



NORTHSTAR TECHNOLOGIES

SOLARGLAS

COMPOSITE SOLAR STRUCTURES

SOLARGLAS

WHAT IS SOLARGLAS?

SOLARGLAS composite solar structures are crafted using pultruded fiber-reinforced polymer composite components. These components are manufactured and assembled in our factory, then shipped to the site ready for installation.

SOLARGLAS components are lightweight, enabling faster installation, reducing maintenance costs over the structure's lifespan, enhancing quality and durability, and surpassing the performance of steel or aluminum structures.

“

Northstar Technology combines the benefits of precision automated manufacturing with high-strength lightweight composites, to deliver a building system which reduces on-site construction time, lowers the total cost of ownership of the structure, lighter system weight, and lower equipment costs .

-Paul Inglese

”



SOLARGLAS is corrosion and rot resistant
providing years of maintenance free
performance.

INNOVATION IN ARCHITECTURE



SOLAR CARPORT CANOPY

Utility scale solar Carports with reduced components and minimal installation time. Bolted foundation for easy installation. UL 2703 and 467 grounding washers with bolt through panel attachment. Structure can sustain 130-mph wind load and 60-psf snow load.

Feature and Benefits

- **4 Components & Minimal Hardware**
- **Prefabricated tilt angle in truss**
- **UL 467 & 2703 grounding washer connection**
- **Pre-punched purlins to panel mounting holes**
- **Minimal lead time on manufacturing**
- **PE stamped drawings provided**
- **Accommodates difficult terrain**



SOLAR CARPORT CANOPY TECHNICAL SPECIFICATIONS

Application	Parking Lot, Walkway, Entrance	
Foundation		Concrete Pier & Fiber Reinforced Polymer Composite Column
Module Orientation Module Compatibility		Portrait – 6 to 8 high, 8 across (64 panels / section maximum) All brans – 60 , 72, & 96 cells
Tilt Angles Ground Clearance		7 Degree Standard 14' Standard
Grade of Terrain Wind Load		EW-30 Degrees NS 30 Degrees Up to 130-mph
Snow Load Purlin Length		Up to 60 psf 26.5' to 27' Spans
Material Composition of Column, Truss Material Composition of Purlins		Fiber Reinforced Polymer Composite Truss and Columns Galvanized Steel G-90 Purlins
Warranty Manufacturing		25- years Made in USA

SOLAR GROUND MOUNTS

SOLARGLAS Ground Mounts feature the fewest components and hardware connections in the market with high flexibility for rough and variable terrain. The panel attachments feature UL 2703 and 467 grounding top-clamps and can sustain up to 150-mph wind load and 60-psf snow load.

Feature and Benefits

- **3 Components & minimal hardware**
- **Pre-punched tilt angle in truss**
- **UL 467 & 2703 grounding clamps**
- **Slide-in purlins for ease of installation**
- **Minimal lead time on manufacturing**
- **PE stamped drawings provided**
- **Accommodates difficult terrain**



SOLAR GROUND MOUNT TECHNICAL SPECIFICATIONS

Application	Parking Lot, Walkway, Entrance	
Foundation		C-Channel, I-Beam, Helical
Module Orientation Module Compatibility		Portrait – 1 or 2 high All brans – 60 , 72, & 96 cells
Tilt Angles Ground Clearance		20,25,30, & 35 Standard 24” Std, 36” – 48” Available
Grade of Terrain Wind Load		EW-15 Tolerance for rolling & undulating ground Up to 150-mph
Snow Load Purlin Length		Up to 60 psf 242” (239.1” of useable rail)
Post Spacing Material Composition of Post, Truss,& Strut		239.1” Fiber Reinforced Polymer Composite
Material Composition of the Purlins Warranty Manufacturing		Galvanized Steel G-90 25- years Made in USA

SOLAR ROOF TILE MOUNTS

A racking system with reduced components and minimal installation time.

Simple design optimized for efficient shipping and skeleton layout to reduce installation time. The racking elevates the roof tile 3-1/2" off the roof deck providing airflow which reduces inverter heat buildup and improves inverter efficiency by 35%. The tile attachments feature UL 2703 and 467 grounding clamps and can sustain up to 150-mph wind load and 50-psf snow load.

