COPERION

Foundation
- 1879

Employees
- 2,500 worldwide

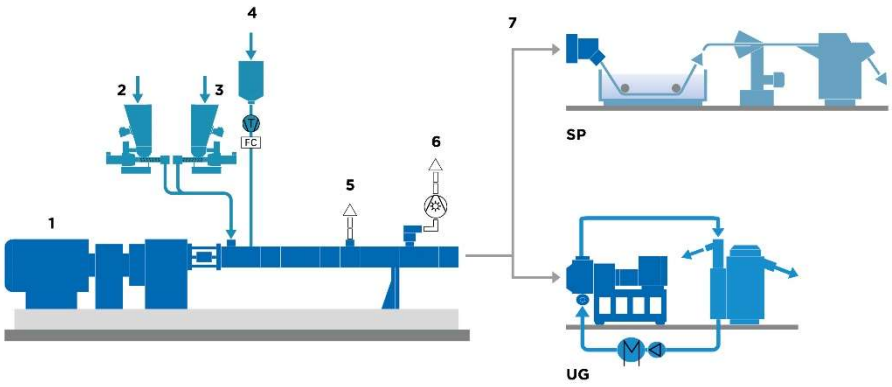
Branches
- 30 locations worldwide

Key products
- Compounding & Extrusion
- Feeding & Weighing
- Bulk Material Handling

Individual Solutions for Compounding of Bio Plastics

Processing of biodegradable products
Processing of biodegradable products makes very high demands on the compounding process because of the variety of possible base polymers and the great differences in the formulation mixtures. Every process step in a biodegradable products processing plant must be adapted exactly to the desired mechanical properties of the end product.

Coperion has built up a comprehensive know-how for the processing of biodegradable products with numerous implemented plants. The twin screw extruders are the heart of the processing plants for biodegradable products. The modular structure of the process section enables individual configuration to every application so that optimal product qualities are achieved. Apart from the extruder, Coperion also provides the entire plant periphery from the raw material feeding to pelletizing and drying of the pellets. Alternatively, it is possible to produce biodegradable products by direct extrusion.



1 ZSK twin screw extruder
2 Gravimentric feeder for starch (e.g. corn, potato, tapioca)
3 Gravimetric feeder for biopolymer
4 Plasticizer
5 Atmospheric devolatilization
6 Vacuum devolatilization
7 Discharge parts, SP strand pelletizer with water bath or UG underwater peletizer

Typical plant structure for the production of biodegradable products.

Typical processes with biodegradable polymers using ZSK Mc^{18}
- Compounding of starch blends
- Cooking extrusion of thermoplastic starch (TPS)
- Blending of biopolymers (e.g. PBAT, PLA, PBS, PHA, PCL, CA, PVOH)
- Filling of biopolymers with e.g. $CaCO_3$, Talcum, Fibers



Twin Screw Extruder ZSK Mc^{18} with specific torque of 18 Nm/cm^3

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Contact

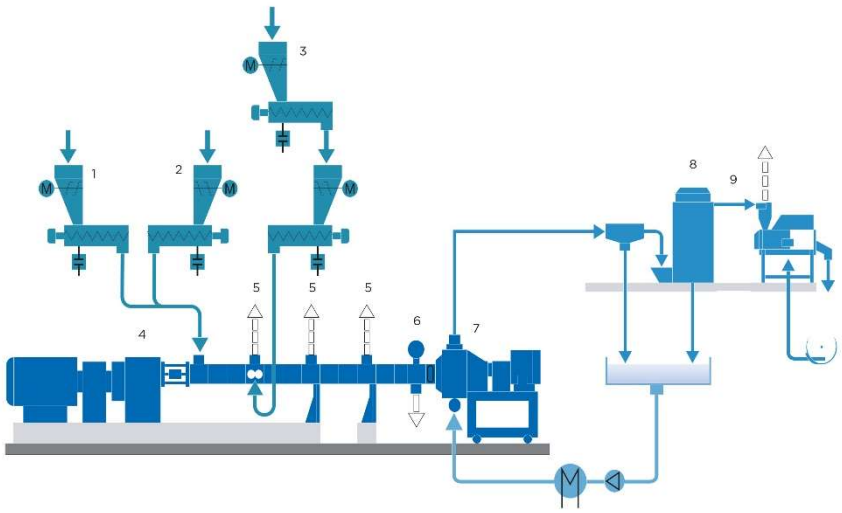
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Processing of WPC Wood Plastic Composites
The Coperion twin screw extruders have proven themselves successfully on the market for the production of WPC Wood Plastic Composites for many years. As a long-standing partner to the wood fiber industry, Coperion is well known for its extensive process and system know-how with every process step of the compounding plants adapted individually to the application: from filling and reinforcement to devolatilization. Coperion implements solutions for the production of WPC Wood Plastic Composites which are custom designed for your individual application – from the laboratory twin screw extruder to the industrial production plant in modular design.



1 Polymer | 2 Additive | 3 Wood fiber | 4 Twin screw extruder ZSK | 5 Degassing | 6 Start-up valve | 7 Pelletizing unit | 8 Dewatering | 9 Pellet drying

Typical plant structure for the production of WPC

Typical applications for the processing of Wood Plastic Composites

- Filling and reinforcement with 40 – 70% wood
- Filling and reinforcement with natural fibers such as flax, hemp, cellulose
- Compounding for injection molding applications
- Inline extrusion of WPC profiles

Legend

About Coperion
Coperion is the international market and technology leader in compounding systems, feeding technology, bulk materials handling systems and services. Coperion designs, develops, manufactures and maintains systems, machines and components for the plastics, chemicals, pharmaceuticals, food and minerals industries. Coperion has 2,500 employees and nearly 30 sales and service companies worldwide.