



of the existing buildings, which made work highly cumbersome.

If one is looking for higher ground clearance and yet non-penetrative structure, the structure has to be designed to be capable of resisting heavy wind loads incident on an elevated structure.

Apart from being an elevated structure it has been designed for sufficient variance in several parameters like ground clearance and array configurations. Typically these structures need to be designed to have ground clearance between 500mm to 1000mm this structure and should be customizable in various array configurations with 2 in a portrait in N-S direction and expandable from 2 in EW to even 10 in EW configuration, thereby giving flexibility to deploy 4 module structures to 20 modules. This kind of flexibility allows one to optimize the space easily without leaving anything unutilized due to shading. Also these structures can be designed to take a tilt of 5 degrees to 30 degrees, thus accommodating higher flexibility while maintaining standardization to ease the installation and commissioning.

### Structures with Anchoring:

Anchoring into roof eliminates many cost components in the structure like windshields and ballast which will save considerably. For structures where the ground clearance has to be more than 1m, a heavy elevated structure has to be installed which we insist on having the column post of the mounting structure to be located only on the column/beam of the existing structure. This will ensure proper anchorage depth availability and also the loading on the mounting structure will be transferred to the load bearing members of the existing concrete structure. Though this will eliminate the scope for any flexibility in optimizing the roof area it will provide the required stability and safety to resist heavy incident wind loads.

Also one has to bear in mind that the anchors available in the market insist on

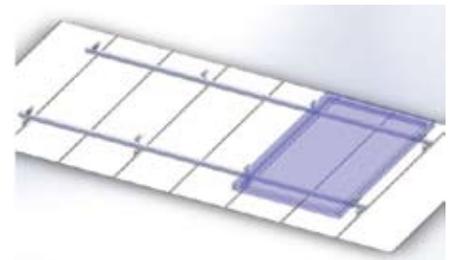
anchoring in the concrete. Many installers fail to foresee that a typical flat roof have 40mm to 100mm of Mortar finish for waterproofing and drainage purposes. This layer needs to be chipped locally to reach the actual concrete before anchor holes are made. Fail to do the same and you are risking the structural integrity of the mounting system as a whole.

### Metallic Inclined Rooftop Mounting.

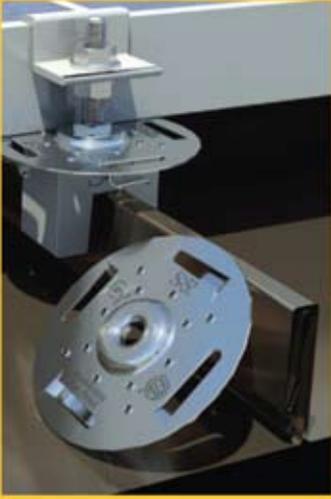
Non Invasive Inclined roof mounting has been usually restricted to special roofs with 100mm lock or standing seam profiles. However globally so far trapezoidal roofs have not been mounted without penetrating the roofs. Mounting on trapezoidal roof sheeting has been through invasive techniques. But Nuevosol developed a patented product for trapezoidal roofs which does not require any penetration into the roof. This is yet to be commercialized. Roof profiles with standing seams and Klip lock roofs have non invasive mounting systems which are already in use. These roofs have the advantage of non-invasive mounting due to their profile.

### Role of Mounting Structures in Rooftop Systems

While mounting structures for Solar Farms play a crucial role in ensuring grid parity and sustainability, it can be comfortably claimed that mounting structures are pivotal in roof mount systems. There is no rooftop system without a viable mounting solution. This being the case one should apply caution in designing these structures ensuring all the parameters of safety and durability are considered without going for hasty execution. At Nuevosol the research team continuously develops various systems for roof mounting with an optimal blend of customization and standardization.



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