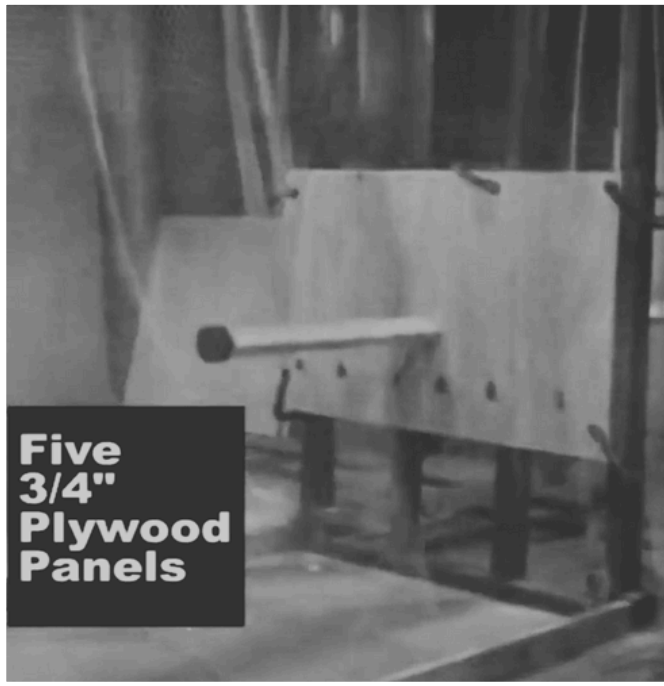
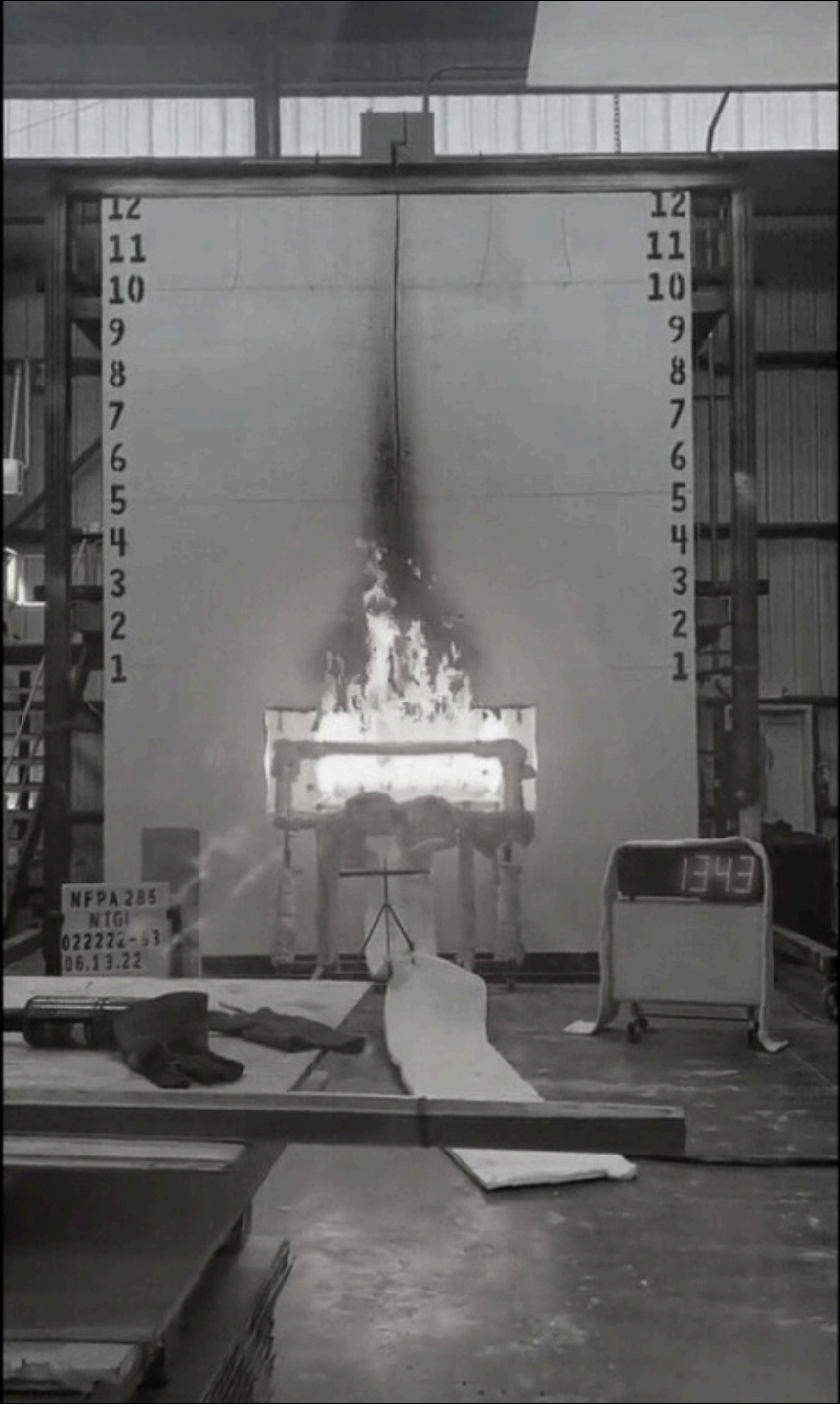
Feature and Benefits

