

Solar Reflective Material

Acrylic Mirrors

Data Specifications

Engineering and Manufacturing for the Renewable World



www.patriotsolargroup.com

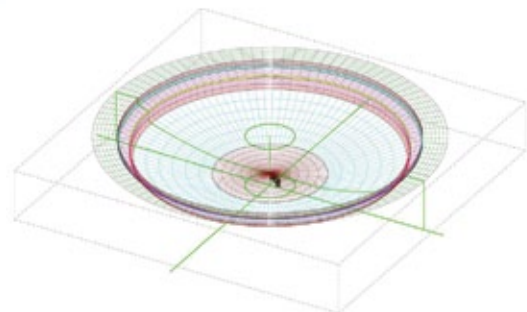
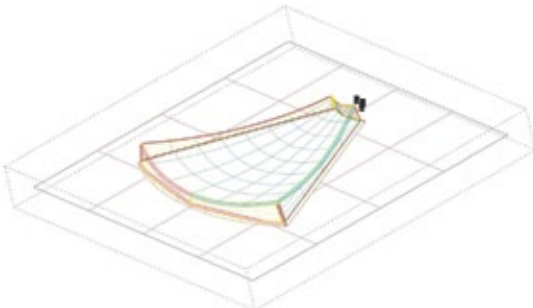


Most of today's reflective surfaces are made of either glass or aluminium. Glass is heavy and has environmental issues, aluminium needs a coating to be reflective that adds labor costs, is less reflective, and needs to bend to fit, which cause survival issues. Our solution is to use plastics that can 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.

- ▶ High performance, low cost
- ▶ Solar concentration mirrors in any shape

Precise Shapes

Patriot Solar Group employs integrated 3D CAD/CAM technology for construction of customized tooling per customer specifications. In addition, we can provide formed mounting structures with well matched coefficient of thermal expansion. If your engineering team can define the shape required, most likely we can make it!



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Reflectance

Patriot Solar Group offers three variations of mirrors for solar applications:

UVR (UV Reflecting)

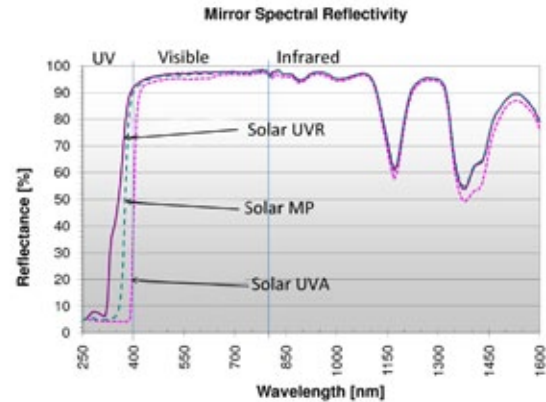
- ▶ Offers good reflectance from 335-100nm for applications needing the UV portion

MP

- ▶ Multipurpose mirror with 375nm UV cutoff suitable for most applications

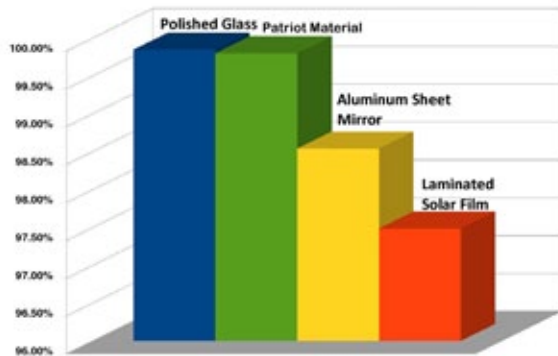
UVA

- ▶ UV-absorbing mirror with only 8% reflectivity below 400nm, 97% reflectivity 400-1100nm



Patriot Solar Group solar mirrors achieve 97% reflectivity across the most critical wavelengths 400-1100nm

Light Scattering vs Polished Glass



Low Scattering

Lower quality mirrors scatter reflected light, reducing system performance. Our mirrors are comparable to polished glass in this respect.

Other Advantages

Lightweight

- ▶ At typical 3mm thickness, solar mirror weighs 3.6 kg/m². A typical 4mm glass mirror weighs 8.9 kg/m², or 2.5 times as much

Weatherable

- ▶ Patriot Solar Group's acrylic substrates have proven durable with over 15 years testing in full sun. Our mirror back-coating protection system has been field proven with 15 years field experience on the fenders of buses and trucks.

Abuse Tolerant/Impact Resistant

- ▶ Izod Milled Notch, ASTM Method D256, 21.6 J/m of notch

Patriot Solar Group is dedicated to providing the highest quality units using only the best materials for solar and lighting products for home and commercial use that support renewable energy. Our products are environmentally safe, efficient, and affordable while offering the peace of mind of high durability able to withstand the ravages of wind, ice, and water. Our manufacturing processes are based on automotive quality standards to ensure high quality and reliability the first time.

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