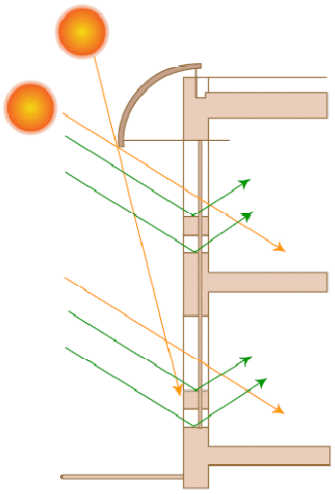
Bab 12 Pencahayaan Alami

Dr. Yeffry Handoko Putra, S.T, M.T
E-mail: yeffry@unikom.ac.id

128

Disain dengan pencahayaan alami siang hari (PASH)

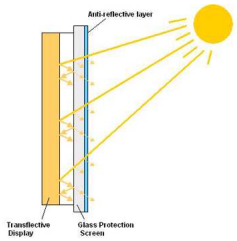


129

Jenis-jenis Cahaya Alami

- *Sunlight* -> cahaya matahari langsung
  Harus dijaga supaya jumlahnya tetap terkendali (menghindari silau dan radiasi panas matahari)





- *Daylight* -> cahaya matahari tidak langsung (difus, refleksi dari langit)
  Digunakan untuk pencahayaan dan kesehatan lingkungan







130

Contoh Penerapan PASH





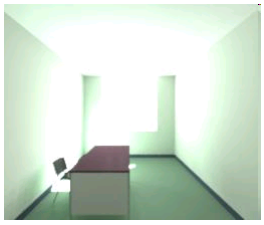




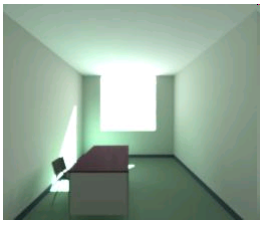


131

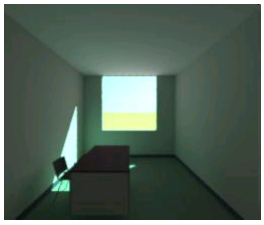
Glazing type



Clear glass



Tinted:
Tv=38% Rv = 40%



Reflected

T/R ←

132

Sistem pengarah daylight

- Exterior System
  The most effective way to bring daylight into a building (besides opening the roof) are reflecting elements in front of the façade
- Interior System
  Similar concepts can also work inside the facade, provided that there is enough room. Obviously, the maintenance is much simpler here.
- Inferior Louver System
  The traditional concept of louvers for solar protection has recently been combined with many fresh ideas.

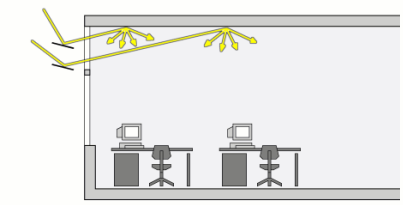
133

- Double Glazing Vertical
  Many systems exist that are integrated into double glazings, some of which have only been developed recently. This eliminates all maintenance costs, but offers many challenges due to the limited space available.
- Double Glazing Vertical
  What works in the facade should be fair enough for skylights. However, the problem to solve there is normally rather the solar protection instead of daylight redirection.

