminated space within a dwelling from the darkness outside.

Consequently, although this form of screening may theoretically comply with Rescode, it fails to significantly obscure overlooking at all (although the required performance of screening is not actually described at all, other than merely "to limit views"):

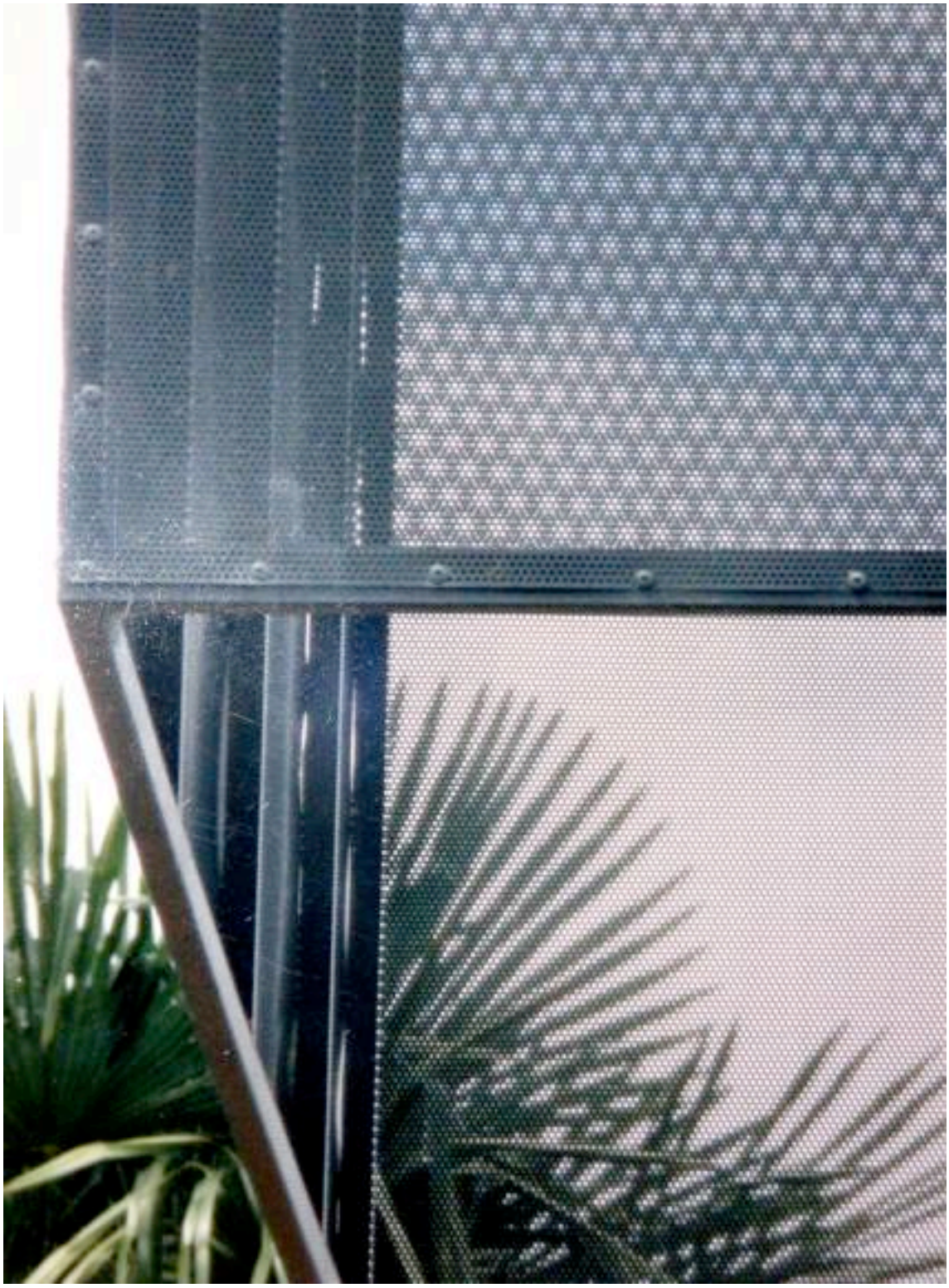
Clause 54 - Standard A15 and Clause 55 - Standard B22:

Objective: *"To limit views into existing secluded private open space and habitable room windows"*

Standard: *"Screens used to obscure a view should be perforated panels or trellis with a maximum of 25% openings…"*

(1) External window screening, Richmond (site 1).

Close detail of perforated metal screening viewed externally. Note the diffraction interference effect from looking through two separated layers of the material (from one side of the screen to the other). It is the diffraction effect that makes this sort of perforated screening effectively transparent from more than a few metres away



(2) External window screen, Richmond (site 1). Side view (north elevation)
Semi-transparent - areas behind and in front of the screening are equally-well lit

(3) External window screen, Richmond (site 1). External view (east elevation).

(4) External window screen, Richmond (site 1, east elevation). View from inside (i) Maximum transparency when viewing from a darker area to a brighter area

(5) External window screen, Richmond (site 1, east elevation). View from inside (ii) Transparent. Note diffraction interference effect again (pattern of apparent large holes at right) caused by screen on next window

(6) Upper veranda screen, Richmond (site 2).

(7) Samples of 5 different gauges of commercially-available perforated metal sheeting: Close-up photographs of 100mm-square samples - all meet the "25% or less" Rescode standard for the proportion of openings. At distances of more than a metre or two they are all effectively transparent, to some degree depending on the illumination context