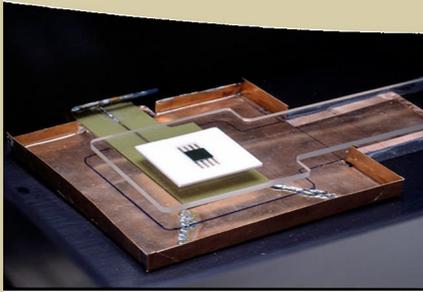
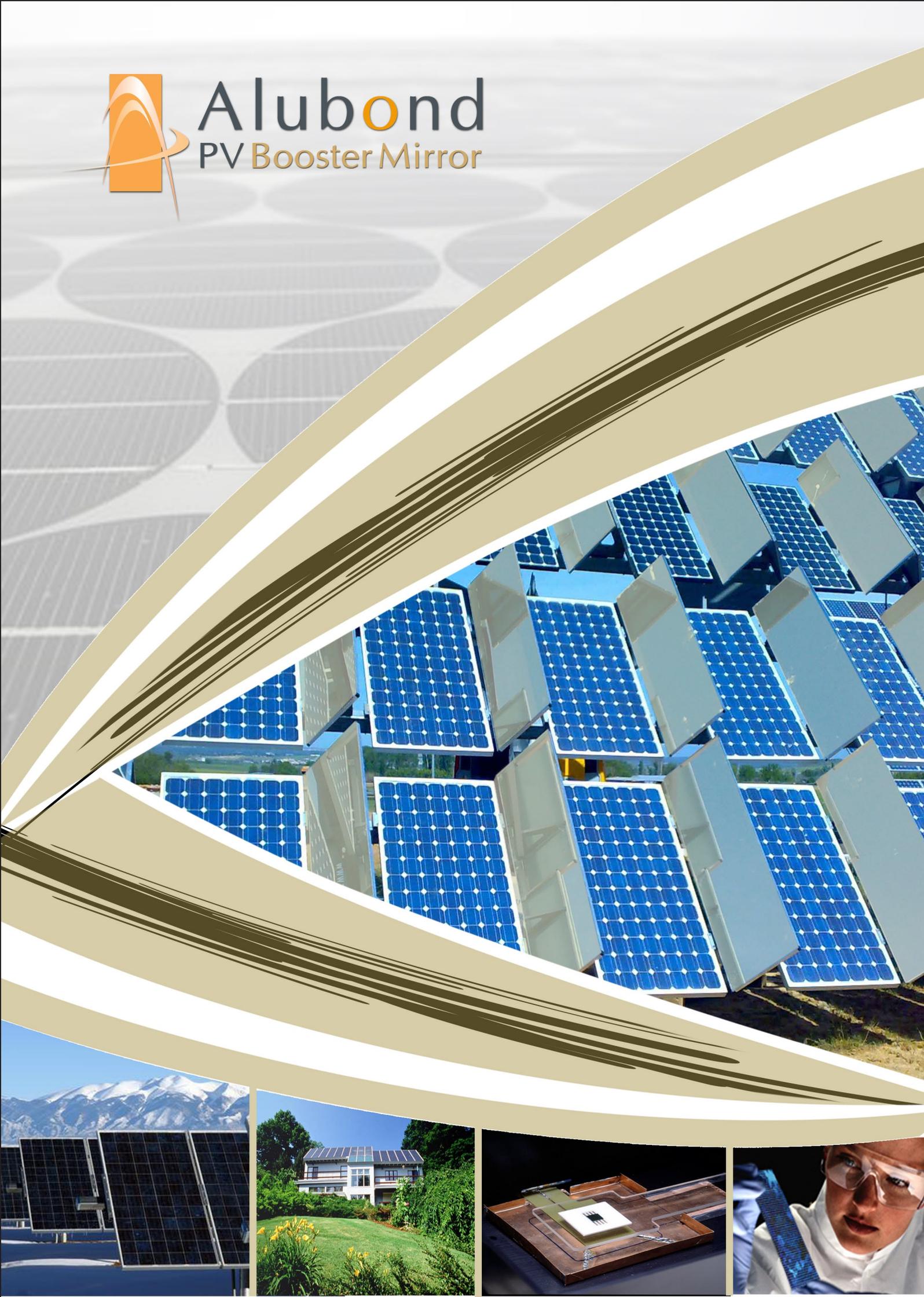




# Alubond

PV Booster Mirror



Photovoltaic (PV) devices have been in existence for several years and the electricity generated by them has been costly in comparison to conventional energy. This problem has been compounded by the shortage of solar grade Silicon which has become expensive.

