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PRODUCTION OF ADHESIVES ON THE PLANETARY ROLLER EXTRUDER - A CONTEMPLATION OF RESOURCE EFFICIENCY

The Planetary Roller Extruder (PRE) is a system which can process various types and recipes of adhesives continuously. From elastomer-based PSA recipes to polymer-based hotmelts and even urethane or epoxide systems: the universal applicability of the PRE is well known today.

Unfortunately, technical feasibility alone is not the key for success, more a prerequisite. It is not uncommon that promising products fail due to disproportionate invests or manufacturing costs. In order to exploit the limits of what is feasible, we always focus on how the available resources can be used efficiently. From the implementation of online analytics in order to detect process deviations and off-spec material as early as possible over methods for quick changes in recipes to the optimization of the temperature control system: The less is wasted during production, the more profit can be gained with the product.

The latter mentioned temperature control system is of central importance for the PWE, not only considering process engineering, but also under economic aspects. The ability not only to put in, but also to withdraw heat effectively from a continuous process is a unique characteristic of the PRE compared to other extrusion systems, which is often the key for the feasibility of processes.

Due to the recent development of a tailored temperature control system for the PRE, the user can now choose alternative sources of energy besides electricity to supply heat to a production line. This enables to use the locally most cost-effective sources available which can have a viable impact on the necessary overall electrical supply of the plant and its ROI calculation.