

Solar Storage Tubes can be used in residential, commercial, industrial, and agricultural applications.

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Solar Components Thermal Storage

Sun-Lite[®] Thermal Storage Tubes

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*The most efficient
and cost effective
way to store solar
thermal energy*

*Proven, Low Cost
Solution*

*Easy to install or
remove*

*Proven to provide
up to 100% of
space heating and
hot water needs*



Solar Components Corporation

Sun-Lite® Thermal Storage Tubes

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There is a world of diversity found in every hobby greenhouse and each gardener has his or her own unique style of growing and caring for the plants. However, amid all the differences, there is one common denominator that is absolutely necessary for plants in all greenhouses: the sun. The amazing power provided by the great big ball of fire in the sky gives the energy essential for photosynthesis and is the driving force behind hobbyists'

gardens. Sunlight provides our plants with energy for growth and also warms our greenhouses in the process.

For many greenhouse growers, sunlight can actually warm the greenhouse beyond the optimal temperatures. In order to combat the excessive solar heat, horticulturists normally install some sort of ventilation system. For many this involves a passive vent system that is either manually or automatically opened as excess heat builds up in the greenhouse. In other cases, ventilation systems will include extravagant atmospheric controllers, power fans, and, in some cases, misters or air conditioners.

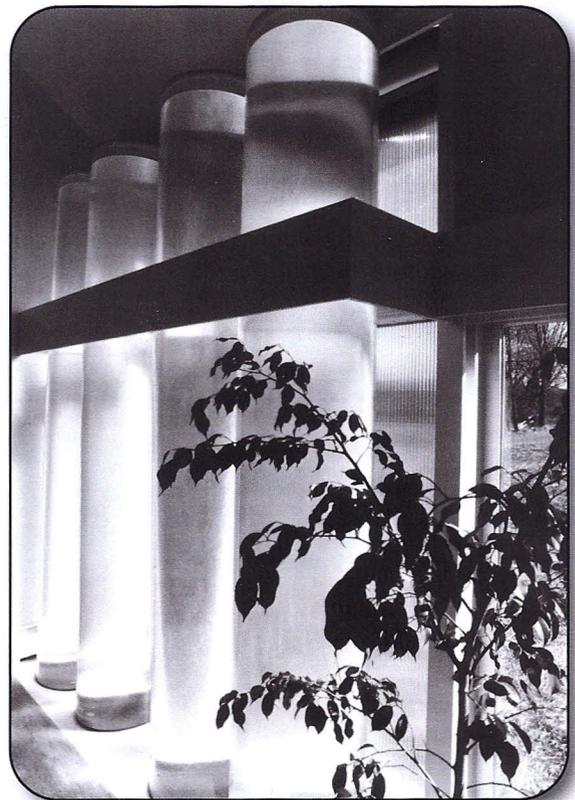
Excessive heat is only one half of the struggle related to temperature that many small greenhouse gardeners face. Temperatures below the desired range can be counterproductive to plant growth and can even halt growth altogether. Some greenhouse hobbyists are forced to heat their greenhouses, especially during the nighttime, to ensure their plants continue to grow properly. Other hobbyists, whose greenhouses are seasonal, are able to extend the season by heating the atmosphere during the nighttime and, in some cases, adding supplemental lighting.

What if I told you that a possible solution for both excessive heat and cold could come from the same source that provides energy to the plants in a greenhouse? It's true; the power of the sun can provide greenhouse growers with much more than just the energy for plant growth. Solar energy is becoming a solution to many of mankind's problems and some of the problems experienced by the greenhouse hobbyist are no exception.

Solar Components Corporation, out of Manchester, New Hampshire, may have the ultimate solution for temperature regulation in greenhouses. Their Sun-Lite® Thermal Storage

Tubes offer a low cost, effective way for horticulturists to add thermal mass to their greenhouses for the purpose of temperature regulation. The Sun-Lite® Thermal Storage Tubes are large cylinders built from specialized materials which have the strength to hold water while at the same time remaining transparent enough for natural light transmission.

Sun-Lite® Thermal Storage Tubes placed in a greenhouse will help to regulate the temperature during both the day and the night. First, as heat builds up in the greenhouse during the day (via the solar energy from the sun), the Sun-Lite® Thermal Storage Tubes absorb and hold some of that energy (heat). The heat is absorbed by the water in the tubes which helps to maintain a cooler temperature during the daytime hours. Water has a high thermal storage capacity which allows it to absorb a good portion of the excess solar heat found within a greenhouse during the daytime. As the sun sets and temperatures fall, the heat contained within the Sun-Lite® Thermal Storage Tubes will dissipate, through natural convection, back into the greenhouse thus warming the cool night air. The next morning the cycle repeats itself as the now cool water can start to absorb heat from the sun and keep the daytime temperature within the greenhouse in check.





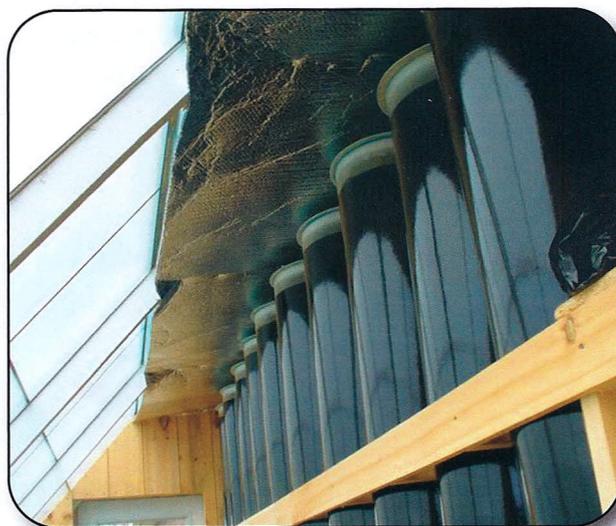
Sun-Lite® Thermal Storage Tubes aren't only good for regulating day and nighttime temperatures. They also assist in regulating seasonal temperatures. The thermal mass added to a greenhouse with the installation of Sun-Lite® Thermal Storage Tubes helps to regulate excess heat in the summer and assists in heating the greenhouse in the winter.

