

SILO Project

1. The % of the energy of the sun that gets transformed into electricity (compared to other products).
The efficiency depends on the colour and varies between 13.9 % and 14.9 %. In comparison the black panel has an efficiency of 15.6 %.
Black: 15.6 % / Grey: 14.9 % / Blue: 14.7 % / Green: 14.8 % / Gold: 13.9 %
2. The percentage that each colour reduces the efficiency factor of the PV if a standard glass would have been used.
Grey: 4.6 % / Blue: 6.2 % / Green: 5.4 % / Gold: 10.8 % (relative percent)
3. What would have been different if we had used thin film modules? Can you use thin film modules now?
The global efficiency (in standard conditions) should have been lower and the price higher. But it has nevertheless some advantages:
 - a. The efficiency of the thin film decrease slower than c-Si at diffuse sunlight and low radiation (i.e. cloudy sky, reflection from surrounding building, partially shaded panels...).
 - b. It is also easier to optimise the useable surface for two reasons
 - i. In case of shadows, if half of the panels is hidden from the sun, the c-si panel does not produce any electricity. The thin film will produce half of the electricity
 - ii. In case of special sizes or shapes it is difficult to optimize the useful surface with c-Si cells because the cells have standard sizes and cannot be cut. Thin film can be cut as we want. Of course, the unused parts of the cell will be unfortunately wasted but paid.

Yes, we can propose thin film. It was already the case when the project has been asked, but Solatec/Antec Solar decided to go for the c-Si option (most probably for economic reasons)

4. Which glass have we used (thickness, how many layers, safety glass) on roof / facade
On the roof: 4 mm glass (fully tempered)/backsheet (tedlar) with anodized aluminium black frame. ≙ VSG-Glas
On the facades: 4/4 mm glass/glass fully tempered, frameless.
5. What are the maximum proportion one can use. Thickness to width?
To be asked to Antec Solar.
6. Installed kWp on facades / roof and expected output.
South facade: 6 kWp – 4 000 kWh/year
North façade: 4 kWp – 940 kWh/year
Roof: 12 kWp – 11 200 kWh/year
7. Which colors you are currently producing and if a custom color could be manufactured
We currently have five colours (blue, bronze, gold, green and grey). Few others colours coming soon.
We can potentially manufacture every colour except white and red (without a high decrease of efficiency). Our policy is to focus on high efficiency colours and therefore we do not propose these 2 options.