A solution to this problem was found by developing specialized solar PV reflectors which enable the solar radiation to be concentrated onto a smaller geometric area of Silicon. Using concentrator technology requires a significantly smaller area of costly Silicon while still producing the desired level of power.

Alubond “PV Booster Mirror” (Patented in USA and Worldwide) is invented, designed and developed in USA by Mulk R.E’s Khurram Khan Nawab. Alubond PV Booster Mirror reflects the solar radiation and concentrates it to the silicon wafer channeling it into a PV Module which increases their electrical output, while protecting it from the burnout effect which is a serious and frequent issue with PV Module concentrators that result in reducing the life of the PV cells.

Alubond PV Booster Mirror provides cumulative effect on the photovoltaic panel which will enhance the power output without comprising the durability of the PV Panel.

## Alubond UV Protection

Alubond PV Booster Mirror is a reflective metal mirror for photovoltaic (PV) devices which increases the electrical output of the PV panel and cuts out the UV range of radiations in the solar spectrum that cause panel ageing and overheating as shown in figure 1 & 2.

The new surface maintains high uniform reflectivity at visible and NIR wavelength.

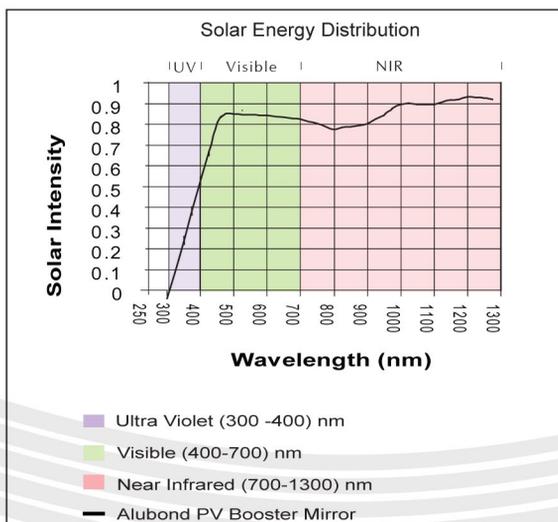


Figure 1

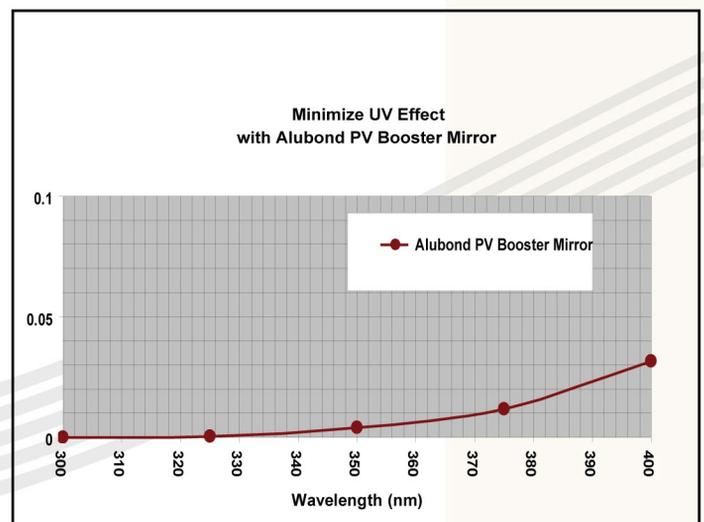
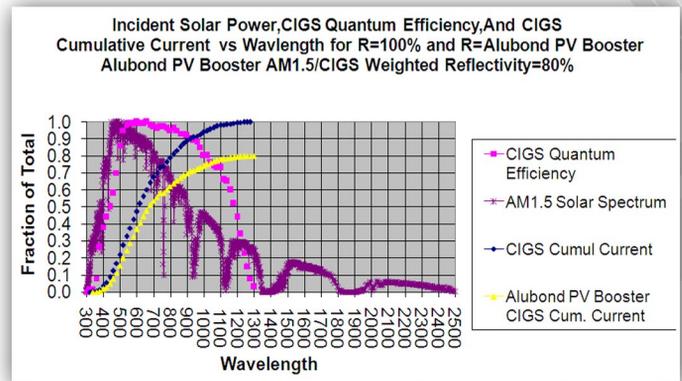
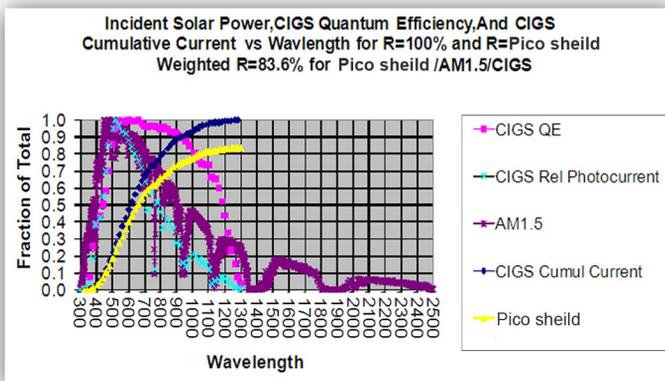
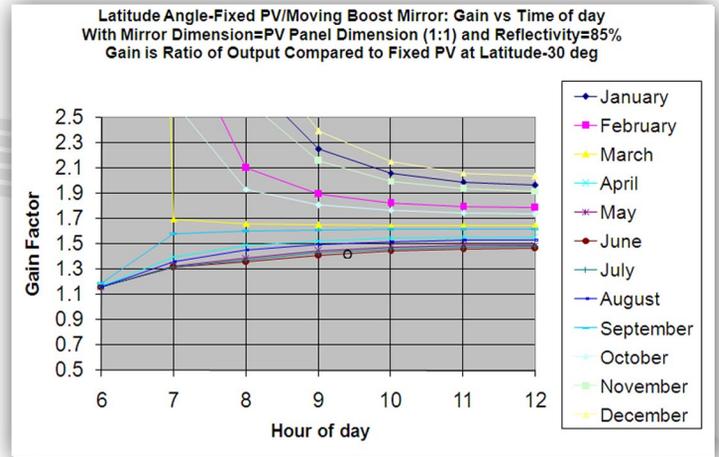


