

BROCHURE

# ROBOSTAK LAMINATOR

The membrane-less Laminator with  
the fastest cycle time in the world.

Teknisolar srl  
[www.teknisolar.com](http://www.teknisolar.com)



# THE BEAST

SOLAR PANEL LAMINATOR IN THE WORLD



The **most flexible**



The **most customizable**



The **fastest** cycle time

TYPICAL CYCLE TIME with EVA UFC\*  
GLASS-GLASS: **160 sec - 200 sec**  
GLASS-BACKSHEET: **110 sec - 120 sec**

## DO IT BETTER

High Performance  
Diaphragm-Free  
Photovoltaic Lamination Line

\*Cycle time may vary according to the panel BOM



## MAIN FEATURES AND BENEFITS

No Membrane



No downtime or waste caused by membrane replacement

No edge pinch



No kit, frames, or temporary tape needed

No encapsulant outflow



No downtime for belt cleaning

No belt cleaning

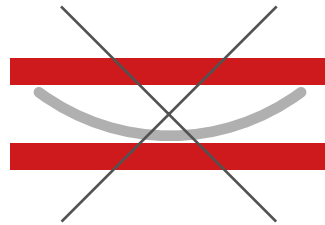


Less downtime, fewer consumables, reduced labour

No Pins

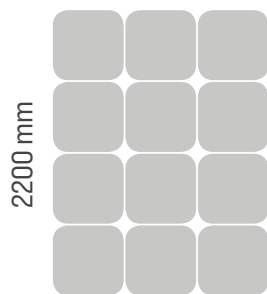


No Bowing



## PANEL STANDARD DIMENSION

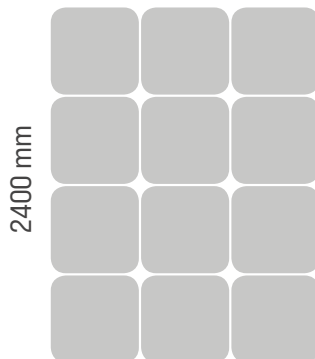
2212