- **3 Components & Minimal Hardware**
- **Elevates the roof tile 3-1/2" off the roof deck reducing heat & increases inverter efficiency by 35%**
- **UL 467 & 2703 grounding clamps**
- **East West wire ways across entire array**
- **North South wire way home runs**
- **PE stamped drawings provided**
- **Simple skeleton layout before panels**

SOLAR GROUND MOUNT TECHNICAL SPECIFICATIONS

Application	Parking Lot, Walkway, Entrance	
Foundation		Fiber Reinforced Polymer Composite Z-Clip and Mounting Rail
Module Orientation Module Compatibility		Per Solteq tile specification Solteq solar roof tiles
Tilt Angles Ground Clearance		Per Solteq tile specifications 3-12”off roof deck
Grade of Terrain Wind Load		EW / NS – 5 degrees Up to 200 mph
Snow Load Rail spacing		Up to 50 psf Per Solteq tile specifications
Material Composition		Fiber Reinforced Polymer Composite
Warranty Manufacturing		25- years

PRODUCT TESTING



SEISMIC
(ASTM E72)



TORNADO SHELTER
(ICC 500- 250 MPH)



FIRE SAFETY
(ASTM E84, E119, NFPA 285 nFPA 268)



AIR & WATER
(ASTM E330/331)



BALLISTIC
(ASTM E3107)



BLAST RESISTANCE
(ASTM F1642)



STRUCTURAL
(ASTM E695, TAS 201/202)



CODE APPROVAL
(ICC-ESR 4327 / AC 86)



PERFORMANCE



Lightweight – Composite Materials Weigh 75-80% Less Than Steel & 30% Less Than Aluminium



Corrosion & Rust Resistant



Stronger Than Steel On A Pound-For-Pound Basis



Low Electrical Conductivity



Reduced Maintenance Costs

BENEFITS

- Single Source Partner – Northstar engineers, manufactures, and installs its SOLARGLAS structures providing our clients with a single source partner.
- Schedule – Rapid deployment without waiting on other trades.
- Quality – Manufactured in a controlled environment and processes to ensure quality.
- Commissioning – Benefit from off-site commissioning for quicker issue resolution.
- Safety – FRP composites are lightweight & electrically non-conductive providing a safe work environment.
- Sustainability – FRP composites have lower embodied carbon and lower carbon dioxide emissions compared to steel and aluminum.

NORTHSTAR TECHNOLOGY

VS

WOOD, STEEL, & CONCRETE

MATERIAL	CORROSION, ROT AND INSECT RESISTANCE	ELECTRICAL CONDUCTIVITY	IMPACT RESISTANCE	EMI/RFI TRANSPARENCY	FABRICATION
	Resists a broad range of chemicals and is unaffected by moisture or immersion in water. Resists insect damage. Painting is only suggested when exposed to UV rays/direct sunlight. ✓	Nonconductive. High dielectric capability. ✓	Will not permanently deform under impact. Glass mat in pultruded parts distributes impact load to prevent surface damage, even in subzero temperatures. ✓	Transparent to radio waves and EMI/RFI transmissions. Used for radar and antennae enclosures and supports. ✓	Can be field-fabricated using simple carpenter's tools with carbon or diamond tip blades — no torches or welding required. Light weight allows easier transport and installation. ✓
STEEL (A 709 GRADE 50)	Subject to oxidation and corrosion. Requires painting or galvanizing for many applications. ✗	Conducts electricity. Grounding potential. ✗	Can permanently deform under impact. ✗	Can interfere with EMI/RFI transmissions. ✗	Often requires welding and cutting torches. Heavier material requires special equipment to erect and install. ✗
CONCRETE	Subject to wear & tear and breaking down under stress. Penetrable by mold, pests, etc. ✗	Moist concrete combined with steel components like rebar can conduct electricity. ✗	Breaks/cracks upon high speed impact. ✗	Dampens RF function from phone towers, radar, etc. ✗	Requires specialized heavy machinery & equipment with labor intensive process. ✗
WOOD (DOUGLAS FIR)	Can warp, rot and decay when exposed to moisture, water and chemicals. Susceptible to attack by insects such as termites and marine borers. ✗	Can be conductive when wet ✗	Can permanently deform or break under impact. ✗	Transparent. ✓	Can be field-fabricated using simple carpenter's tools. ✓



NORTHSTAR TECHNOLOGIES

Thank You

9201 COCKLESHELL CT #10
BONITA SPRINGS, FL 34135
(239) 977-9784
SALES@NORTHSTARTGI.COM
WWW.NORTHSTARTGI.COM

SLIDE | 15