

PLASTICS WITH HIGH MINERAL FILLERS

The high filling technology of mineral fillers is used to obtain specific properties of plastics and to reduce their manufacturing costs.

BASE POLYMERS	MINERAL FILLERS
<ul style="list-style-type: none">• PS• PP• PE• PET	<ul style="list-style-type: none">• CaCO₃• Talc• BaSO₄• Kaolin• Mica• wollastonite• Soot• Metal powders

Due to the presence of fillers, the composite material may have changed properties compared to the original polymer:

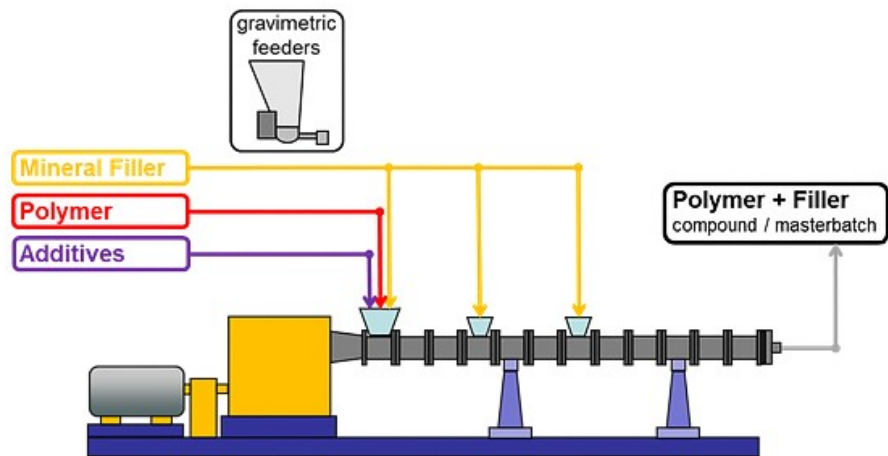
- improved mechanical properties (stiffness, impact resistance, ...)
- improved physical properties (thermal, electrical, ...)
- increased dimensional stability
- changed aesthetic properties
- reduced price.

The properties of the composite depend essentially on the following properties of the mineral filler particles:

- shape (and particle size ratios),
- particle size distribution,
- expanding the surface,
- surface properties (compatibility with polymer),
- chemical properties,
- physical properties (density, hardness, ...),
- thermal properties (specific heat, thermal conductivity, thermal expansion, ...),
- electrical properties (dielectric rigidity, resistance, ...),

Properly carried out the process of massaging plays a key role in achieving the expected properties of the composite. It is important to achieve the expected degree of filling and at the same time to properly distribute the filler without losing the polymer's properties.

Scheme of the process of the compression of plastics with mineral fillers



The technology of combination of plastics with mineral fillers is one of the specialties of MARIS. Many years of experience has allowed to develop and optimize the production technology of plastics with a very high degree of filling reaching eg 80% for PP or PE with CaCO₃ or talc. MARIS offers not only the supply of a proper complete installation, but also the development of a complete technology for specific recipes, which guarantees the achievement of the highest quality plastics filled with mineral fillers.

To check the quality of compounds with mineral fillers and the efficiency of their production, it is possible to carry out tests at the MARIS Technology Center before making the investment. Thanks to this, the purchase of machines is not burdened with any technological risk and the buyer has the guarantee that his product will have a quality consistent with that obtained during the trials before the purchase of the machine.