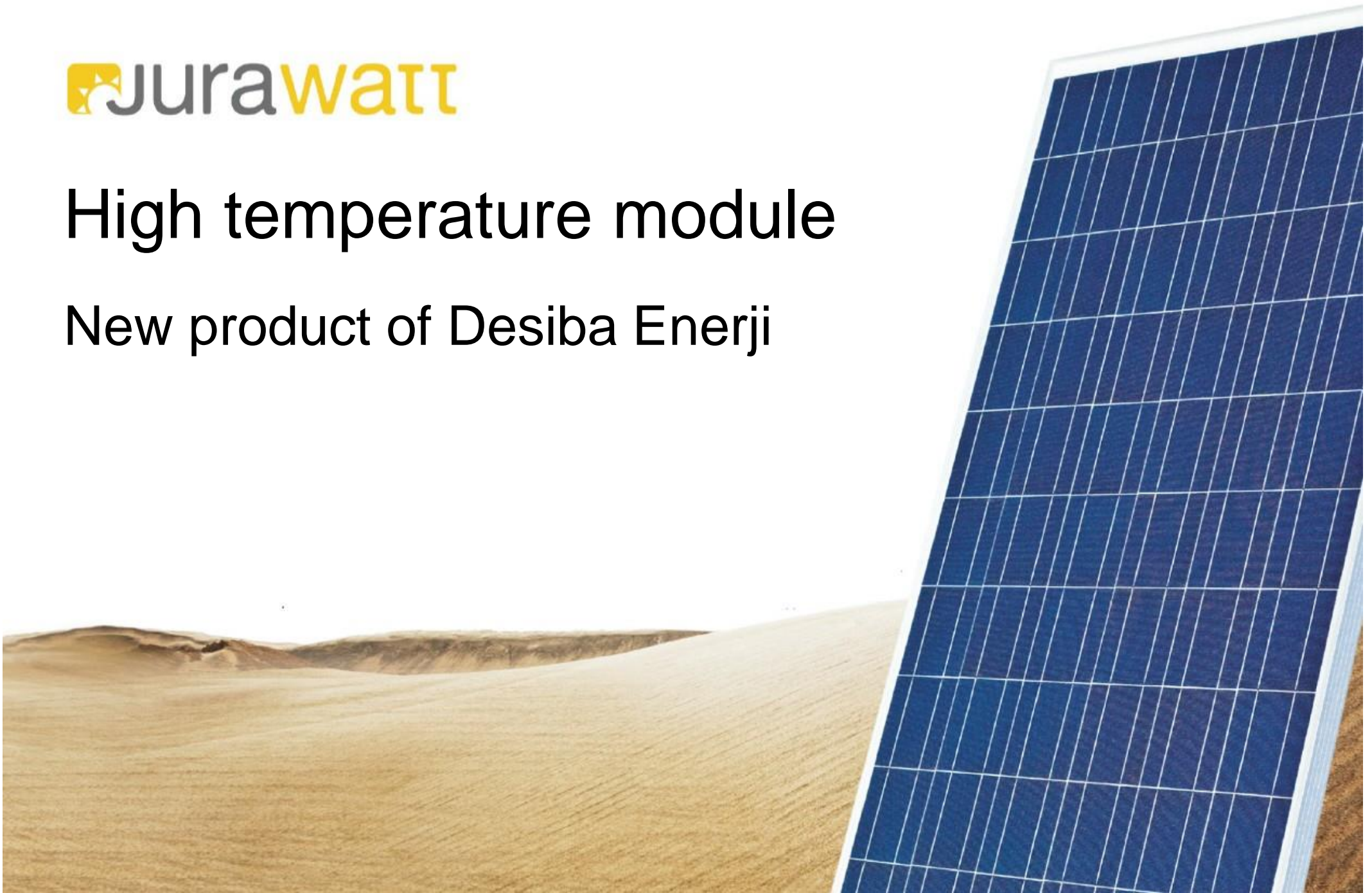




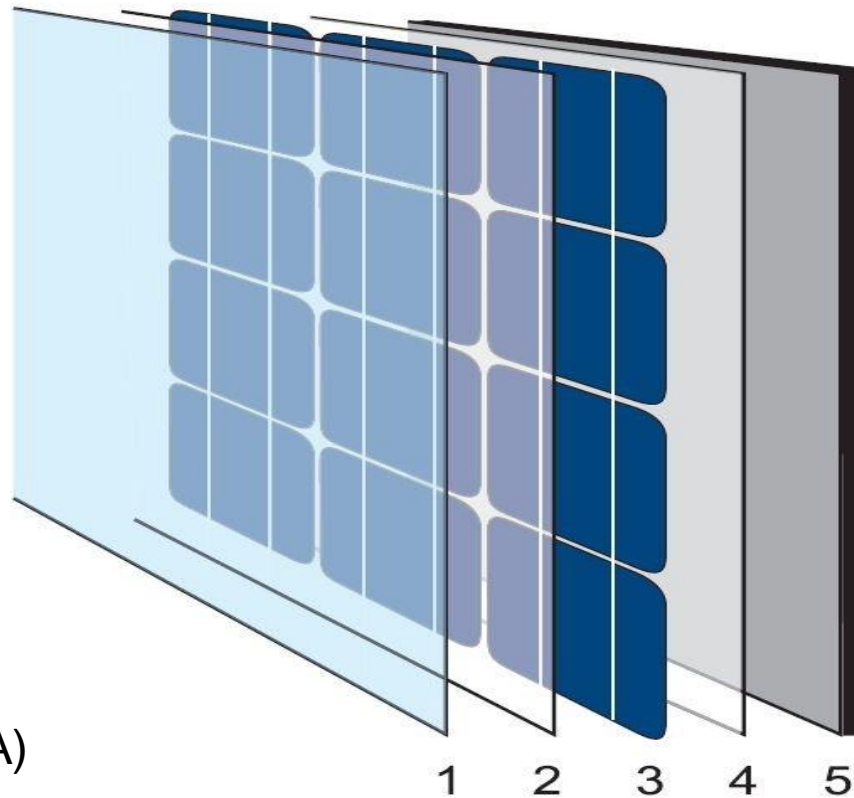
High temperature module

New product of Desiba Enerji



- Standard modules made for regions with moderate temperatures (e.g. Germany)
- Trend: Installation of modules in hotter regions (Southern Europe, deserts, tropics)