Figure 2

## Alubond PV Booster Mirror Advantages:

- Highly durable exterior grade core.
- Light weight
- Features phenomenal flatness
- Retains its Shape
- Low maintenance.
- Mirrors are mass produced
- Mirror - Hydrophilic principle (self cleaning property)
- Easier handling, packing and shipping
- Unbreakable Mirrors
- Easy Installation
- Cut out the IR, UV A,B,C & minimize violet band in visible range.



## Hydrophilic Effect

Alubond PV Booster Mirror have special innovative coating which uses Hydrophilic Principle in which the physical property of a molecule repels from a mass of water. This was observed when water was placed on the Alubond PV Booster Mirror, water did not form droplets but instead fully wets the mirrors to have self cleaning effects.

To study the effect of this aspect on solar system performance, samples were mounted on a rack outside on a clear night. The next morning, observations were made. As shown in the picture, Alubond PV Booster Mirror hydrophilic samples appeared to be visually clear.



Figure 3  
Alubond PV Booster Mirror



Figure 4  
Glass Mirror

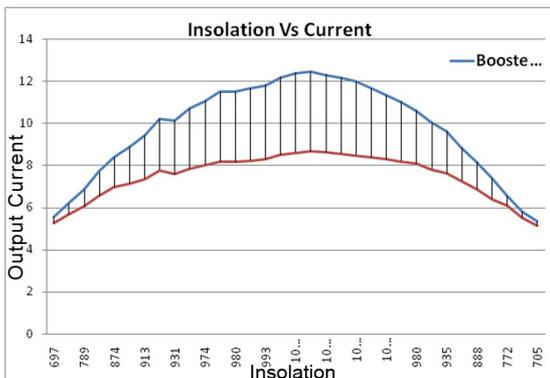
## **SOLAR PV PLATFORM (SPVP) - Photovoltaic Tracking System**



Mulk Renewable Energy's "SOLAR PV PLATFORM" (Patented in U.S.A and Worldwide) is invented, designed and developed in USA by Mulk R.E's Khurram Khan Nawab. Mulk Renewable Energy's "SPVP" is an innovative tracking system for photovoltaic installations which is fully automatic and controlled by sensors & GPS which tracks the sun movements and ensure maximum power yield from photovoltaic installation worldwide. SPVP, with its efficient mechanical system and most reliable installation concept design guarantees the highest energy yields from photovoltaic installation all round the year which result in outstanding price-performance ratio, high return on investment and thereby making it one of the most unique and cost effective tracking system available today.

### **Performance Boost Yield**

PV Modules + Alubond PV Booster Mirror + SPVP - Over 50% more power output in summer  
- Over 70% more power output in winter



PV Module Tested - 210 Watts Peak

Blue Curve (With Mirror) - 403 Watts Peak

Red Curve (Without Mirror) - 281 Watts Peak

#### SPVP Advantages:

- Less cost
- High Energy Yield
- Simple and easy installation design
- Accurate tracking using precise sensors
- Reduced land requirements for the overall project installations.
- No maintenance required
- fully Automatic

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