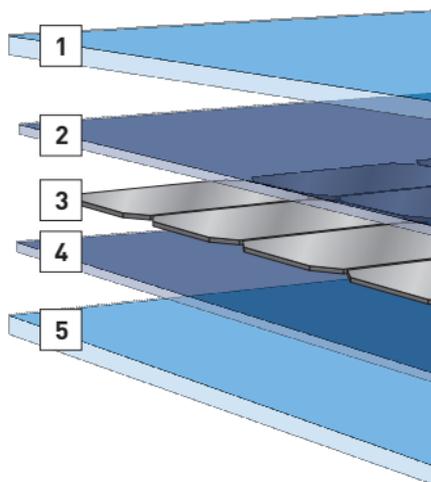




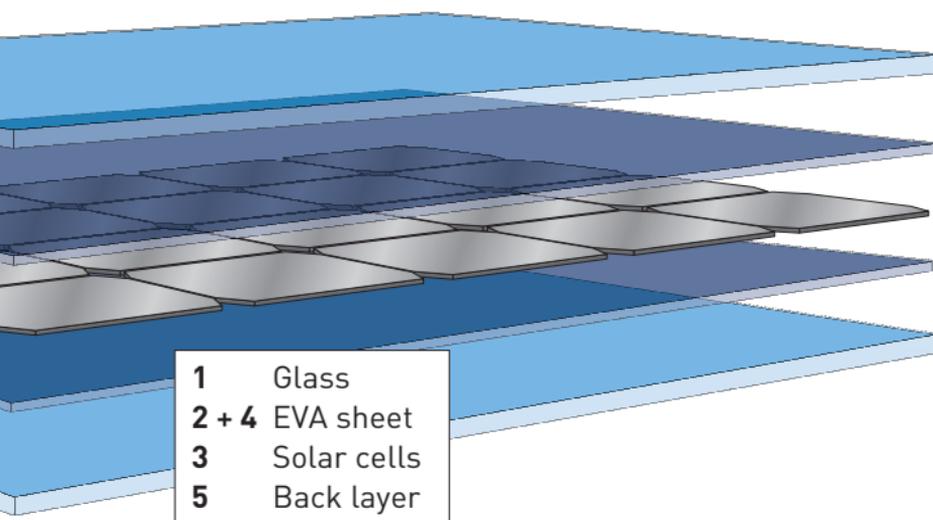
# High-performance EVA sheet extrusion lines

*Engineering Value*

***Krauss Maffei***  
*Berstorff*



KraussMaffei Berstorff extrusion lines for the production of EVA sheet for photovoltaic modules and laminated glass panes unite unparalleled ecological and economic features in a convincing solution.



#### Your benefits at a glance:

- Sheet widths of over 3,000 mm at constant sheet thickness
- Output rates of more than 1,200 kg/h
- Recycling of edge trims
- Twin-screw extruder for homogeneous plastics compounding
- No preliminary material cross-linking
- Minimum sheet shrinkage



## Highly profitable core component

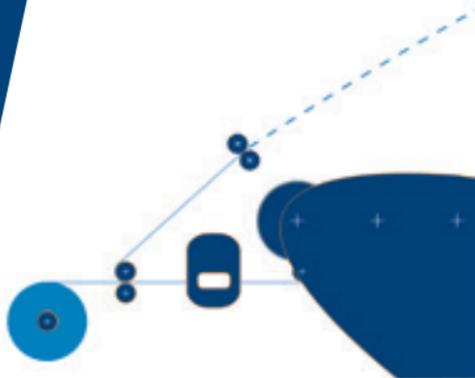
The unparalleled technical design of the twin-screw extruder with its modular processing section is the innovative answer to the ever more stringent demands imposed by sheet and sheet producers in terms of quality, versatility and cost.

The ZE UT series of twin-screw extruders selected for this purpose are tailored to specific requirements and provided with customized equipment – starting from the use of different application-specific materials and surface finishing up to optimized individual screw configurations (building block principle) for gentle, yet intensive raw material homogenization.



Designed for the production of EVA sheet, equipped with vacuum degassing, gear pump and special slot die featuring automatic die gap adjustment

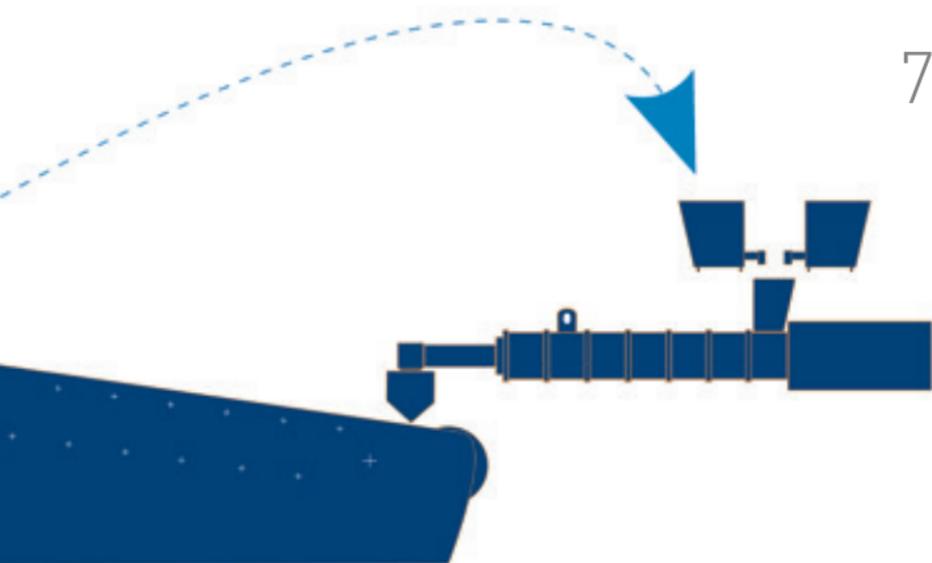
Our twin-screw extruders are designed for processing up to 100% reclaimed flakes without any negative impact on the quality of the final product. This applies in particular to the production of high-quality EVA sheet.



