



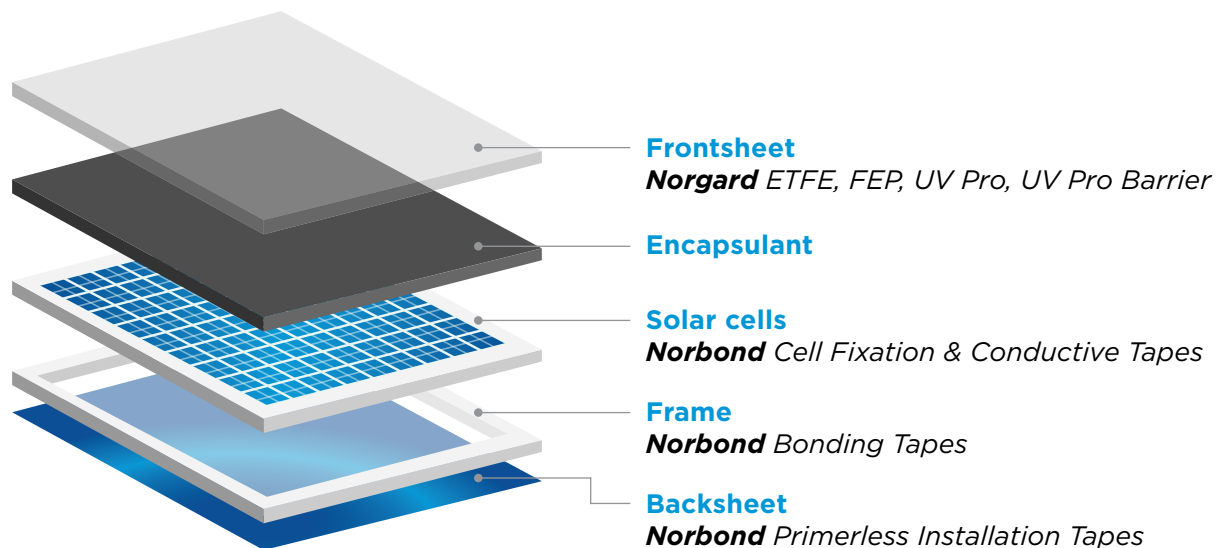
# Tape Solutions for Solar Applications

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**Saint-Gobain**® offers a comprehensive portfolio of specialty tapes and films that tackle the toughest challenges to boost lifetime, performance and protection in solar technology. From UV degradation and long-term outdoor aging to weight constraints in BIPV/VIPV and roll-to-roll batch processing, our solutions enhance durability, efficiency and aesthetics across a wide range of solar applications.

Our **Norgard** Solar Frontsheets deliver high transparency and excellent environmental resistance, improving panel efficiency, longevity and protection. Meanwhile, **Norbond** Specialist Adhesive Tapes provide outstanding bonding performance on demanding substrates such as bitumen, concrete, metals and PVC.

Explore how our customizable, high-performance materials help engineers and manufacturers achieve longer lifetimes, better warranties, and smarter solar designs.



## Solar Frontsheets

**Products:** **Norgard** ETFE and FEP, **Norgard** UV Pro, **Norgard** UV Pro Barrier

**Function:** Increase lifetime of solar cells, improve efficiency and protect from UV degradation and environmental stresses

**Features:** Special ETFE, FEP or PVF films with low refractive index, high transparency with customized thicknesses to meet application requirements

**Norgard ETFE and FEP Extruded Films** offer a unique combination of properties that directly enhance solar panel performance and longevity. Their low refractive index and high transparency improve light transmission, boosting the overall energy efficiency of solar cells. The excellent aging resistance ensures long-term durability under harsh environmental conditions, while the low surface energy reduces dirt and debris accumulating on the surface. The textured matte finish improves cell efficiency, reduces glare, and improves aesthetics of the solar panel.

Specifically, matte FEP films provide superior moisture resistance, withstand atomic oxygen and gamma radiation—making them ideal for space applications—and contribute to lightweight system designs.

