



# NovoVellum® HiPo FW01

“The new generation encapsulants for increased module efficiency”

This unique white eva has been specifically formulated for the thin film industry. *NovoVellum*® HiPo FW01 is a very white opaque encapsulant, with a reflection efficiency above 96% for a wide wavelength range between 400 to 1100 nm. This is beneficial for additional power output.

## Product features



Made in Belgium / Europe



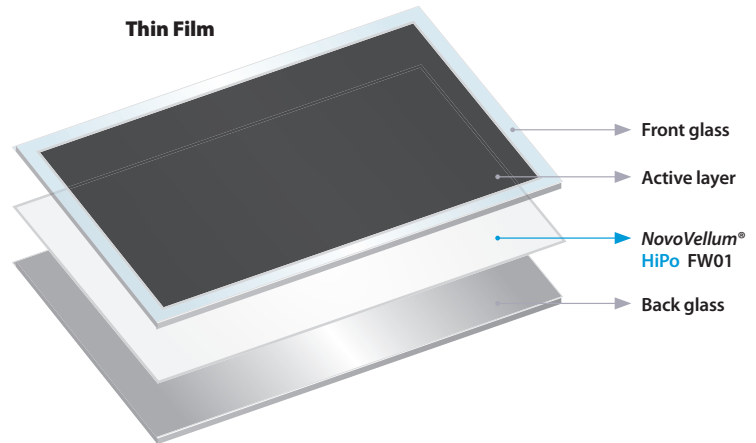
Increased output



Lower Total Cost of Ownership



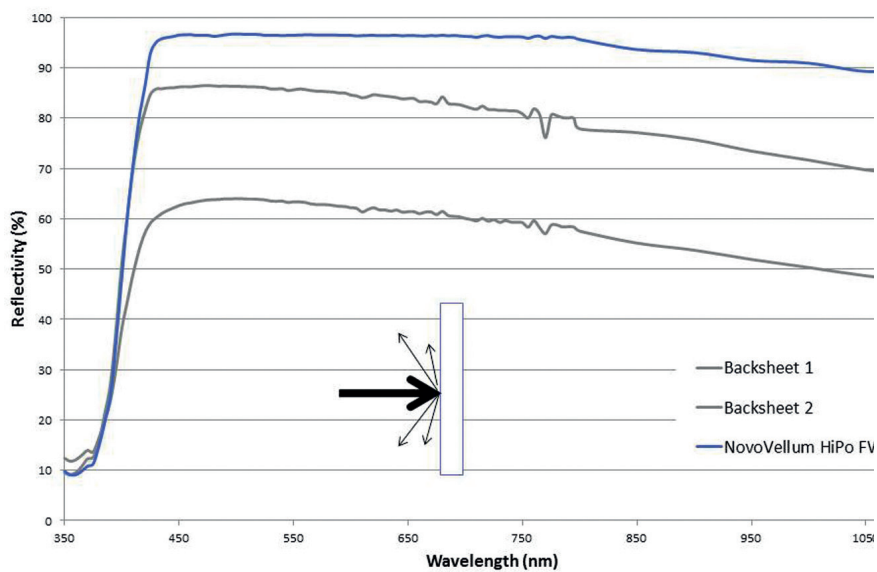
Low lamination Temperature



In comparison to PVB our *NovoVellum*® HiPo FW01 offers following value proposition:

- Considerably cheaper (EUR/Wp optimization)
- 30% to 50% higher throughput at module maker
- Less scrap, less cleaning required using EVA
- Less energy consumption in manufacturing
- Plasticizer free

Reflectivity comparison: backsheet vs. reflective *NovoVellum*® HiPo FW01



Modules that are properly constructed with *NovoVellum*® HiPo Series have passed the requirements for performance specifications IEC 61647 and 61730.

# NovoVellum<sup>®</sup> HiPo FW01

ROLL SPECIFICATION	Unit	Value	Min.tolerance	Max.tolerance
Width	mm	1113	-0	+20
Thickness	µm	460	-20	+20
Surface finish		textured: rough/smooth		
Interleaving foil Type		20 µm HDPE		
Width	mm	1130	-	-
Core Type		Plastic		
Inside diameter	mm	152	-	-
Length	mm	1200	-	-
Packaging Transport packaging		Metal, returnable rack		
Delivery form		Horizontal		
Foil bag material		Aluminium coated		
Shelf life	months	6		
Storage temperature	°C	<35		
Storage moisture		ambient		
Lay-up room temperature	°C	<25		
Lay-up room moisture	%RH	<30		
Density	g/cm <sup>3</sup>	1.07		
Length	m	900	-1	+5
Weight*	kg	Approximately 516		
Outer diameter**	mm	Approximately 761		

\* Including 20 µm HDPE interleaving foil. \*\* Including a 152 mm core inner diameter.

REFLECTANCE	Test method	Unit	Value
<b>INTEGRATED REFLECTANCE</b>			
400 - 800 nm	In house method	%	96.9
400 - 1100 nm	In house method	%	96.5
UNCURED PROPERTIES	Test method	Unit	(caliper 460 µm)
<b>ELECTRICAL PROPERTIES</b>			
Dielectric strength			
Dielectric strength	ASTM D149-09	MV/m	52.4
Breakdown voltage	ASTM D149-09	kV	23.9
DC resistance of insulating materials			
Volume resistance	ASTM 257-07	Ω	3.1*10 <sup>11</sup>
Volume resistivity	ASTM 257-07	Ω cm	1.6*10 <sup>14</sup>
<b>OTHER PROPERTIES</b>			
Water vapor transmission rate	ASTM F1249	g/(m <sup>2</sup> day)	<40
Specific heat capacity	ASTM E1269	J/(g °C)	2.344
Density		g/cm <sup>3</sup>	1.07
Hardness Shore A	DIN 53 505	Shore A	65
CURED PROPERTIES	Test method	Unit	(caliper 460 µm)
Gel content	Soxhlet extraction	%	80 - 93*
Adhesion to glass	180° peel test	N/cm	>80*

\* Value function of cure conditions.

All our products are vacuum packed and shipped in aluminum bags with dessicant, to assure best possible conditions during stocking and transportation. We therefor ensure 9 months shelflife on our products.

## Your Challenge - Our Passion!

### Innovation in Sustainable Solutions

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