The quality of the Sun-Lite® Thermal Storage Tubes is what makes these units well suited for the greenhouse enthusiast. These containers are designed to be the most economical way (per gallon of storage) to add thermal mass to a greenhouse or sunroom. The tubes are completely self-contained and only require a flat, level floor for installation. Even the largest of the tubes weighs less than 20 lbs (prior to filling with water) which makes it easy for anyone to install or remove. All Sun-Lite® Thermal Storage Tubes are built from corrosion free fiberglass so they will remain pristine even after years of use. They are available in four standard sizes: four foot or eight foot tubes with a 12" diameter and five foot and ten foot tubes with an 18" diameter. The larger the volume of the tube, the more water (thermal mass) it is capable of holding.

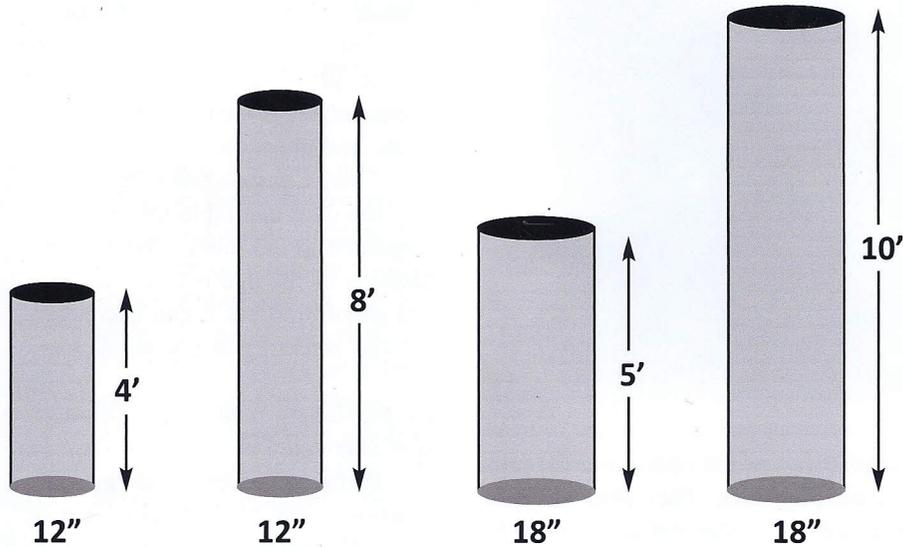
After reviewing this product I am impressed with the quality of construction and materials used. For me, as with many other hobbyist greenhouse horticulturists, function is of the utmost priority. That being said, aesthetic value is a close second. After all, one of the primary reasons people take up the hobby of greenhouse gardening is to surround themselves with beauty. What I absolutely love about the Sun-Lite® Thermal Storage

Tubes is that they fit right in to any serene greenhouse space. All too often greenhouse hobbyists are asked to sacrifice beauty when installing hardware devices. This sacrifice is often made out of pure necessity for the plant's well-being. The modern, simple, yet clean, design of the Sun-Lite® Thermal Storage Tubes enhances the look of any greenhouse and gives an almost futuristic feel. Solar Components Corporation also has dyes available for the water contained in the tubes. The primary function of the dye is to aid in thermal absorption but it can also add a colorful ambiance to any greenhouse.

As previously mentioned, although aesthetic value is very important to the hobbyist greenhouse grower, function is still of the utmost importance. The main reason I would recommend the Sun-Lite® Thermal Storage Tubes is because they help the horticulturist acquire a consistent temperature in the greenhouse. I preach the importance of consistency in every article I write on the subject of atmospheric conditions. This is because plants thrive in consistent environments. Large fluctuations in temperature can cause various problems for the horticulturist, including hindered growth and humidity issues which can eventually lead to pathogenic molds and fungi. A simple yet effective way for the hobbyist greenhouse gardener to efficiently regulate temperature without sacrificing beauty is to install Sun-Lite® Thermal Storage Tubes. With Sun-Lite® Thermal Storage Tubes, greenhouse hobbyists can maximize their greenhouses' performance by further utilizing the readily available energy from the sun.



4 Standard Sizes



How do they work?

Sun-lite® Thermal Storage Tubes work by absorbing the excess heat energy generated in your greenhouse or sunspace during the day and releasing it at night to effectively control the large temperature swings between day and night. Think of them as heat sinks. The cooler you can keep your greenhouse or sunspace during the day the less heat you lose through your glazing or window areas. The stored heat in the tubes through simple convection will automatically release itself into the space when the air temperature drops below the water temperature in the tubes. No moving parts.

How many do I need?

The general rule of thumb is 2 to 3 gallons of water per each sq. ft. of south facing glazing. An example is if your greenhouse has a south facing wall that is 12' long x 8' high you would need somewhere between 192 to 288 gallons of water. In this example four to six 12" dia. x 8' or eight to twelve 12" dia. x 4' tall tubes would be optimum. You can also start out with less tubes and add later if needed. The 12" x 4' tanks ship UPS and are the most economical to ship.



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