

2001 COMPANY



American Solar Roof, Inc.

Wind Vented Roof Systems

Hurricane Resistant Design

Cost Effective

Hail Resistant



**Photovoltaic Roofing Solution
for all Solar Needs.**



**Integrated Patent Pending
ASR Solar Roofing
Technology**

Sustainable Roofing Systems

Conserve Energy

Reduce Landfill Waste

Dry out Existing Wet Roofs



**Available for all types of
Solar PV panels and systems**



**Over 30 years Design Experience of
Innovative Roofing Systems**



**2001 Co. Roofs - A Proven
Solar Roofing Substrate**

2001 COMPANY



American Solar Roof, Inc.

**Over 250 Approved Roofing
Applicators throughout
North America**



Available with all types of
roofing materials:

*Thermoset Membranes
Thermoplastic Membranes
Modified Bitumen
Built up Roofing
Metal Roofing*



**All roofs are designed and inspected
for superior wind uplift resistance and
energy conservation.**

**Proven innovator of integrated
Roofing and Solar Development**



**Maximize your Solar Investment
with 2001 Co. Inc. and American
Solar Roof Inc.**



**Perform an Energy Analysis of
your building's energy
demand and with
American Solar Roof Inc.,
reduce your
building's energy usage and
save money.**

LEED®

USGBC®

For availability and technical information contact the 2001 Company at (203) 575-9220 or (800) 537-7663.

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**American Solar Roof Inc.
A New Paradigm in Solar Energy**

In these times of astronomical energy costs and questionable oil supplies, many electricity consumers are looking to alternate means in order to meet their needs. Solar energy has been around for many years but was always hampered by inefficient performance and prohibitive costs. However, over the last several years advances in materials and cost reductions in manufacture have made solar cells (Photovoltaic cells, popularly known as PV) a practical and cost effective means to reduce or eliminate monthly power bills. Additionally there are several federal and state programs available that can markedly offset the initial PV purchase and installation costs. Some of these programs are so supportive of the technology that by careful planning, it is not unheard of to recoup a buyer's investment in two years or less! These programs and the resulting quick investment recovery along with the elimination of a future of energy pricing uncertainty makes now the time to begin planning your solar future.

What makes American Solar Roof Inc. different? There are three major differences in what ASR offers versus the current standards in the industry. The first is the use of flexible, impact resistant (yes, you can walk on them) solar panels. The second is that your investment in solar equipment goes with you when you move. It is never part of the roof it is used on yet it has the same wind resistance as the 2001 Wind-Vented Roof! The third is that American Solar Roof Inc. are designed to work in complete harmony with the 2001 Wind-Vented Roof.

American Solar Roof Inc. can adapt virtually any panel design to work with 2001 Wind-Vented roofs. This is not only for brand new 2001 roofs but also for many of the pre-existing installations. PV panels that are framed and of a rigid configuration can also be easily adapted to the 2001 roof as illustrated below.

American Solar Roof Inc. has developed unique mounting systems for the flexible PV panels. These mounts are the secret to the easy remove-ability and re-installation of the ASR PV panels. Currently, the few flexible PV designs currently in use are actually integrated into the roofing membrane itself. Therefore, the roof must be significantly damaged to remove them (cut from membrane) and there is no guarantee that the panels will survive the removal process.

Removing **American Solar Roof Inc.** panels couldn't be easier. All that has to be done is to unplug the PV module wires, release the Wind-Vented mounting and then transport them to your new site or store them until you are ready to re-install.

PV Systems Quick Compare

Crystalline, Rigid, with Frame

Pro: Less square footage needed per watt produced

Con: Brittle, frame and glass subject to breakage. Manufacture depends upon expensive silicon crystals grown in highly specialized conditions. Heavy mounting systems. High wind profile, Loss of cell can disable most panels. Low light can shut off panel. Poor heat tolerance. Difficult to move and install. High vandalism profile. Very obvious when installed. May be considered an eyesore.

Crystalline, Rigid, with Tefzel laminate, No Frame

Pro: Less square footage needed per watt produced, Lighter than above, no glass

Con: Brittle, mount and PV cell subject to breakage. Manufacture depends upon expensive silicon crystals grown in highly specialized conditions. Heavy mounting systems may be required with some installations. Loss of cell can disable most panels. Low light can shut off panel. Poor heat tolerance. Somewhat difficult to move and install. Moderate vandalism profile.