2200 mm

1200 mm

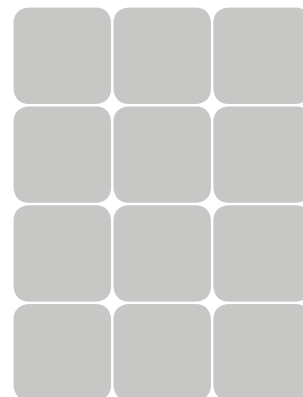
2414



2400 mm

1400 mm

2515



2500 mm

1500 mm

## OUR STRENGTH IS CUSTOMIZATION

YOU CAN REQUEST A CUSTOM LAMINATING LINE BASED ON YOUR NEEDS





NO MEMBRANE



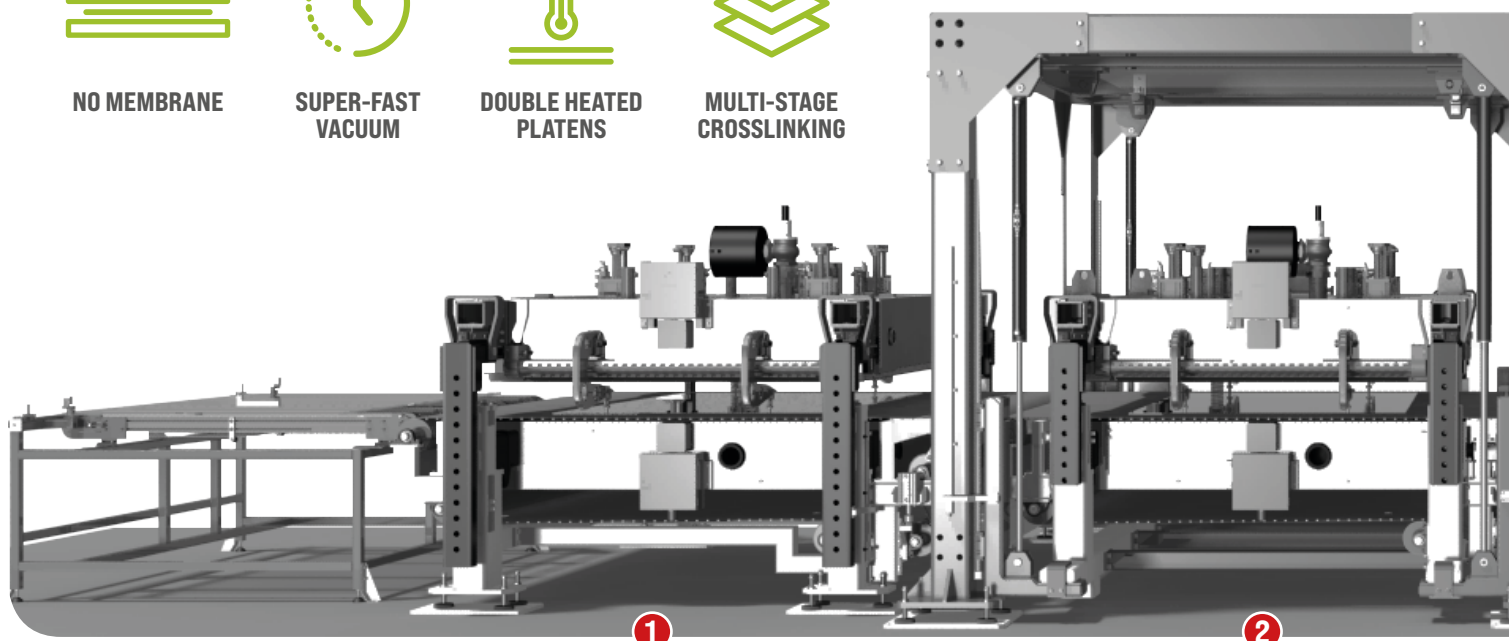
SUPER-FAST  
VACUUM



DOUBLE HEATED  
PLATENS



MULTI-STAGE  
CROSSLINKING



LOADING

HOT PROCESS

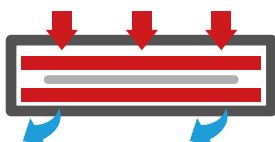
#### STEP 1 - LAMINATOR 1

HEAT (BOTH SIDES) - DEEP VACUUM  
PRESSURE (FLAT PRESS)

Time spent in this stage = CYCLE TIME

1

↓ PRESSURE  
↺ AIR



NO PINS

#### STEP 2 - LAMINATOR 2

HEAT (BOTH SIDES) - PRESSURE (FLAT PRESS)  
Crosslinking stabilizes under pressure

2

↓ PRESSURE



NO MEMBRANE

## MORE PERFORMANCE, LESS COSTS



### PERFORMANCE

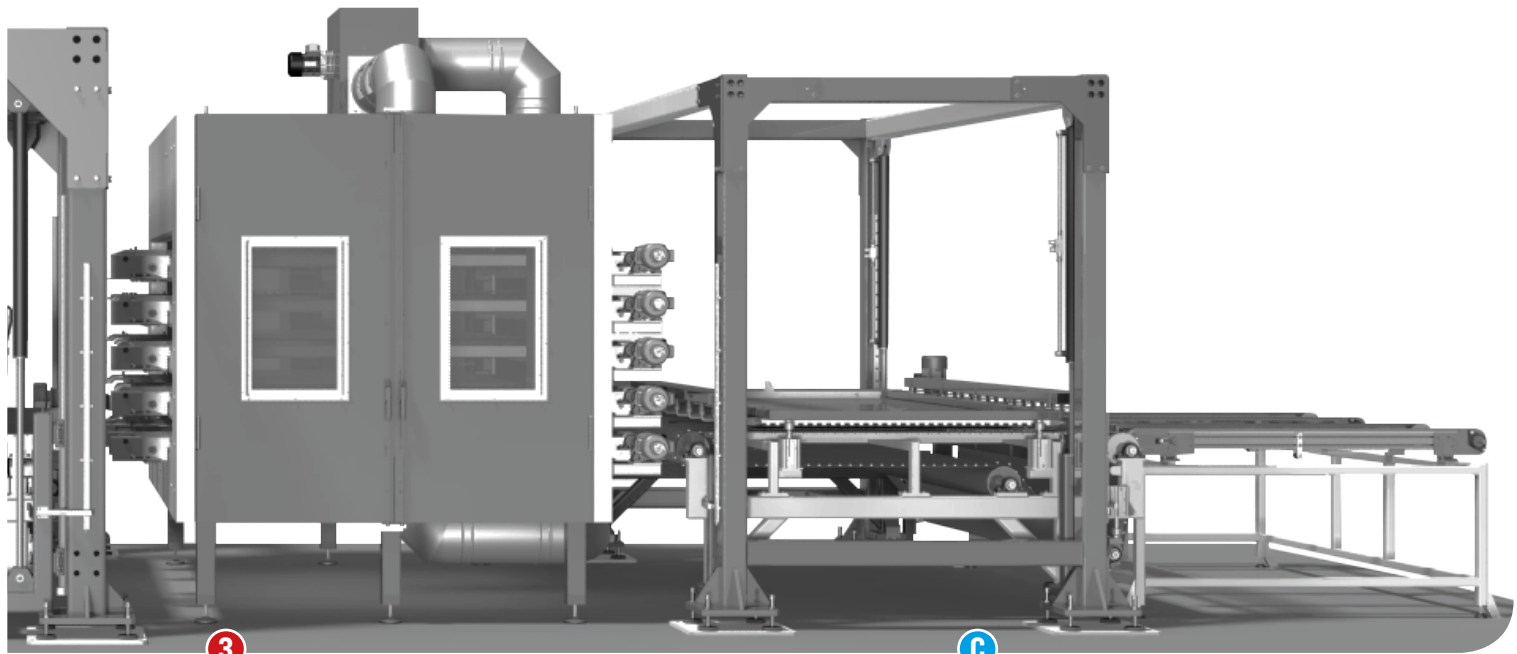
- Lowest cycle time on market
- Capacity range up to 675 MW/years
- Optimal crosslinking process
- Longer panel durability  
(no edge defects)
- Small and flexible footprint
- Fully automatic line
- (no personnel required)

