



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



THE CHALLENGE.

Hotmelt adhesives are thermoplastic adhesives that solidify at room temperature and which are based on various chemical raw materials.

With reactive processes, the challenge lies in combining various substances with different chemical and physical properties (or thermal and mechanical stress limits) according to a specific formulation.

THE SOLUTION: the ENTEX Planetary Roller Extruder.

Decisive factors for your success in the production and processing of hotmelt adhesives:

the targeted meltability of different formulation components, extremely short compounding times of just a few minutes, an extruded material of constant homogeneity, a low-shear and material-friendly compounding process, and effective cooling over a short distance. The reliable compounding and reaction technology offered by the ENTEX Planetary

Roller Extruder (PRE) is ideally suited for compounding various hotmelt adhesives. Thanks to the flexible configurable modular extruder system, it is also possible to implement reactive compounding and homogenisation processes for adhesives.



Typical areas of application

- Bonding packaging and boxes
- Binding processes in the printing and media industries
- Bonding building materials
- Adhesive bonds in the automotive industry
- Bonding components in furniture manufacturing
- DIY and arts and crafts



HOTMELT (solvent free)

Benefits of producing and compounding.

Targeted melting of various formulation components

efficient

Substances with different properties can be deliberately conveyed into defined temperature zones. In this way, for example, wax can be melted without flocculation

or adhesion, something that requires a considerable period of time with other systems.

Stable homogeneity of the extruded material

The outstanding mixing and effective tempering in the Planetary Roller Extruder 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.

A low-shear and material-friendly compounding process

the key

The key is that the adhesive is only subjected to a low mechanical stress thanks to the low-shear and material-friendly compounding process. The targeted, process-orientated energy input in well-coordinated temperature

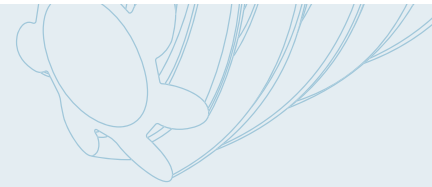
control zones without hotspots prevents temperature peaks and selective overheating of the material.



HIGH THROUGHPUT



IMPROVED PRODUCT QUALITY



Extremely short compounding times of just a few minutes

The throughput times in the Planetary Roller Extruder are comparatively short. The result:

the material is only subjected to mechanical and thermal stress for a brief period.

Dispensing with discontinuous intermediate process steps

cost-effective

Compounding in a continuous process in only one heat offers economic benefits compared to discontinuous production processes.

Energy costs are lower on account of the reduced number of heating and cooling steps.

Effective cooling over a short distance

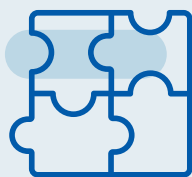
Effectively cooling the extrudate to the required target temperature/viscosity during the compounding process makes it possible

to continue processing the material directly without any additional tempering processes.

Eliminating batch fluctuations

Batch fluctuations – something that can occur with the discontinuous compounding of adhesives – are eliminated by the continuous

processes made possible by the Planetary Roller Extruder. The result: significantly more consistent product quality.



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.

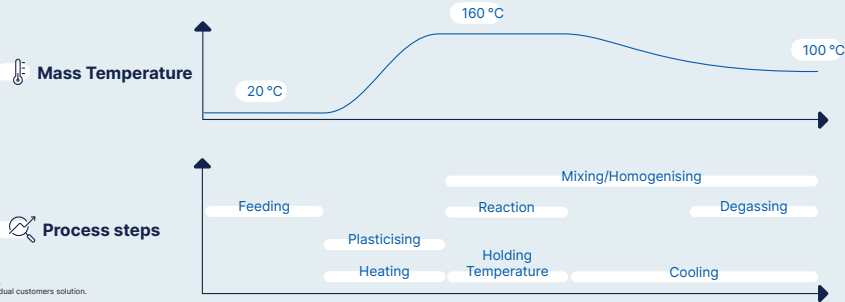
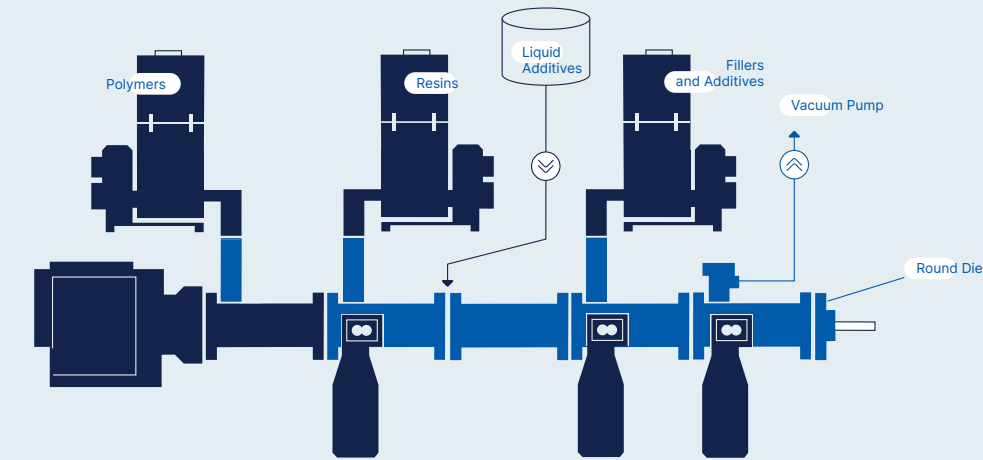


PRE-M4

The hotmelt adhesive compounding process.

PRE-M4

Hotmelt Compounding



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Displayed process scheme may differ from the final and individual customers solution.

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ENTEX Rust & Mitschke GmbH
Heinrichstraße 67 a | 44805 Bochum | Germany
Phone +49 (0) 234 891 22 0

info@entex.de
www.entex.de