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Sustainability - F3 - Shading Devices

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Dear All,

We have recently been discussing shading devices across projects, this note is prepared by the façade team (M/s Ganesh More, Srinivas Hoisal) to help us understand the overall cost impact of various types of shading devices.

Shading devices are primarily deployed to contain excess glare, and they are of following types:

- Static:
  - Landscape features such as mature trees or hedge rows;
  - Exterior elements such as overhangs or vertical fins;
  - Low shading coefficient (SC) glass;
  - Recessed glazing with walls enveloped around façade.

- Dynamic:
  - Exterior Dynamic screens/louvers;
  - Interior glare control devices such as Venetian blinds or adjustable louvers;
  - Electro-chromic glass (SAGE glass)

Note: Vertical external fins cut down glare significantly as compared to horizontal projections but also reduce daylight levels as compared to overhangs.

Following is a table summarizing the cost impact on façade for providing additional sunshades. Cost of Façade (Curtain Wall) without overhang/fins ~ 250/sqft of CA for Perimeter/CA 0.51 (sample reference Palava sec 2 – Bldg 2 - Original KAPL Design).

Type of shading device	Representative image	Additional Cost* Rs./sqft	Advantages	Disadvantages
Horizontal sunshade of		35	1. Aesthetically pleasant 2. Speed of construction	1. Being static won't be effective due to the dynamic

600mm overhang with aerofoil louvers				nature of sun 2. Being metal will also reflect sun
Horizontal sunshade of 600mm with aluminium solid sheet		65	1. Aesthetically pleasant. 2. Speed of construction. 3. Being solid more effective	1. Expensive 2. Maintenance
Vertical RCC fins with recessed glazing		0	Reduces the glare and heat gain considerably	Aesthetically may not be preferred
Vertical glass fins of 600 mm overhang		135	Different color glasses can be provided for aesthetics	1. Being static won't be effective due to the dynamic nature of sun 2. Being metal will also reflect sun. 3. Heat will trap between glass and fin.
Venetian Blinds		50	1. Easy to install. 2. Dynamic as can be manually controlled.	Aesthetically not pleasant

Electro Chromic Glass (Sage Glass)		1000-1800	1. Easy to install as gets in build within the glass. 2. Dynamic as changes color and controls the glare control.	Very expensive

* per sqft of carpet area; considering perimeter/carpet area ratio of 0.51

Regards,

Aun

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