### COSTS



- Reduced power consumption
- Reduced manual labor costs
- Very low use of consumable materials
- No ordinary silicone membrane replacement
- No extra equipment required to process either glass-glass and glass-backsheet modules
- Fewer laminators required to reach highest production capacity

# The *fastest* cycle time in the world.

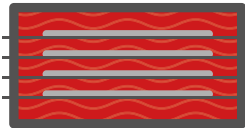


## STEP 3/6 - CROSSLINKING FINISH

HEAT (4 LEVELS)

Crosslinking finish = Plateau temperature for 4 times the length of the cycle time.

HOT AIR CIRCLE



NUMBER OF LEVELS CUSTOMIZABLE

## COOLING

FAN COOLING TOP AND BOTTOM

Inverters for totally-controlled - air flow

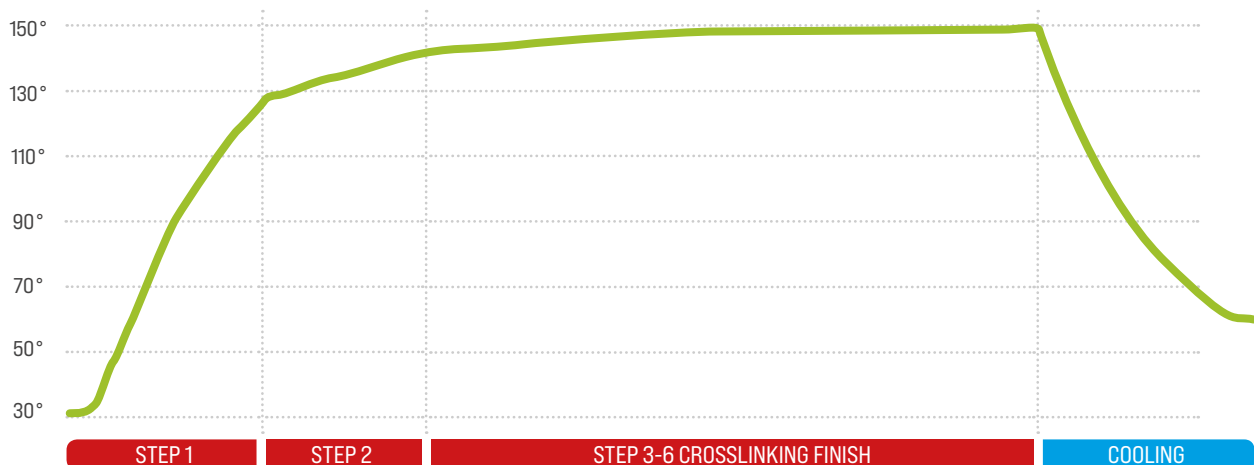
No bowing

COOLING DOWN



CHILLED PLATENS OPTIONAL

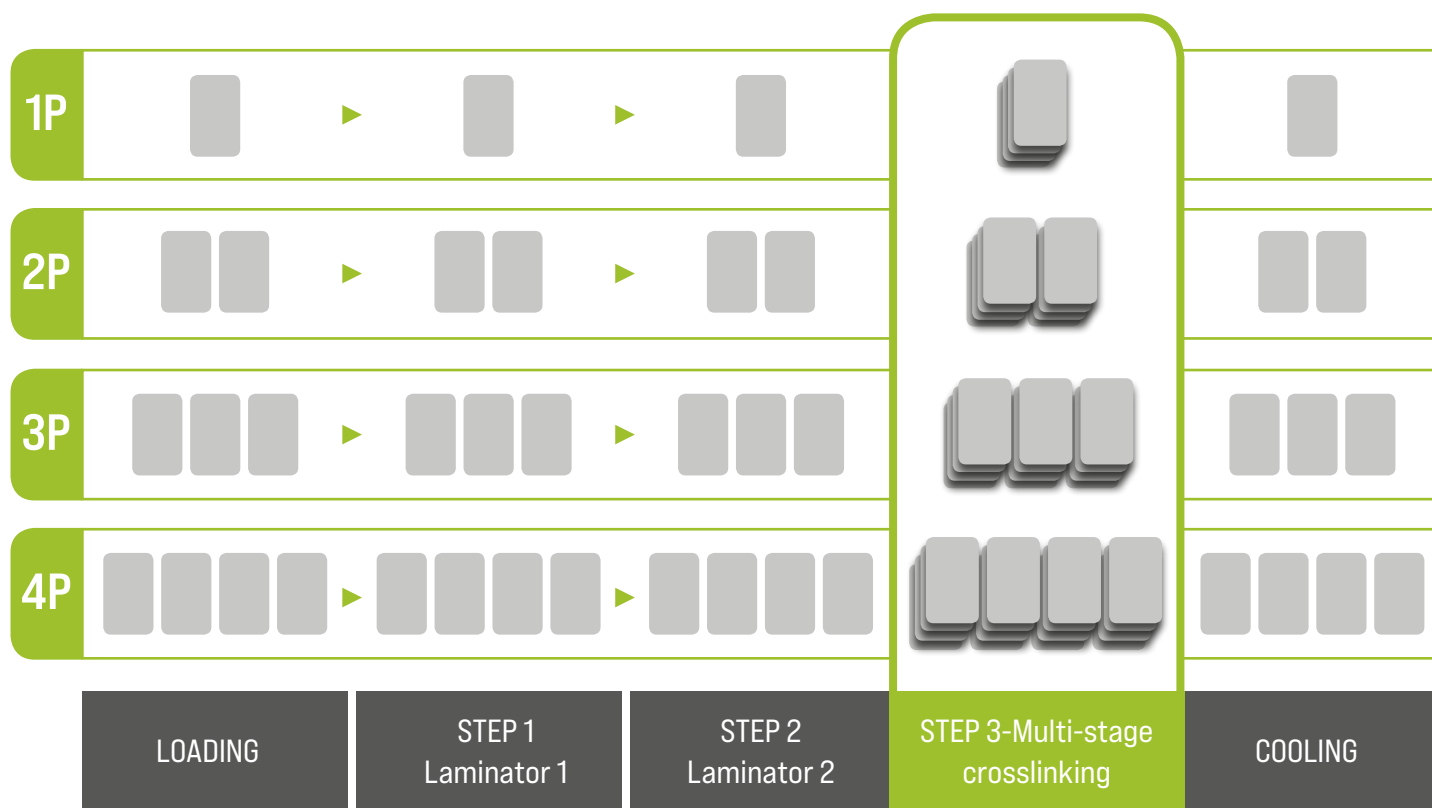
## ROBOSTAK TECHNOLOGY



When modules enter the lamination line, de-aeration starts immediately. Without pins, uniform heat is instantly applied on both sides. These functions, as well as the multi-stage crosslinking chamber, result in a significantly reduced cycle time.

# You can quadruple your throughput

With 4-levels CROSSLINKING STATION



## Robostak Laminator - Production Capacity

MW Calculations based on Glass-Backsheet modules, 350 days per yr, 24 hrs per day, 97% availability

	MODULES SIZE UP TO	MODULES SIZE UP TO	MODULES SIZE UP TO	MODULES PER HOUR
