System Info
BASIC FACTS

• EVAPORATION = NATURES WAY OF COOLING

• LIKE PERSPIRATION
  
  • WE SWEAT AND AS MOISTURE EVAPORATES FROM OUR SKIN THIS KEEPS US COOL.

  • EVAPORATION OF THE WATER COOLS THE ROOF, NOT THE TEMPERATURE OF THE WATER.
BASIC FACTS

• ONE GALLON OF WATER WILL ABSORB 8,652 BTU’S OF HEAT.

• THUS 1 1/2 GALLONS OF WATER EVAPORATING IS ROUGHLY THE EQUIVALENT OF 1 TON OF AC.
BASIC FACTS

• THROUGH EVAPORATION, ROOF TEMPERATURES CAN BE REDUCED FROM 165° DOWN TO 92°

• UNDER-ROOF TEMPERATURES CAN BE REDUCED FROM 120° DOWN TO 88°

• REDUCE WORKING LEVEL TEMPERATURES FROM 102° DOWN TO 82°
WHAT ROOF COOLING IS AND DOES

• A NETWORK OF COMPUTER DIRECTED ULTRA VIOLET RESISTANT (UVR) PVC PIPING WHICH

• SHOWERS SHORT CYCLES OF WATER MIST ONTO THE ROOF

• AT INTERVALS, ALL TREATED PARTS OF THE ROOF ARE WETTED

• AS WET ZONES DRY AND COOL, THE OTHER ZONES ARE RE-WETTED IN CYCLES
WITH VS. WITHOUT

Dry Roof 160 Deg.  Cooled Roof 90 Deg.

The Solar Shield Effect

With Solar Shield

Degrees

Hour of the Day
OUR SYSTEM
The system is laid out in Zones. Each zone is roughly 5,500 to 8,500 sq.ft.
A Main line circles the roof distributing water to each zone.
The water is then carried through riser lines.
Finally the water is distributed along the spray lines. These lines are spaced between 15 and 18 feet apart, and are staggered for maximum water coverage.
OUR SYSTEM

- We use UVR-PVC which is designed to be in direct sunlight, exposed to elements.
OUR SYSTEM

• WE USE CUSTOMIZED INJECTION MOLDED BLOCKS TO HOLD PIPE. THESE BLOCKS WERE DESIGNED BY US PROVIDING A SNAP FIT INSTALLATION AND TOOLED TO ELIMINATE KNOCKED OVER BLOCKS.
OUR SYSTEM

• PIPE IS SUPPORTED BY BLOCKS GLUED TO THE ROOF (WE DO NOT MAKE ANY ROOF PENETRATIONS) AT 5 FOOT INTERVALS.
OUR SYSTEM

• WE USE 360° SPINNING NOZZLES FOR THE MAJORITY OF THE ROOF.

• WE USE 180° AND 90° NOZZLES AROUND THE PERIMETER OF THE BUILDING TO AVOID OVER SPRAYING THE ROOF.
OUR SYSTEM

• WE INSTALL CHECK VALVES UNDER EACH SPRAY LINE TO ENSURE THE WATER DOESN’T DRIP BACK OUT OF THE LOWEST SPRAY LINE DUE TO GRAVITY BETWEEN WETTING CYCLES.

• THIS WAY EACH ZONE IS INSTANTLY PRESSURIZED WHEN VALVE IS OPENED BY CONTROLLER.
OUR SYSTEM

• EACH CHECK VALVE IS EQUIPPED WITH TWO DRAIN PLUGS, THAT ARE REMOVED EACH FALL TO DRAIN WATER FROM THE SYSTEM TO PREVENT FREEZING.
OUR SYSTEM

• THE ROOF IS SPRAYED IN ZONES.
• BETWEEN 15 TO 30 SECONDS PER ZONE. AND THE ZONES ROTATE ACROSS THE ROOF.
• THEN THERE IS A 5 MINUTE DELAY TO ALLOW ROOF TO DRY.
OUR SYSTEM

• EACH ZONE IS CONTROLLED BY A 24V SOLENOID VALVE.
OUR SYSTEM

- Drains are placed at the lowest point of each riser as well as at the end of each spray line.
- These are also used each fall to evacuate the water from the system so that it won’t freeze over the winter.
OUR SYSTEM

- THE SYSTEM IS CONTROLLED BY AN IRRITROL PROFESSIONAL GRADE TIMER WHICH ACTIVATES ZONES IN SEQUENCE FOR ABOUT 20 SEC PER ZONE, AND THEN DELAYS FOR WATER TO EVAPORATE THEN CYCLES AGAIN
OUR SYSTEM

• THE SYSTEM ALSO USES A 24V THERMOSTAT, RESPONDING TO A SENSOR PLACED ON YOUR ROOF, TO CONTROL WHEN YOUR SYSTEM WILL RUN.

• THE SYSTEM WILL NOT TURN ON BEFORE THE ROOF TEMPERATURE REACHES 90°
OUR SYSTEM

- ALTERNATIVE COMPUTER BASED CONTROLLER WITH THERMOCOUPLES.
COOLING THE ROOF DECK ON BUILDINGS:

• Absorbs up to 87% of your roof’s solar load
• Reduces up-front and everyday costs
• Lowers bills for KWH used
• Lowers demand charges as your peak drops
• Reduces wear on existing A/C when present
• Extends roof life, by keeping it cool all day
• Protects roofs against solar shock of sudden summer storms.
And Its Benefits for People Are:

- Overheated workers find relief
- Production stream is protected
- Labor turnover problems diminish
- “Summer” scheduling hours go back to normal, less stress in workers’ homes
- Heat related medical problems, absenteeism drop