

Bulletin # 15

AIR DELIVERY TO SKYLIGHTS

A common place for condensation to form in an indoor swimming pool is the inside surfaces of windows or skylights. For these surfaces, the objective is to design the air delivery system to completely blanket the glass areas with a flow of warm dry air that is supplied by the DXair dehumidification system to prevent condensation and dripping.

A simple example is in your car in the middle of winter and it is covered in sleet or ice is frozen on the windshield (condensation has frozen there). The first thing done is start the car and turn on the defroster and go back inside for coffee!

Once the car warms up- the defroster moves a flow of warm air up the window and melts the ice, and dries the windows- and subsequently that condensation disappears. It can't ice up (or form condensation on it) again as long as warm air is moving across the glass surface area.

It is the same premise in a pool room. When the outdoor temperature is lower than the indoor pool room temperature (cold meets warm) you will experience condensation on the interior surfaces of the natatorium if the proper air delivery system is not installed.

RECOMMENDED GLASS

- Single Pane glass is NEVER recommended for natatoriums. This is primarily due to low U-Value that causes windows to reach Dew Point Temperature and condensation to occur at a much faster rate. If single pane is installed; clients may still find condensation even with blanketing the glass with warm air from the dehumidification system.
- Double pane, Low-E glass is always recommended for use in windows/door walls, along with high quality skylights. Many companies discourage the usage of skylights claiming they will always create a problem. It is not the skylight that creates the problem; the problems occur when (A) the air delivery system is not designed properly and/or (B) there is no air movement into or across the skylights. DXair does not discourage you from skylight usage; instead we provide information on moving the proper air flow to all glass surfaces and into skylights to prevent condensation. Deeply recessed or boxed in skylights can be more difficult to work with than surface mounted skylights - and DXair will address this with you in the design-building stages.
- Triple Pane Glass: **generally not necessary nor recommended**; as there is no added value/benefit or savings between double and triple pane glass.

All windows, door walls, French doors, skylights should be tight sealing against air infiltration, and any metal frames around these windows must have thermal breaks (thermal break means that the frames are insulated). Wood and vinyl clad windows can also be used.

The Perfect Balance of Water and Air

DXair Dehumidifiers are designed exclusively for use in all indoor swimming pool applications: from lap pools, schools, large hotel/resort indoor swimming pools, where humidity needs to be controlled with dehumidification to prevent deterioration of the pool enclosure.

For more information,
contact DXair. 800/514-7051