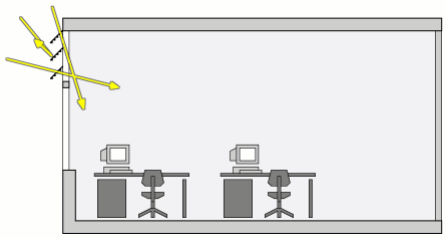
134

Exterior System

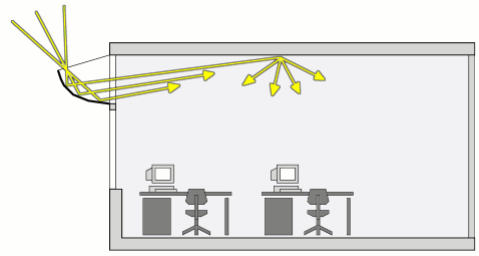
Exterior Reflectors



Prism Panels



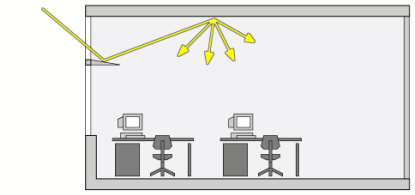
Anidolic Mirrors



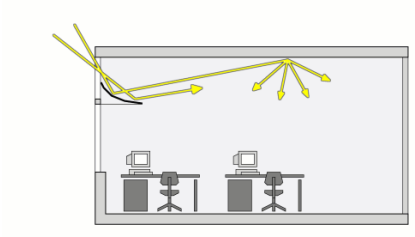
135

Interior System

Light Shelf



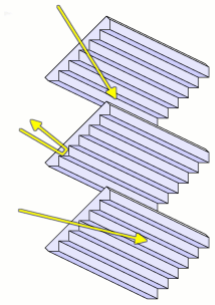
Anidolic Mirrors



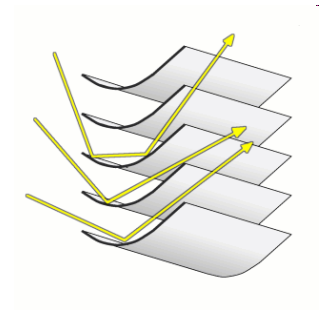
136

Interior Louver System

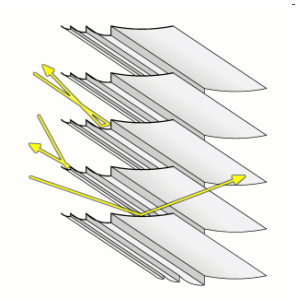
Prismatic Acrylic Louvers



Curved Metallic Louvers



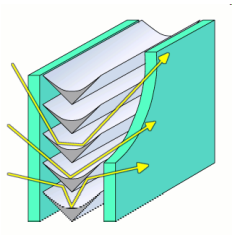
Folded Metallic Louvers



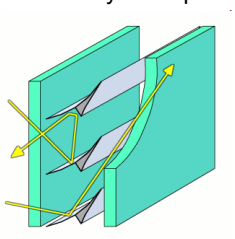
137

Double Glazing Vertical

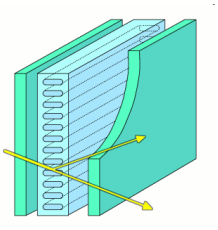
Symmetric Metallic Profiles



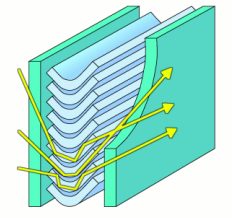
Curved Acrylic Strips



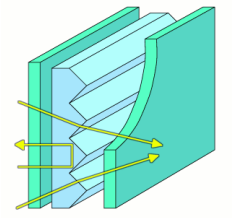
Lasercut Acrylic Panels



Asymmetric Metallic Profiles



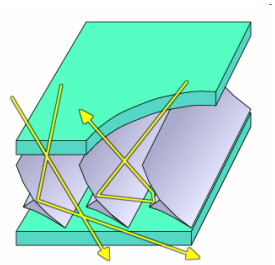
Prismatic Acrylic Panels



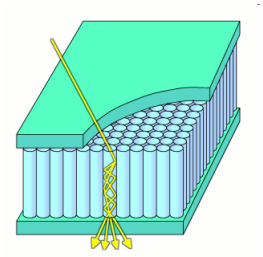
138

Double Glazing Horizontal

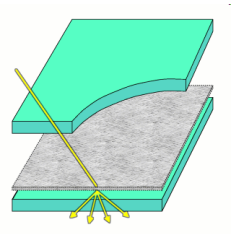
Asymmetric Metallic Louvers



Glass or Acrylic Capillaries



Glass Webbing



139