

## PHOTOVOLTAIC FRONT SHEET

# NORGARD® UV PRO

**NORGARD UV PRO** is manufactured by **Saint-Gobain®** Performance Plastics Corporation, Tape Solutions business, and comes with a laminate of ETFE and PET using a proprietary UV blocking adhesive. This composite solution has superior visual transmission while blocking harmful UV light. The ETFE layer intends to provide high levels of resistance to chemicals, increased weatherability, low flammability, and insulating properties.

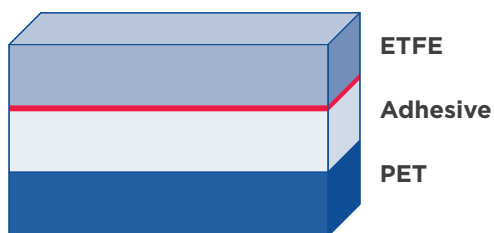


### FEATURES AND BENEFITS

- High Visual Transmission
- Low UV Transmission
- Flexible
- Light weight
- Anti-soiling
- Excellent Weatherability
- Aesthetic Design
- Low Glare (matte finish)

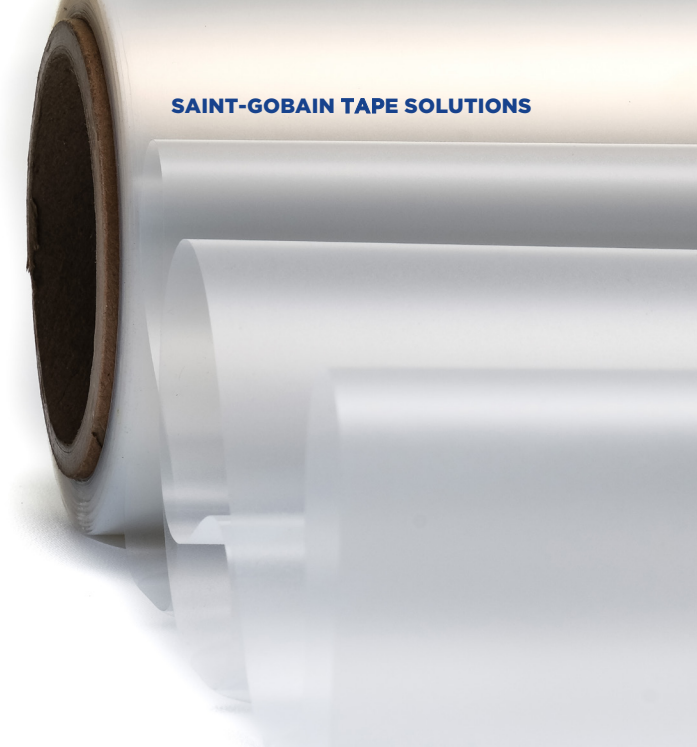
### PRODUCT CONSTRUCTION:

- UV absorbers in adhesive layer



— Bondability Treatment

\*Pictures shown are for illustration purpose only.



### AVAILABILITY

- Widths up to 60"
- Matte or smooth surface finish
- Customizable structure thickness
- Available in cementable (surface treated) form

### APPLICATIONS

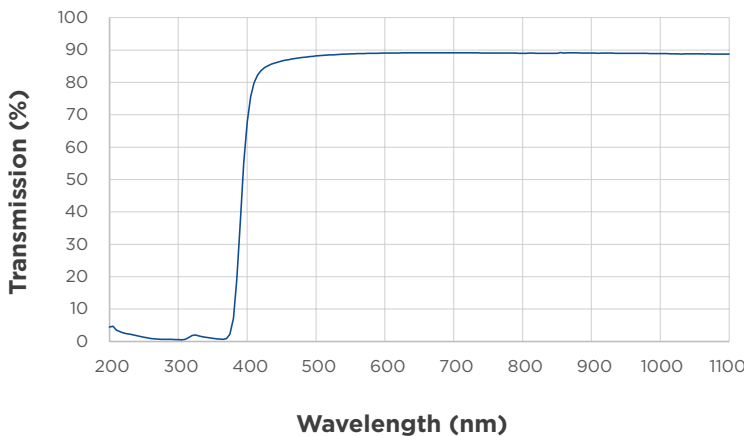
This product is typically used as a photovoltaic frontsheet. The flexibility and light weight of the product enables its use in thin film PV applications and can be easily processed in roll-to-roll or traditional lamination. In some cases, the product can be used as a glass replacement for PV protection. The UV blocking functionality coupled with the excellent outdoor aging performance provided by fluoropolymers can help extend the lifetime of solar cells.

## TYPICAL PROPERTIES

Property	Value	Unit	Test Method
Optical Transmission	> 90	%	ASTM D 1003 (400-1100nm)
UV-Cut	< 5	%	ASTM D1003 (380nm)
Overall Thickness	150 - 310	µm	Micrometer Caliper
• ETFE Thickness	25.4 - 38	µm	Micrometer Caliper
• Adhesive Thickness	22	µm	Micrometer Caliper
• PET Thickness	100 - 250	µm	Micrometer Caliper
Tensile Strength	125	MPa	ASTM D882
Elongation	150	%	ASTM D882
Gloss (smooth surface finish)	100	GU	ISO 4618:2014 (60°)
Gloss (matte surface finish)	12	GU	ISO 4618:2014 (60°)
Dielectric Breakdown Voltage	1000	V	ASTM D3755-97

The values presented are typical values and should not be used for specification purposes. Contact your **Saint-Gobain** Tape Solutions representative for more information.

## OPTICAL PROPERTIES



\*low UV transmission (< 380nm)  
\*high visual transmission (400-1100nm)

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