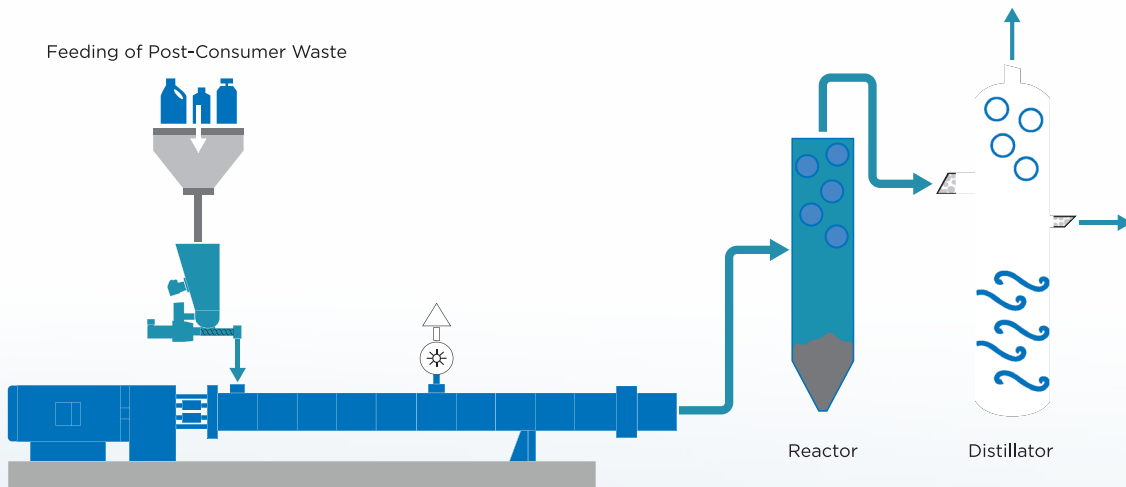
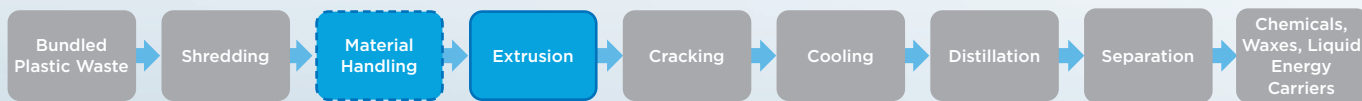


**ZSK twin screw extruders.**  
**For energy-efficient chemical recycling of mixed plastic waste.**



ZSK Twin Screw Extruder – Dispersion, Degassing, Introduction of Energy



Plastic waste, especially packaging waste, is generally a mixture of materials with a high degree of contamination. Chemical recycling is a promising process to recycle these material streams into chemicals, waxes or liquid energy carriers.

Coperion's first-class technologies are especially beneficial for an energy-efficient chemical recycling process. ZSK twin screw extruders transfer a great deal of mechanical energy into the material in a very short time. Melt temperatures of up to 350°C are achieved within 30 sec. This highly energy-efficient process step leads to more efficiency throughout the entire pyrolysis process.

## BENEFITS OF ZSK TWIN SCREW EXTRUDERS

- + Quick dissipation with less energy consumption compared to processing with single screw extruders, as the energy is mainly transferred from the extruder main engine into the melt, not by external heating
- + High-accuracy feeding of additives (e.g. catalysts) and perfect homogenization due to the great mixing performance of the ZSK
- + Continuous surface renewal, intensive dispersion and shearing along the process section
- + Efficient devolatilization of the melt, especially when residual water or chlorides from PVC are present
- + Ability to handle up to 20t/h using one ZSK extruder



## » ZSK Extruder for Chemical Plastic Recycling at Ghent University

Coperion has installed a ZSK laboratory extrusion system at Ghent University in Belgium for comprehensive research and development tasks in chemical recycling of mixed plastic waste. The ZSK 18 MEGAlab is part of a whole setup for chemical recycling. It is coupled to a vortex reactor; thus the molten plastic will flow directly into the reactor. Various technologies for the conversion of plastic waste to chemicals are applied such as catalytic pyrolysis and thermo-chemical processing (cracking).

The ZSK twin screw extruder and the whole setup are available to Coperion customers for tests. Please contact us if you are interested.

### **Your contact:**

Sabine Schönfeld  
Business Development Manager Recycling  
Tel: +49 (0) 711 897-3175  
sabine.schoenfeld@coperion.com

Coperion GmbH  
Theodorstraße 10  
70469 Stuttgart, Germany  
www.coperion.com