 - higher temperature,
higher humidity (tropics)
- Typical temperatures in modules:

	Central Europe	Desert
Min. (night)	-10° C	0° C
Max. (day)	60 – 70° C	75°-85° C



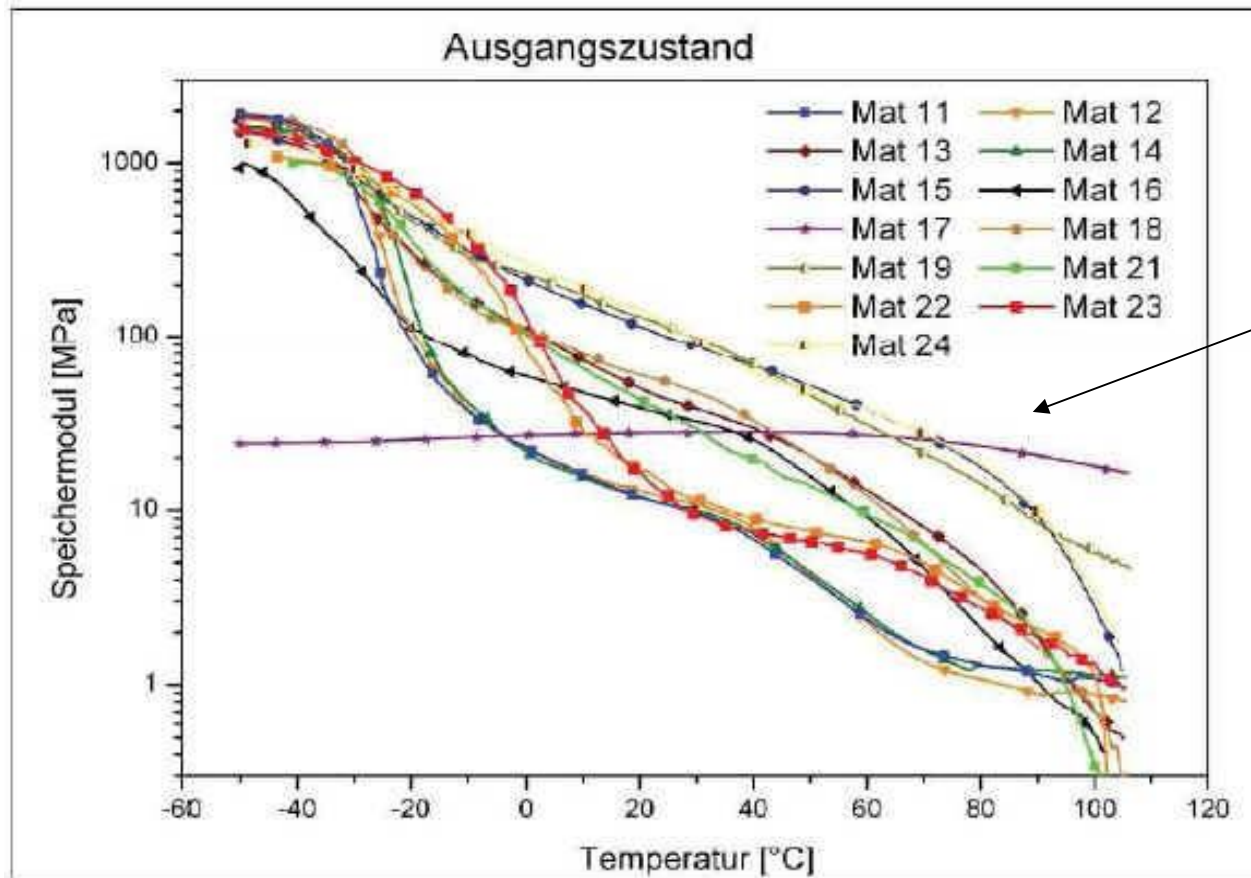
- 1) Solar glass
- 2) Embedding material (e.g. EVA)
- 3) Cells
- 4) Embedding material (e.g. EVA)
- 5) Back sheet