	2200x1200 mm (530 W)	2400x1400 mm (600 W)	2500x1500 mm (650 W)	
1 module per load	<b>1P-2212</b>	<b>1P-2414</b>	<b>1P-2414</b>	30-32 PH
MW	135 MW	155 MW	165 MW	
2 modules per load	<b>2P-2212</b>	<b>2P-2414</b>	<b>2P-2414</b>	60-64 PH
MW	275 MW	310 MW	335 MW	
3 modules per load	<b>3P-2212</b>	<b>3P-2414</b>	<b>3P-2414</b>	90-96 PH
MW	410 MW	465 MW	505 MW	
4 modules per load	<b>4P-2212</b>	<b>4P-2212</b>	<b>4P-2212</b>	120-128 PH
MW	550 MW	625 MW	675 MW	

# ABOUT US



**Teknisolar** was born in 2009, with the aim of creating the most revolutionary and best performing laminator for photovoltaic panels. The founder, Vittore De Leonibus, 34 years of experience in the glass industry, former vice president of engineering of the multinational Pilkington-NSG, owner of 6 patents, with his team

of collaborators with a wide range of experience and technical expertise in renewable energy, applications and glass processing, **has designed a revolutionary and unique lamination system in the world.** We currently have two offices: one in Italy, in Abruzzo, and one in England, in Cheshire.



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*"Everyone has the power to make  
the world a better place"*

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The **fastest** cycle time in the world



**DO IT BETTER**  
[www.teknisolar.com](http://www.teknisolar.com)  
Made in Italy