All materials used for opaque external roofing surfaces must have a minimum SRI as indicated in the regulation. SRI values should be complied and reported in the DM Building Glazing Schedule Roof Table.

SRI is a measure of the surface's ability to reflect solar heat, as shown by a temperature rise. A standard black (reflectance 0.05, emittance 0.90) is 0 and a standard white (reflectance 0.80, emittance 0.90) is 100. Once the maximum temperature rise of a given material has been computed, the SRI can be computed by interpolating between the values for white and black.

SRI is calculated according to ASTM E 1980. Reflectance is measured according to ASTM C 1549 and Emittance is measured according to ASTM E 408 or ASTM C 1371.

A typical roof layout is shown in fig. 304.01(3).

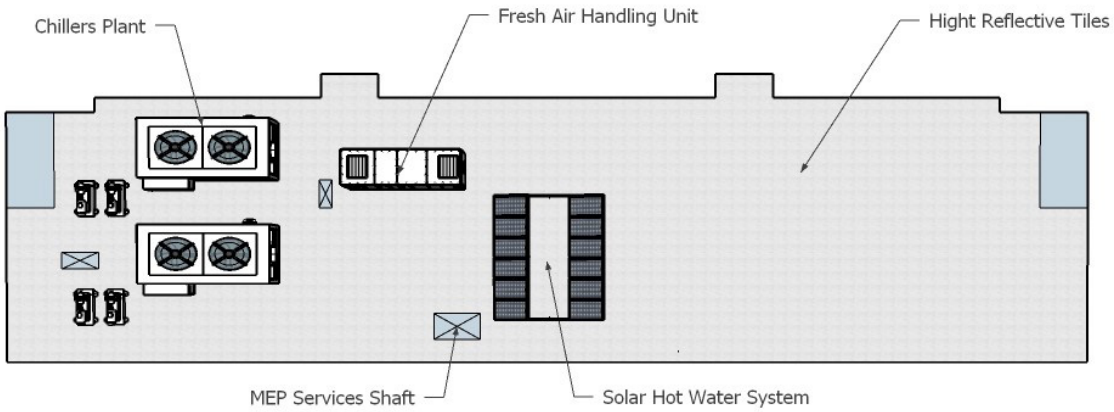

Fig 304.01(3): Sample Roof Layout

Manufacturers and suppliers of proprietary roofing products should be able to provide Material Specification Data Sheets (MSDS) and DCL test certificate confirming the SRI value of the products. Duly filled DM Building Glazing schedule with roof area details must be submitted to demonstrate the compliance.

Note: For Silver Sa'fa, if the green roof provides 30% of the total surface area of the building, it will be exempted from the requirements of *Regulation No. 304.01*.

Calculation

The following equation to be used to check compliance for this regulation:

$$\frac{\text{Area of high reflectance roof + Area covered by Solar PV}}{\text{Total effective roof area}} \geq 75\%$$