



# Solar Reflective Material

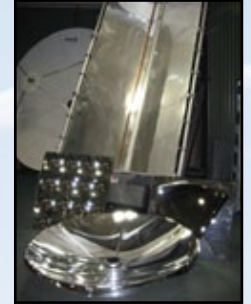
2009 Data Sheet



Engineering and Manufacturing for the Renewable World

www.patriotsolargroup.com

## Description:



Most of today's reflective surfaces are made of either glass or aluminum. Glass is heavy and has environmental issues, aluminum needs a coating to be reflective that adds labor costs, is less reflective, and needs to bend to fit, which cause survival issues. Our solution is to use plastics that can be molded into an exact shape, coated with an amazingly reflective coating and has already lived in the hot sun for many years; all for much less than the price of any other reflective solution.

	Patriot	Glass/Mirror	Reflective Mat.
Cost	Low	Expensive	Medium
Reflectivity	High	High	High
Accuracy	Good	Good	Poor
Weathering	15 year field performance		
Impact (hail)	Good need to quantify	Poor	Surface scratching, dents, deforms
UV stability	Excellent	Excellent	Very Good
Wind	Uncertain	Dangerous	Questionable (Floppy)
Support	Rigid - Requires Minimal Support	Rigid - Requires Minimal Support	Requires Some Support
Weight	Lightweight	Heavy	Lightweight
Safety	Excellent	Brittle, hazardous when broken	Not easily broken, but has handling concerns
Temperature Use	Limited	High	High
Heat	Reflective	Reflective & Absorbing	Reflective
Formability	Easy / Inexpensive	Hard/Costly	Easy for troughs - harder to make dish shape

## Benefits of the System

- Molded to the exact shape every time.
- No Labor to apply reflective materials
- Optimized shipping
- Easy to deploy
- Environmentally tested
- Lower costs

The bottom line is that thermal solar needs to lower costs to compete with photovoltaic. today, using current materials, this is almost impossible. Using our solar reflective solutions, we can lower costs of materials, shipping, and deployment and focus on other parts of the solution.

## Substrate Weathering

Natural Weathering - Arizona			
Months	%T	Yellowness	% Haze
0	92.7	0.1	0.3
12	92.6	0.5	1.7
24	92.8	0.4	0.9
36	92.7	0.8	0.9
60	92.1	0.7	1.1
120	92.4	0.8	1.5



## Thermal solar can now compete with photovoltaic.

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