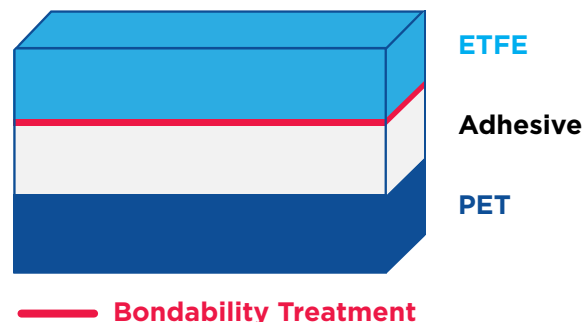
As fluoropolymers are typically difficult to bond to other materials, the c-treatment of these **Norgard** Films enables stronger and more reliable bonding to adhesives, encapsulants, and other layers in the solar module stack. It also enhances process reliability during lamination or adhesive application and improved compatibility with roll-to-roll processing, supporting scalable manufacturing.

**Norgard** UV PRO is a laminate of ETFE and PET using a proprietary UV blocking adhesive. It combines a multilayer architecture to deliver exceptional performance in demanding solar environments. Its flexibility and light weight design enable its use in thin film PV applications and can be easily processed in roll-to-roll or traditional lamination. In some cases, the product can be used as a glass replacement for PV protection.

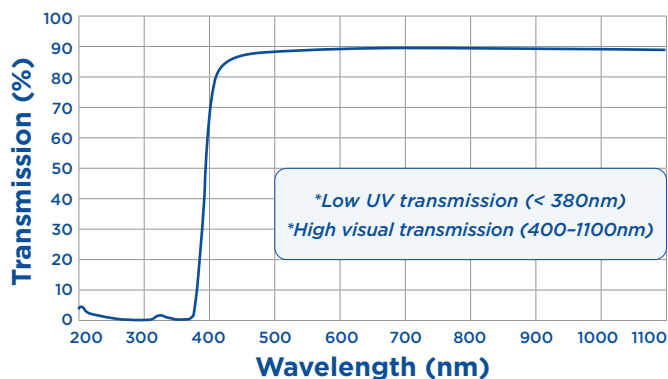
Its outer layer, available in ETFE, FEP, or PVF, features a low refractive index and excellent visual transmission whilst blocking harmful UV light. The ETFE layer also provides high levels of resistance to chemicals, increased weatherability, low flammability, and insulating properties.

A UV-blocking adhesive layer protects sensitive components within the solar stack from degradation, while the integrated PET layer adds mechanical strength and electrical insulation. Layer thicknesses can be fully customized to meet specific design and performance requirements, offering engineers and manufacturers a versatile, high-performance solution for next-generation solar modules.

## UV Absorbers in Adhesive Layer



## Optical Properties



## Adhesive Tape Solutions for Solar Applications

**Saint-Gobain** tapes provide the solar industry with an opportunity to have durable solutions for a variety of processing and module applications. Within traditional panel manufacture, we can provide options for solar cell fixation tapes which are UV resistant, clear and bubble free.

**Norbond** Primerless Tapes also provide mounting of lightweight or flexible panels to difficult building substrates. These have been specifically developed for the following roof or BIPV mounting surfaces:

- Bitumen (netlink 5145)
- Concrete (netlink 5145)
- Metal/aluminium (netlink 5145 & translink 350 hp)
- PVC/plastic membranes, where plasticiser leaching is a known industry issue (translink 350 hp)
- Flame retardant acrylic tapes (translink 8150 fr) for fire safety

### Advantages & Benefits

- Self-adhesive membranes & tapes avoiding application and curing of liquid adhesives
- Primerless application: cost and time saving
- Roll format, which can be integrated into manufacturing processes
- Ease and speed of module installation
- Application in cold weather down to -10°C
- Ability to adhere to difficult substrates
- Flame retardant products to meet required specifications

## Other Solar Tape Solutions

**Saint-Gobain** Tape Solutions has a wide range of solutions which can be utilised within the solar industry. Please ask our team about **frame bonding, electrically conductive tapes, cable and junction box fixation, temporary edge sealing and masking tapes**, plus many more.

**Saint-Gobain** Tape Solutions has the ability to manufacture tapes to your specific requirements using adhesive chemistry and expert knowledge. We are your reliable partner in innovative solar panel applications with the knowhow and capabilities to co-develop customer-specific solutions that go beyond our existing portfolio.

# Your Partner in Custom Tape Solutions

A custom tape solution can pay for itself many times over thanks to the process and product improvements it can provide. Tape development engineers will work with partners to design an economical but highly effective tape product.

Even with endless permutations of industrial tapes available there is only one company that can deliver a custom-made tape with optimal adhesive, the perfect backing materials, seamless process integration and superb performance.

To learn more about how **Saint-Gobain** can help solve tape and materials engineering challenges, call us or visit us online.

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