



# SUPERIOR PRODUCTS INTERNATIONAL II, INC.

## SUPER THERM® AGRICULTURAL USES

### Insulating Ceramic Coating

SUPER THERM® is a ceramic based, water-borne, insulation coating that is designed to block and reflect heat and that reduces energy and maintenance costs. As the only ceramic coating developed in cooperation with NASA, **SUPER THERM®** is the most effective, durable, and long lasting ceramic coating on the market.

### Benefits:

- **Saves Energy Usage** of 20-70% for air-conditioned buildings during the warmer months with even greater savings in free standing coolers and freezers.
- **Reflects and Blocks** over 95% of the radiation from the sun.
- **R-19 Equivalent Rating** (equal to 6-8 inches of fiberglass) Thickness of a business card, but outperforms fiberglass in laboratory and fielding testing.
- **Unique Ceramic Composition:**
  - Blend of four different ceramics that block all windows of heat transfer.
  - Other ceramic coatings only contain glass hollow spheres that reflect visual light when clean but absorb and transfer other windows of heat.
  - Only ceramic coating rated as an insulator by BOCA (U.S. Building Code).
  - Includes various resins, including urethanes, for durability and longevity.
- **Dampens Up To 68% of Sound Waves** in field applications and studies.
- **Class A fire rating.** In case of fire, SUPER THERM® will help to prevent transfer of fire and heat and will not contribute to flame spread.
- **Prevents Growth of Mold and Mildew.**
- **USDA Approved** for use in and around food preparation areas.
- **Eliminates Most Expansion and Contraction** of metal roofing and concrete.
- **Reduces Heat Stress** and improves performance and health of farm animals.
- **Long life** - 20 year life expectancy on roofing under normal conditions.
- White in color and rough in texture for maximum performance.

### Agricultural Uses

- Reduces heat stress and increases livestock profitability by applying to all animal shelters, especially poultry, cattle, hogs, and horses.
- Reduces energy costs and increases comfort by coating roofing and interior/exterior walls to keep heat in during winter or heat out during the summer.
- Provides a fire-resistant coating for substrates. SUPER THERM® has a "0" fire and smoke spread and will not contribute to flame spread.



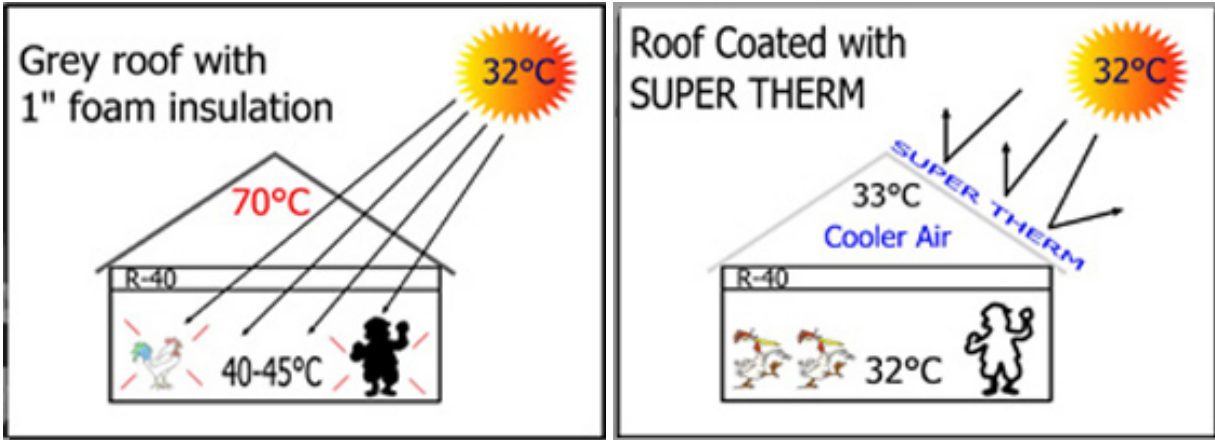
## POULTRY HOUSE – Providence, Florida

**SUPER THERM®** applied to the roof of a 16,000 sq.ft. poultry house in Providence, Florida (outside of Lake City, Florida). **SUPER THERM®** coated house reduces interior temperature, eliminates condensation, and performs for 15 years without re-insulation.





**SUPER THERM® reduces attic temperatures by 30 degrees, which helps to reduce the death rate of Birds by 75%. Birds are also an average of one pound heavier in the SUPER THERM® coated house at the end of the grow season.**





## POULTRY HOUSE - Niagara Falls

**SUPER THERM® applied to the roof of a 20,000 sq.ft. poultry house in Niagara Falls Canada. Old insulation materials (Cel Pak) used in the houses loaded with moisture from condensation and required replacement every 5 years. SUPER THERM® coated houses eliminate condensation and perform for 15 years without re-insulation.**



### **Heat stressed birds have reduced profitability in several different ways:**

1. **Increased mortalities** - any direct loss is important as the cost of the chick is immediately lost, as well as any feed that has been ingested.
2. **Lower and less consistent weights** - heat stressed birds will not eat during the day. When temps. drop during the evening, the birds rush for the feeders, fight for position, and then gorge. Binge eating reduces potential gains, and due to fighting, smaller birds have less of a chance to eat, resulting in inconsistent weights that irritate processors.
3. **Higher feed conversions** - The greatest cost in poultry production is the feed cost. Due to energy losses of the birds trying to keep cool, as well as changes in feeding habits, poor feed conversions can strip a lot of profits from a flock.





**SUPER THERM®** applied to Bin Feeder prevents condensation, protecting feed from moisture



**SUPER THERM®** used on Cold Water Pipes inside the poultry house. High heat and humidity inside the house can cause condensation to form on the outside of the pipes. This water drips onto the bedding and reduces litter quality. Wet litter can be a reservoir for disease. **SUPER THERM®** eliminates condensation, helping to prevent outbreaks of coccidiosis and enteritis.





# CASE 6

Date	Jun.13.2005~Jun.14.2005	Application place	Sam-Gam farm in Yang-San city
Application part	The roof of the poultry farm (868m <sup>2</sup> ) & Storage tank (7ton)		

## 1.Roof

Before: Jun.08th.2005 (1p.m) Outdoor temperature: 28℃

After: Jun.14th.2005 (1p.m) Outdoor temperature: 25℃



(Before application)

(After application)

	Before	After	Temperature gap
Slate	46℃	25℃	-21℃
Galvanized steel	50℃	32℃	-18℃
Average	-20℃		
Average			-20℃

## 2. FRP storage tank

Before: Jun.08th.2005 (1p.m) Outdoor temperature: 28℃

After: Jun.14th.2005 (1p.m) Outdoor temperature: 25℃



(Before)

(After)



	Before	After	Gap
①	38℃	30℃	-8℃
②	36℃	28℃	-8℃
③	33℃	24℃	-9℃
Average			-8.3℃