Standard material: EVA

Mechanical properties EVA:

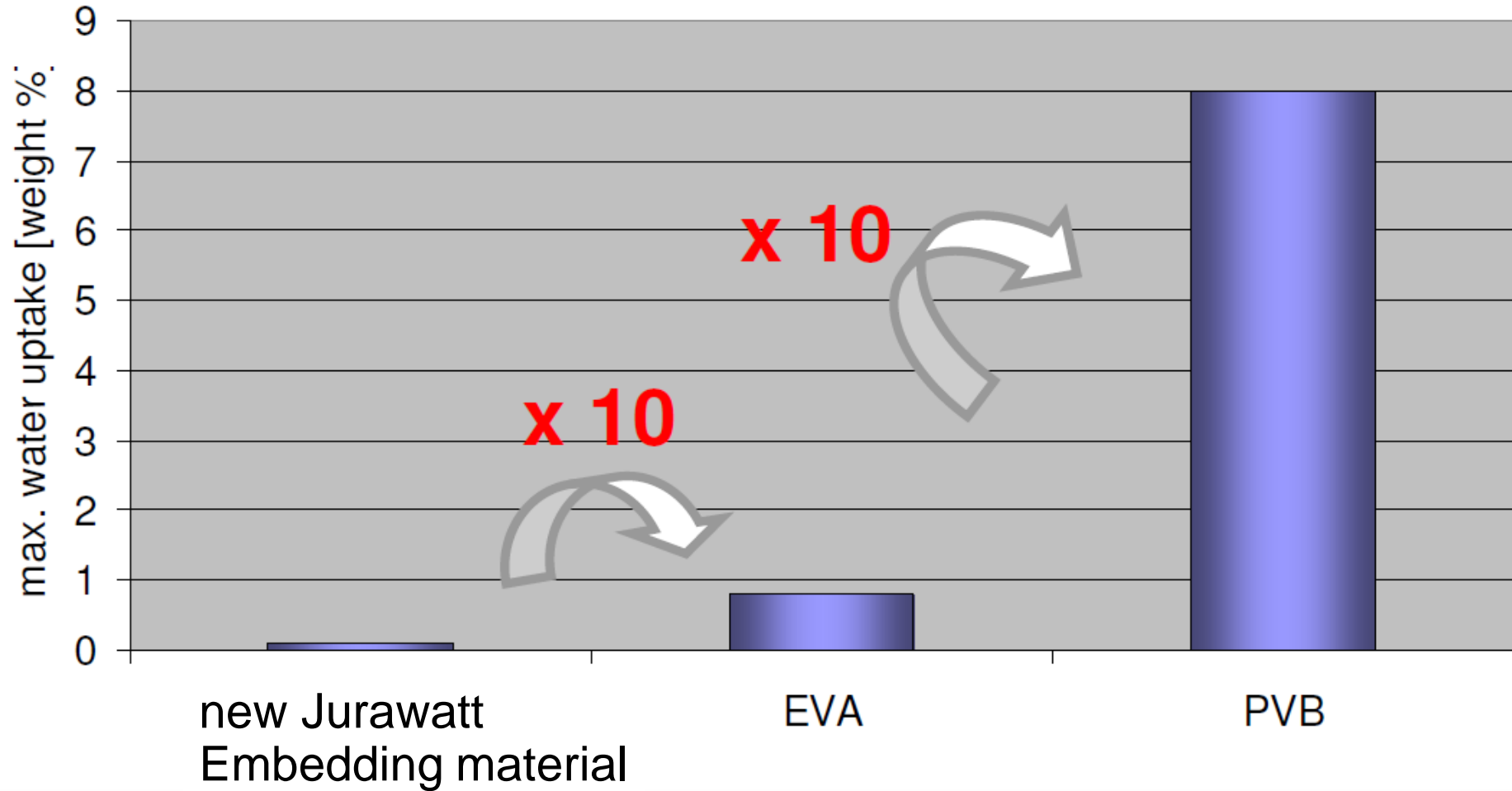
- 0° C to -10° C: Embrittlement
 - above 60° C: material gets semifluid, decreasing adhesion
- mechanical stress: Delamination can happen
- Not suitable for very high / low temperatures

