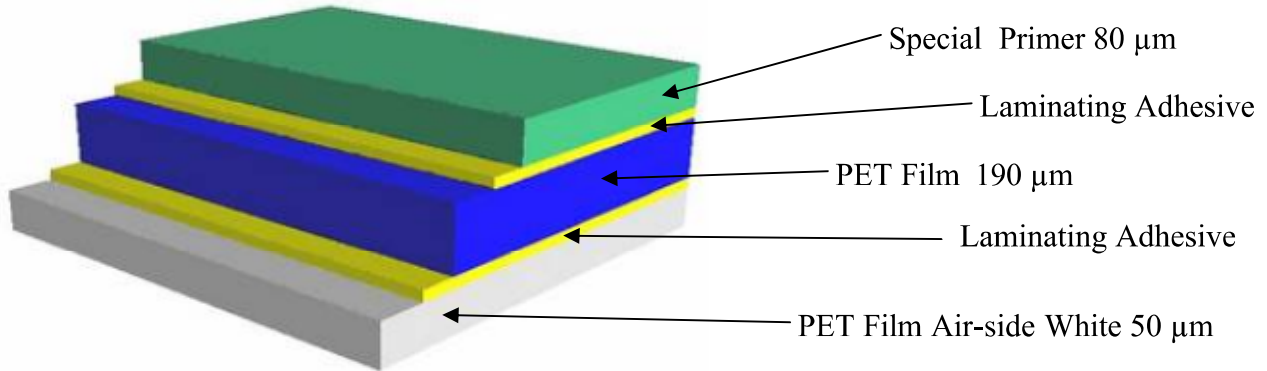


## BACKSHEET FOR PHOTOVOLTAIC MODULES

**FILMBACK PVS 190** is a laminate made with two layers of HIGH PERFORMANCE POLYESTER FILM: Cell-side is treated with a Special Primer with extremely high bond to EVA (Primer can be supplied in different colours). FILMBACK-PVS is properly suitable for Photovoltaic Cells module encapsulation thank to its long term resistance to hydrolysis and UV rays, its high voltage insulation features and its strong barrier to atmospheric agents (especially oxygen and humidity).



### FILMBACK-PVS 190 MAIN FEATURES

- 1) Excellent resistance to atmospheric agents and outdoor exposure.
- 2) Strong barrier against oxygen and humidity permeation.
- 3) Long-term resistance to adhesive hydrolysis.
- 4) High voltage insulation.

TECHNICAL SPECIFICATIONS	UNIT	METHOD	VALUE
PET film Air-side White	micron	caliper	50
PET Inner layer thickness	micron	caliper	190
Primer white color thickness	micron	caliper	80
Laminate thickness	micron	caliper	320 +/- 5%
Unit weight	gr/sqm	10x10 weight	415 +/- 5%
Tensile strength (MD)	N/10mm	ASTM D-882	> 280
Tensile strength (TD)	N/10m	ASTM D-882	> 280
Elongation at break (MD)	%	ASTM D-882	> 110
Elongation at break (TD)	%	ASTM D-882	> 100
Heat shrinkage (MD) 150 ° C x 30'	%	ASTM D-1204	< 1,2
Heat shrinkage (TD) 150 ° C x 30'	%	ASTM D-1204	< 0,6
Layer peel strength	N/10mm	180° peel	> 5
EVA adhesion ( primer coated side vs EVA )	N/10mm	internal	> 40
Moisture barrier at 38° 100 % RH	g/sqm x day	ASTM F-1240	< 2,47
Breakdown voltage	kV	ASTM D-149	> 25
Partial discharge test	VDC	IEC 60664-1	> 1050