



Range of applications **PSA (solvent-free)**



THE CHALLENGE.

PSA stands for pressure-sensitive adhesives that form a permanent bond with the application of even slight pressure.

The challenge in continuous direct extrusion of PSA adhesives lies in formulation-based mixing of various materials with different chemical and physical properties or thermal and mechanical load limits.

THE SOLUTION: the ENTEX Planetary Roller Extruder.

Key factors for your success in the production and processing of PSA adhesives: the targeted meltability of different formulation components, the precise control of reactions, an extruded material of equal homogeneity and viscosity, effective cooling of the adhesive mass and high

degassing quality to optimise subsequent processing.

Thanks to its individually configurable modular construction, the Planetary Roller Extruder can also handle the complex compounding processes required for pressure-sensitive adhesives.



Typical areas of application

- Adhesive tapes and films, sealing tapes
- Retaining adhesives for composite materials
- Assembly adhesives
- Self-adhesive equipment
- Labels and price tags
- Book-binding adhesives



PSA (solvent-free)

Benefits of producing and compounding.

Targeted melting of various formulation components

efficient

It is efficient: materials with different temperature dependencies can be precisely dosed into defined and narrow temperature zones of the Planetary Roller Extruder. In this

way, for example, even demanding materials can be melted without flocculation or adhesion, something that requires a considerable period of time with other systems.

Precise control of reactions

With the Planetary Roller Extruder's individually controlled process zones, it is possible to allow chemicals to react under pressure or to intentionally trigger, control and interrupt reactions in individual process zones. Depending on the process

requirements, a chemical reaction can also extend over several process rooms and undergo different pressure and temperature conditions, which specifically influence the course of the reaction.

Extremely short compounding times of just a few minutes

The heating, cooling and melting of solid materials and admixture of liquids is performed over a relatively short distance with efficient heat exchange through large heat transfer surfaces. In conjunction with a

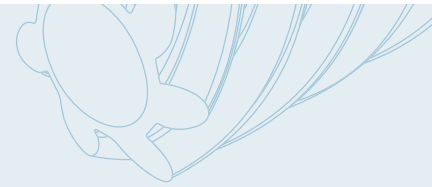
special mixing chamber design and targeted control of the dwell times in the individual process zones, it is possible to achieve outstanding extrusion results with a short throughput time.



HIGH THROUGHPUT



IMPROVED PRODUCT QUALITY



Stable homogeneity and viscosity of the extruded material

The outstanding mixing and effective tempering in the PRE ensure that the homogeneity and viscosity of the extruded material remain constant.

In this way it is possible to maintain the consistent high quality of the product.

Effective cooling of the adhesive mass

the key

Effectively cooling the adhesive mass to the required target temperature/viscosity during the compounding process makes it possible

to continue processing the material directly without the use of static cooling units.

Solvent-free mastication and homogenisation

impressive

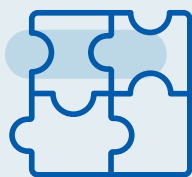
Solvent-free mastication and homogenisation of rubber, resin or filler masses make subsequent processing of the product

easier while delivering better and more consistent quality. They also reduce costs and health risks.

High degassing quality optimises subsequent processing

The combination of extremely efficient degassing of <1 mbar in combination with large energy exchange surfaces allows

the outstanding evacuation of volatile components such as vapours, degradation products and odours.



SIMPLIFIED PROCESS CHANGES



A SECURE INVESTMENT

Precision extrusion

A system concept that delivers.

This system's combination of a targeted, process-oriented feed of various fluids and solid materials in defined process zones with mechanical configurability and efficient

tempering allows to conduct gentle, low-shear processing to produce extrudates with outstanding homogeneity. Every single step in the process can be controlled individually.



PRE-M4

Pressure-sensitive adhesive compounding process.

