Passive Design Checklist (Commercial Buildings)

Passive design elements maximize the use of 'natural' sources harnessing environmental conditions and design features to create comfortable conditions inside the buildings, thus reducing overall energy consumption and enhancing the overall comfort of the occupants.

Designers can refer this checklist to ensure that enough thought has been invested before closing the concepts.

01	Site Selection (applicable in large masterplans)	❑ Good solar access for natural lighting to all buildings ❑ Open to natural wind directions
02	Site Planning and Building Orientation	❑ Compact builtform (limit exposure) ❑ Self shaded built massing (masterplan) ❑ Enable wind movement across building and site ❑ Avoid excessive solar radiation on the facade by exploring the possibility of orienting the longer axis of the building in E-W direction ❑ Naturally ventilated common spaces (incl. considerations of stacks, wind towers, earth tunnels, etc.) ❑ Solar PV integration in the building
03	Self Shading and Shaded Envelope	❑ Self shading through building envelope ❑ Locate building cores on faces heavy on sun exposure ❑ Limit solar heat gain by right facade glass parameters ❑ Shading devices for roof and facades ❑ Appropriate insulation on the roof and non vision sections of the facade (spandrels, insulation, high SRI paint, vegetated terraces, etc.)
04	Daylight Integration and Glare Reduction	❑ Optimize WWR. Limit within 40%. ❑ Selection of appropriate VLT of vision glass. ❑ Incorporation of shading where necessary ❑ Enhance daylight penetration (light shelf, light pipes, diffused daylight panels, etc.)