

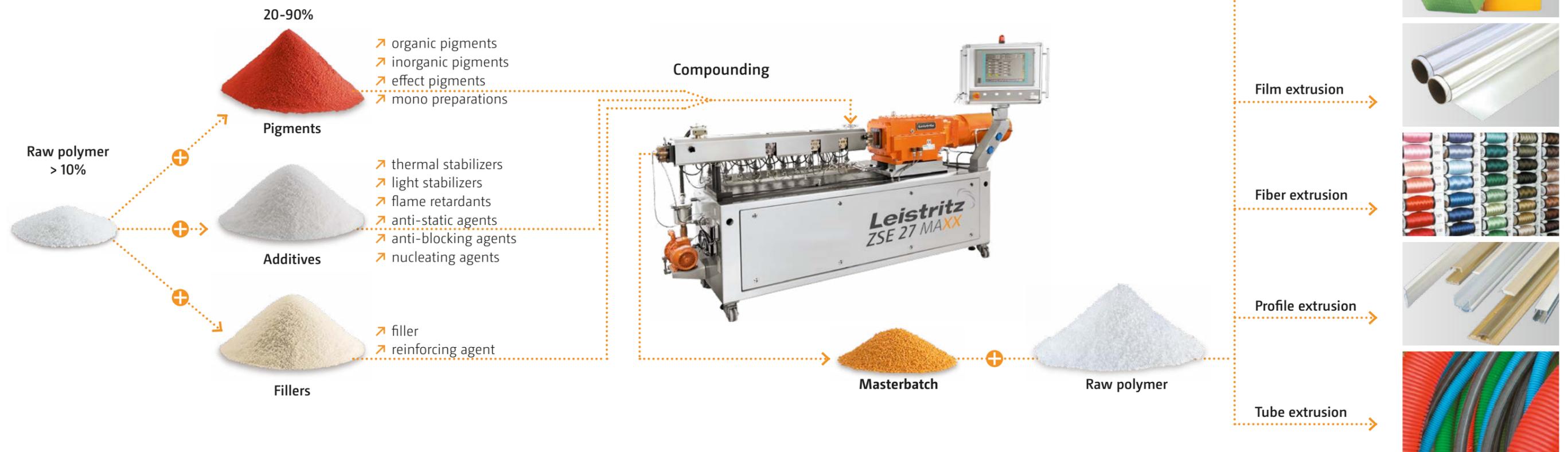
# MASTERBATCH – THE GRAIN MAKES THE DIFFERENCE

## Small, but with a major impact

Plastic pellets with a high share of pigments and/or additives that is much greater than in the final application are called masterbatches. In later process steps such as injection molding, film or fiber production, these are added to the raw polymer to color this or to specifically change other properties.

Compared to pastes, powders or liquid additives, the use of a masterbatch improves the process reliability on

account of the precisely defined share of pigments in individual pellets. A further advantage is that the masterbatch is very easy to process because it does away with the handling of large amounts of powder. It's use is also beneficial from the point of view of environmental impacts and workplace pollution.



ONE GENERALLY DISTINGUISHES BETWEEN THREE MB GROUPS:

- **Color Masterbatch**  
→ is used to color plastic products
- **Additive Masterbatch**  
→ ensures certain chemical and physical properties of the final products (e.g. UV-stabilization, flame-retardant, anti-static)
- **Filler Masterbatch**  
→ contains a high share of fillers such as CaCO<sub>3</sub>

### Important: the correct dispersion

The goal when manufacturing masterbatches is the optimum dispersion and distribution of the additives in the polymer matrix. This is carried out after wetting by the mechanical energy introduced by the screws. If this takes place too early in the process, the un-moistened pigments can be compressed back into agglomerates by the force exerted on them (cold agglomeration). Two processes can be used to produce a masterbatch: premix\* and split-feed\*\*.

\*see P. 8/9    \*\* see P. 10/11