Jurawatt High Temperature Module
→ new embedding material, better properties



new Jurawatt
Embedding material

→ Konstant mechanical properties
over wide temperature range

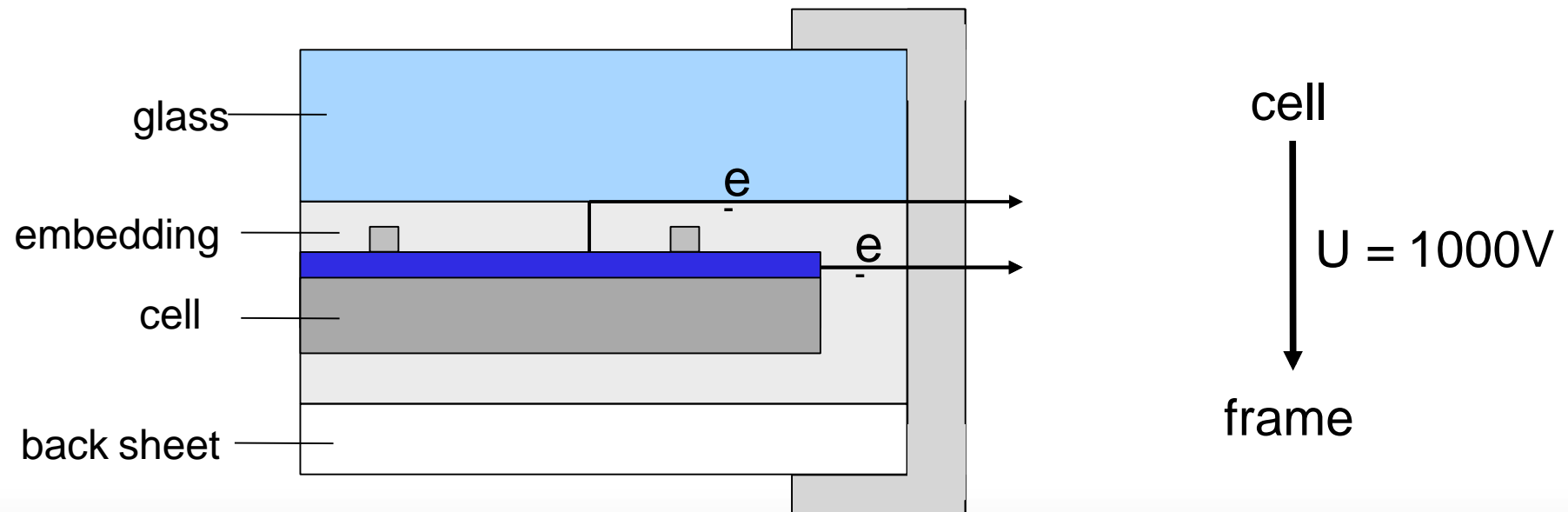


→ less water uptake

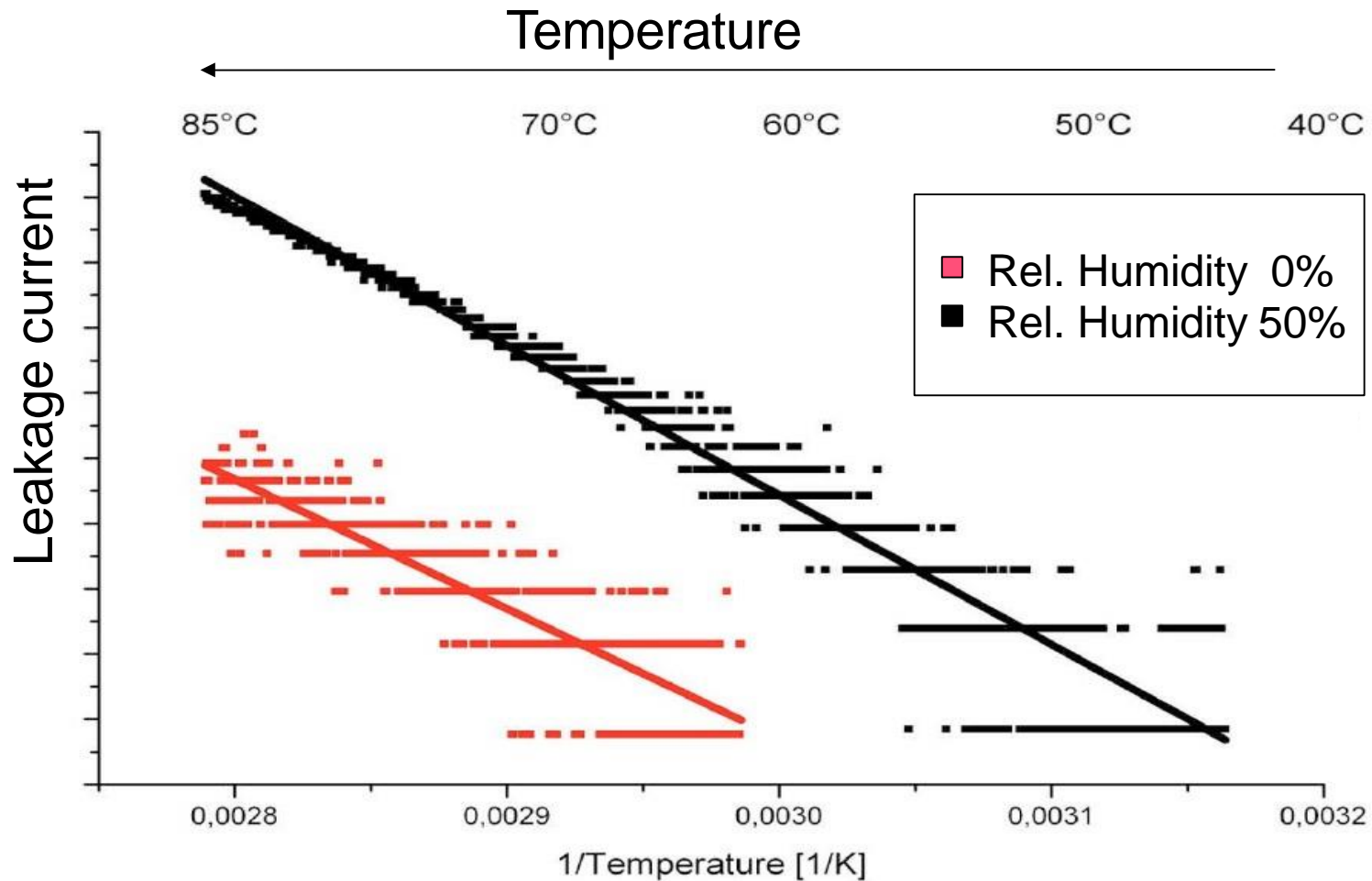
Problem:

High voltages → Leakage currents in module

→ electro chemical corrosion → Power losses



Leakage currents depend on temperature and humidity*



*Source: S. Pingel, Workshop PV Module Reliability, Berlin 2011

New embedding material

→ **Risk for leakage currents (PID)
is minimized due to:**

- Better isolation properties
- Konstant properties
over wide temperature region
- Less water uptake

→ **less leakage currents**

→ **less corrosion, also at high temperatures**

→ **High module power over long time period**

Advantages of Jurawatt high temperature moduls:

- Konstant mechanical properties
Over wide temperature range (-50°C bis 125°C)
- Less water uptake
(factor 10 less than EVA, factor 100 less than PVB)
- Better isolation
(factor 100 better than EVA)
- smaller risk for leakage currents (degradation)

→ **suitable for application at
higher temperatures, higher humidity**

→ **Higher module power over longer time period,
also at extreme climate**

 **Jura watt**

THE BRAND MODULE OF TURKEY

