



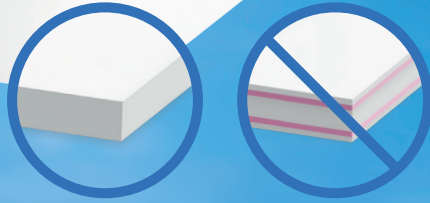
UNIQUOAT

THE NEXT-GEN BACKSHEET

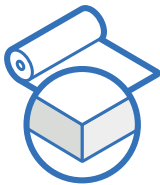
THE SINGLE-LAYER BACKSHEET

FOR SUSTAINED MODULE PERFORMANCE

No laminated layers



All the reasons why UNIQUOAT is the next-gen backsheet



No delamination

UNIQUOAT is the world's only true single-layer backsheet for PV solar modules. It consists of only one single layer and can thus not delaminate by-design.



Reflectivity champion

Scientific comparison of the reflectivity of a wide range of PET-based backsheet across the full solar spectrum revealed best score for the UNIQUOAT*. Its high reflectivity up to 90% is sustained during the module's entire life span and can increase power output significantly.



Sustainable cost down

The single-step manufacturing process delivers ready-for-use backsheet instantly. This anticipates great cost down potential compared to the laborious and time consuming multi-step production of laminated multi-layer backsheet.



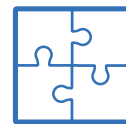
Module strength up 20x

With around 5 N/cm adhesion strength between its layers, the multi-layer laminated backsheet itself is the weakest link in a module. By its single-layer design UNIQUOAT backsheet has finally solved this structural weakness and elevates the EVA adhesion strength to 100 N/cm on average.



Damage proof

In the single-layer UNIQUOAT backsheet, all the required protective properties are equally present across the full material thickness. And so, neither erosion nor accidental damage of the backsheet during module manufacturing or installation will cause accelerated module degradation or power decline.



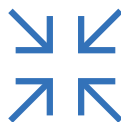
100% Contribution

Unlike in multi-layer backsheets, the material properties to ensure electrical insulation as well as hydrolysis and UV resistance are present across the full thickness and in every mm³ of the UNIQUOAT backsheet. That is also why its full material thickness actively contributes to achieving IEC standards for RTI and DTI.



High grade PET

Contrary to multi-layer backsheets that include a core layer of standard electrical grade PET, the single-layer backsheet offers the mechanical strength and electrical insulation capacity as well as hydrolysis and UV resistance of a high grade PET in its full thickness.



Tension-free

The single-layer backsheet consists of one homogenous material with exceptional dimensional stability and does therefore not know material tensions like those generated in multi-layer laminated backsheet by the high lamination temperature. Its exceptional low shrinkage allows for higher lamination temperatures than standard backsheet and consequently lower lamination time and higher production efficiency.



Eco-friendly

Unlike laminated backsheets, UNIQUOAT backsheet is manufactured without the use of solvent adhesives and production waste is recycled. The PET is fully recyclable at end-of-life of the module.

AGFA

Power by Technology

*Agfa internal testing in 2017

UNIQUOAT backsheet introduces a new paradigm in the solar PV industry because it fulfils all the functional requirements of a backsheet **in just one single layer**. It not only eliminates the weaknesses of laminated backsheet but delivers unseen benefits in terms of performance and sustainable cost down potential.

UNIQUOAT. TRULY THE NEXT-GEN BACKSHEET.

TECHNICAL DATA

(typical values)

PROPERTY	UNIT	UNIQUOAT 215	UNIQUOAT 315	METHOD
TOTAL THICKNESS	µm	215 +/-10	315 +/-10	Internal Agfa method
TENSILE STRENGTH MD/TD	N/mm ²	185/190	185/190	IEC TS 62788-2:2017 (based on ISO 527-3)
ELONGATION AT BREAK MD/TD	%	120/100	120/100	IEC TS 62788-2:2017 (based on ISO 527-3)
ADHESION STRENGTH TO EVA*	N/cm	>80	>80	Internal Agfa-method based on IEC TS 62788-2:2017; values depend on lamination conditions and encapsulant type
HEAT SHRINKAGE MD/TD 150°C 30 MIN	%	≤+1.0/ ≤+0.6	≤+1.0/ ≤+0.6	ASTM D-1204 / IEC 62788-2:2017 (Technical specification)
ADHESION TO JUNCTION BOX	N/cm	>15	>15	GB/T 2790 (180° Peel)
WVTR AT 38°C/90%RH	g/m ² /day	<1.9	<1.4	ISO 15106-3 (38°C/90%) (certified by TÜV)
REFLECTIVITY (CELL SIDE)	%	82	85	ISO 9050; solar AM1.5G weighted reflectivity in the range 380-1100 nm (certified by TÜV)
BREAKDOWN VOLTAGE	kV	20	20	IEC 60243-1 (certified by TÜV)

(*) values based on testing with specified encapsulant brands using the manufacturer's lamination recommendations

UNIQUOAT is available in standard rolls of 100/200m length (other lengths and sheets upon request). The shelf life is 24 months when kept in the original packaging.

UNIQUOAT meets the latest IEC 61730-1 on DTI for 1000 VDC and 1500 VDC modules (DTI = Distance Through Insulation).



Registered



Recognized



Certified

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Need more information?

Contact us at agfa.com/uniqoat

or send an e-mail to pvbacksheet@agfa.com