## The ideal system solution: Twin-screw extruder with innovative processing section

Our EVA sheet extrusion lines for sheet widths of over 3.0 m and in-line edge trim recycling without any loss in quality form a class of their own.

These lines virtually fulfill all requirements in terms of unparalleled ease of operation and shortest set-up times – starting from the metering systems right through to the winder.

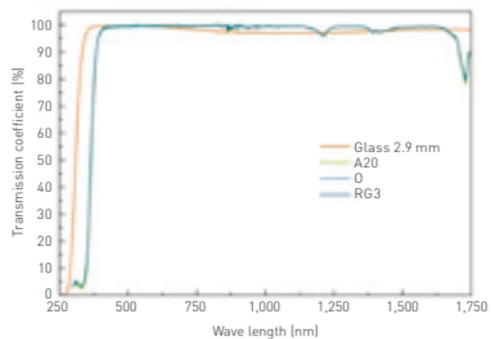


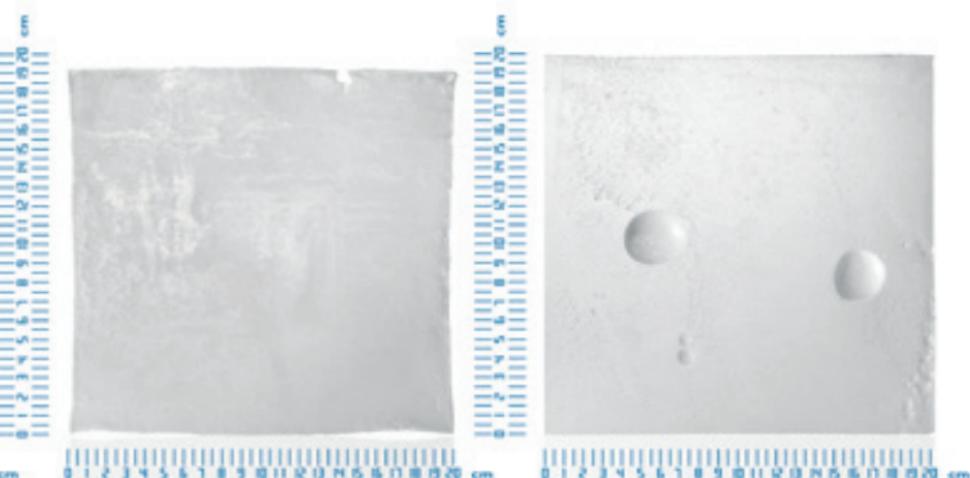
Output rates exceeding 1,200 kg/h, less than 5% shrinkage of the final product and customized line configurations perfectly complete the overall picture.



### Transmission coefficient (glass, EVA sheet)

- The completely transparent EVA sheet features an average transmission coefficient of > 99% over a spectral range of 420 to 1,100  $\mu\text{m}$ .
- EVA sheet UV absorption occurs at values below 420  $\mu\text{m}$ .
- At about 365  $\mu\text{m}$ , the EVA sheet features a transmission coefficient of 50%.





Shrinkage test parameters:

1. Sample prior to the shrinkage test
2. 5 min. at 160°C in a talc bed on glass pane in the oven
3. 1 min. freely floating in a water bath at 85°C

## Test results: Optimum sheet properties

### Production tests, checks and results:

Using an identical production recipe, no difference in terms of processing properties or final product quality could be revealed with compounds of 100% virgin material, compounds composed of 80% virgin material and 20% recycled sheet material or 100% three-times recycled material

### Shrinkage tests according to internationally approved test methods resulted:

- in shrinkage values ranging between 2% to max. 5%
- Transmission coefficient > 99% in a light wave spectrum of 420 to 1100  $\mu\text{m}$ .
- Gel concentration > 92.5% (Soxhlet method)
- Perfect optical grading



## Let's joint forces! Future process task testing, optimizing processes – technical center for sheet extrusion lines

Benefit from our well-equipped technical center in Hannover and use the ZE 60 UTX twin-screw extruder for in-line compounding, the PlanetCalendar and appropriate downstream equipment to perform your individual tests.



Sheet, sheets and coatings with a width of up to 1,100 mm can be produced here. KraussMaffei Berstorff will help you optimize your process well before your new production line is actually designed and built. Take this unique opportunity to determine the perfect design and configuration of all line components. With the assistance of our qualified personnel, you can test and optimize any process step, any screw geometry, any barrel configuration and any sheet or sheet extrusion process under real production conditions using your own material.

# KraussMaffei Berstorff Worldwide premium partner

KraussMaffei Berstorff –  
your expert partner for advanced  
extrusion solutions.  
Engaged, reliable, proven value.  
Engineering Value.

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