COPERION GMBH

Compounding systems installed worldwide
- 10,000

Bulk materials handling systems installed worldwide
- 8,000

Employees worldwide
- 1,700

Network of locations worldwide
- 29

Key products/services
- Twin screw extruders
- Processing of bio-based and biodegradable products
- Processing of WPC wood plastic composites

coperion
confidence through partnership

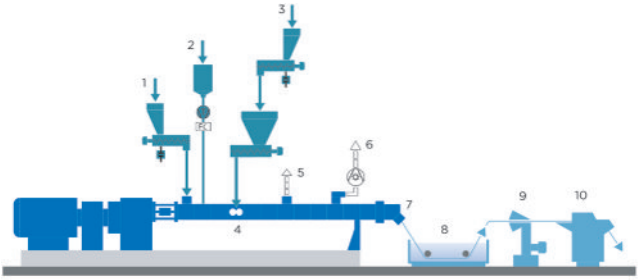
Integrated system solutions – unique process engineering know-how – global presence: In Coperion, formerly Werner & Pfleiderer, you have a partner on hand to provide the optimum solution to every compounding task. This ranges from special applications on laboratory scale to industrial-scale production extruders. As pioneers in the development of the closely intermeshing, co-rotating twin screw extruder, we have unique expertise and experience in this field. Since the 1950s, Coperion has continued to set new standards in processing machinery and plant design for compounding technology. We plan and implement compounding systems for the plastics, chemicals and food industries which are designed precisely to our customers' applications. Over 10,000 compounding systems delivered all over the world are proof of our unique system and process competence.

Twin screw extruder ZSK Mc^{18} with specific torque of 18 Nm/cm^3

Compounding plant for the production of WPC wood plastic composites

Processing of biobased and biodegradable products: Processing of biobased and 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 processing plant must be adapted exactly to the desired mechanical properties of the end product.

We have built up a comprehensive know-how for the processing of biobased and biodegradable products. Our specialists benefit from our years of experience in the fields of cooking extrusion and plastic compounding which we gathered under our former name Werner & Pfleiderer.



1 Starch / powder premix I 2 Plasticizer / liquid additives I 3 Polymer pellets I 4 Twin screw side-feeder ZS-B I 5 Atmospheric degassing I 6 Vacuum degassing I 7 Die head I 8 Water bath I 9 Airknife I 10 Strand pelletizer

Typical plant structure for the production of biobased and biodegradable products

Free access to online database with detailed index: www.bio-based.eu/iBIB

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Our twin screw extruders are the heart of the processing plants. The modular structure of the process section enables individual configuration to every application so that optimal product qualities are achieved. Apart from the extruder, we also provide the entire plant periphery from the raw material feeding to pelletizing and drying of the pellets. Alternatively, it is possible to produce biobased and biodegradable products by direct extrusion.

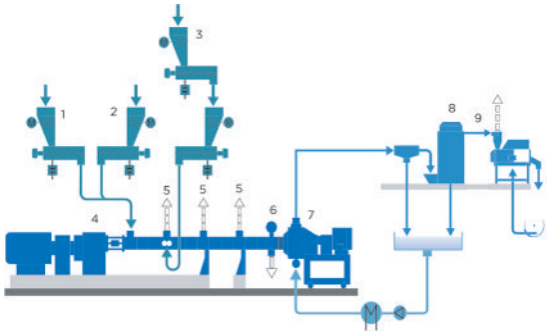
Typical applications for the processing of biodegradable products

- Starch-based loose fill
- Thermoplastic starch
- Polylactide (PLA), PVOH, synthetic copolyester, PBS, PHA, PCL, CA
- Compounds of immiscible polymers / biomaterials
- Pelletizing of PLA, polymerization of PLA

Processing of WPC wood plastic composites: Our 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.

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
- Profile extrusion with WPC profiles



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

Typical plant structure for the production of WPC

Contact

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