Amorphous (non-crystalline), Flexible with Multi-layer Laminate

Pro: Strong, relatively light, resilient, not subject to cracking or breakage under normal use. Does not utilize expensive silicon crystals manufactured elsewhere. Resistant to damage from footsteps, hail, roof movement and buckling. Low light tolerant. Will continue to produce power until no light present. Highly heat tolerant and will actually increase output in warmer conditions. Highly portable and movable. Non mounted panels may be rolled up like roofing membranes. Low vandalism profile. Difficult to see in most installations.

Con: Requires more square footage per watt. Limited number of system integrators approved for distribution/installation (of which we are one).

2001 Company Sustainable Roofing Systems:



- Dry out existing wet roofs, avoiding a costly tear off of the existing roof, increasing the thermal performance of The existing roof and reduce the amount of solid waste being sent to a landfill.
- Proven long lasting durable roofing design that can withstand severe weathering including hail storms, hurricanes, and tornados.
- Energy efficient design by using insulation application techniques that increase a roof's energy efficiency by 50-80% above other conventionally attached roof and insulation assemblies.
- Easily adaptable roof system that can be incorporated with **American Solar Roof Inc.** Solar PV roofing systems
- Easily installed over existing roofs with a minimal use of fasteners during construction that protects the condition of the roofing deck and the building's interior. This type of construction results in low disturbance, decreased noise, and increased building occupant's comfort during re-roofing projects.
- The minimal use of adhesives and other volatiles decrease the use of VOC's in the atmosphere, enhancing overall air quality and reducing air pollution.
- 2001 Company uses many different, readily available materials which are manufactured over many parts of the U.S. This enables the use of locally derived materials, and minimizes the resources used for transport of materials over great distances.
- 2001 Company roof systems are available with ENERGY STAR® labeled white solar reflective roof products that classify as Cool Roofing by the Cool Roof Rating Council.
<http://www.coolroofs.org/>

How to Use Photovoltaics to Make a Roof Leak!

When designing the framing, electrical and support system for crystalline photovoltaic systems (PV), the last consideration is usually the roof underneath it. And, of course, that is only natural since many crystalline PV systems cost well over \$70 per square foot, while the roof under them is only about \$3 a square foot. However, this cost-biased thinking can turn around and bite you on your wallet! Putting such a valuable PV system on a "lowest bidder" roof or an aging, marginal roof is a sure recipe for everything from roof leakage to the loss of the PV system itself. Why wasn't that made clear to you **before** you installed your new system?

The reason is both the cost issue noted above as well as the lack of knowledge about roofing itself. Admittedly, while roofing is a critical component of any rooftop solar installation, it is certainly not particularly cutting edge or romantic. That is until you begin looking at roofing systems from the 2001 Company. We have been developing and fine-tuning our "Wind-Vented™" roofing systems for well over 25 years. The three most important components of our roofing research and design have been high-wind/hurricane resistance, true energy conservation and adaptability to the widest variety of roofing scenarios. As of the last 20 years or so we have been adapting our roofs to work effectively with various types of PV systems. Why is this important to your photovoltaic systems?

Simply put, if the roof below your PV system is torn off by the wind, develops water leaks (fairly common in the roofing industry) or experiences a partial or full collapse (snow buildup, excessive equipment mounting and/or weak decking) your PV system will be compromised. In the best case, it will have to be moved. In the worst case scenario, your PV system will be torn off of the roof. Either proposition will be damaging and expensive. So, how do you reduce the risk of leaks and virtually eliminate the risk of wind induced tear-off? A 2001 Company, Wind-Vented™ roof utilizes the very force of the wind that tears roofs off to tightly vacuum itself to the building.

No other roofing design is able to use the patented wind-venting system of the 2001 roof. Unlike other roof designs, the 2001 Wind-Vented™ roof will not lift, undulate, leak, tear off or resonate in high wind conditions. We can provide virtually all PV systems a solid, hurricane resistant, roofing solution that works **with** your photovoltaic project. We are the roofing manufacturer and project coordinator who can put a solid base under your PV array! Please contact us for further information.