

## The Finished Look of Merlin Solar Module Installations

Solar modules are viewed as a hardware device that are installed in locations that maximize access to direct sunlight. This practice works well in commercial solar fields & structures. It is carried over to vehicles & residential rooftops resulting in a non-integrated appearance.

Merlin Solar's FX products are flexible, high efficiency crystalline silicon, & are designed to conform & fit curved surfaces as well as contours. Working the module by hand as well as with a roller allows the module to conform & fit. The thin profile of the module lends itself to become part of the vehicle & structure providing an integrated look. In order to achieve the finished appearance, we have adopted a tape used in the assembly of vehicle body panels, 3M 4411. The tape is supplied in a roll & in widths that allow coverage of the solar module edge & vehicle or deck body in a 50/50 fashion.

A key benefit of the tape is the improved appearance as well as water resistant seal of the installed solar array. The picture below-left illustrates the ability of



Merlin Modules to fit the contour of the vehicle roof, while providing a more uniform look.

The picture above-right illustrates how easily the tape conforms with ribs & ridges of the vehicle roof while fitting the flat surface of the module allowing the module to blend in with the vehicle body.

Another key benefit is aerodynamic integration of the solar modules to minimize drag & turbulence that reduce the efficiency of the vehicle. The thin module profile coupled with the perimeter tape blending with the vehicle body or roof deck provides a smooth transition, free of turbulence, & without inhibiting airflow or fuel economy.

The tape seals the perimeter of the module and reduces the ability of moisture to work its way under the solar module causing corrosion or into the structure. It also prevents dirt & debris from entering below the module. Eliminating these issues will enhance reliability while minimizing service.



Above is example of an integrated solar array on a Ford Transit Van



Above illustrates the full integration of Merlin Solar modules & perimeter tape with the fairings of the KW, Class 8 trucks.

In summary, the use of perimeter tape provides a solution with an integrated appearance, while enhancing the resistance to moisture without sacrifice in fuel economy.

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