

## Cooling Tower Component Storage – Prior to Assembly

These storage guidelines are for field-erected cooling towers and other “knockdown” (KD) cooling towers to be stored at the jobsite beyond three weeks before being assembled. Secure materials in a safe area and label “for cooling tower installation.” See the handling instructions for specific components below.

### **PVC Film Fill and Packs**

Handle PVC fill components carefully and protect from heat and UV damage (embrittlement) on the jobsite. Avoid tearing or mashing while unloading. When storing sheets and pack assemblies beyond three weeks, store indoors away from direct sunlight. If no shading structure exists, cover PVC materials with shade cloth, tarp, plastic sheeting or plastic-coated paper. To prevent heat accumulation and sheet distortion:

- Cover the sheet stack with either an insulating material such as plywood or a breathable insulating material such as shade cloth. If neither is available, a gap of approximately 6" (15cm) between the cover and the top of the stack is required.
- Allow hot air inside the stack to escape by venting or using breathable cloth.
- Arrange so air flows freely under the bottom of the stack.

### **Geareducer® Gear Drives and Motors**

Store gear drives and motors in an enclosed building to avoid infiltration of contaminants into gears and motor windings. Rotate motor shaft monthly so that bearing surfaces are adequately lubricated. Air conditioning is not required.

### **PVC/RTR Piping**

Store piping in an enclosed building to avoid infiltration of contaminants into bell and spigot groove areas which could contribute to joint leaks at installation. Keep paper plugs taped over pipe ends intact. Store distribution system branch arms and nozzles away from direct sunlight.

### **Fiberglass Framing and Casing Panels**

Elevate framing members off the ground. Store casing panels upright or angled to prevent rainwater and condensation ponding and permanent staining. Avoid direct sunlight.

### **Lumber Framing**

Place lumber and plywood stacks on dry, flat ground. Allow space between the ground and lumber for air circulation. Line up spacers vertically within the stacks so that weight above does not distort lumber below. Wrap the top, ends and sides of lumber and plywood with breathable lumber wrap material to minimize exposure to moisture and direct sunlight. If wrap is not available, place scrap plywood or other covering over the top and ends of each wood stack to help control damage.

### **Miscellaneous**

Store all fluids, oil, caulking, thread guard and aerosols indoors to prevent freezing, water and heat damage.



## Cooling Tower Long Term Downtime Preparations

Protecting a cooling tower prior to startup or during downtime of at least a month requires several critical maintenance steps.

### If the cooling tower is not installed or connected to power:

1. At least once a month, turn fan and motor shafts by hand for ten revolutions or more to lubricate bearings and gears.
2. Every three months, lubricate motor and fan shaft bearings (if applicable).
3. Check the electrical equipment manufacturers' user manuals for storage instructions. To prevent condensation, dust, insects and other foreign material from entering electrical equipment, store these items inside whenever possible. If outside storage is necessary, position or mount electrical cabinetry so that it is ventilated and drains as designed.
4. If supplied with motor space heaters, consider energizing them to prevent condensation.
5. Open all tower drains. Position or mount galvanized steel components so they drain and dry completely to prevent stains.

### If the cooling tower will remain idle 6 months or longer, consider these additional steps:

6. If equipped with a gearbox, fill it with oil in lieu of turning the fan shaft by hand. Return oil level to normal operating level when resuming service. Reference User Manual: Cooling Tower Downtime Instructions Z0238848 at [spxcooling.com](http://spxcooling.com).
7. Perform insulation tests on motor windings before resuming service.

### If the cooling tower is installed and connected to power:

Operate the motor for at least three hours per month to dry out windings and lubricate bearing surfaces. Reference User Manual: Marley Fan Motor Z0239042 at [spxcooling.com](http://spxcooling.com).

2. Operate the motor with belt, coupling or driveshaft connected to turn fan shaft and lubricate bearings and gears.
3. Check electrical equipment manufacturers' user manuals for storage instructions.
4. If supplied with motor space heaters, consider energizing to prevent condensation.
5. Open all tower drains so water drains and tower dries completely to prevent stains.

### SPX COOLING TECHNOLOGIES, INC.

7401 WEST 129 STREET  
OVERLAND PARK, KS 66213 USA  
913 664 7400 | [spxcooling@spx.com](mailto:spxcooling@spx.com)  
[spxcooling.com](http://spxcooling.com)

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