

Re-processing

Ground-up waste material consisting of sprues, rejects and the like can be recovered by mixing it back in. However, they must not be dirty or damaged during the preceding processing. Factors that can influence the material decomposition are:

- severe shearing
(high screw speeds, gates that are too small, etc.)
- temperature too high or residence time too long
- incompatible pigments used in self-coloring
- foreign matter or other impurities
- moisture.

The grinding procedure can also damage the plastic. Mills running at a low speed have proven their worth for the grinding operation; any adhering dust should be removed. Prior to the re-processing, it is recommended to dry any ground-up material that has been stored for a prolonged period of time. In actual practice, 10 to 15 percent, occasionally even up to 30 percent of ground-up material, is admixed.

In the case of fiberglass-reinforced products, the glass fibers can be shortened during the processing and also during the grinding. If large quantities of such a type of ground-up material are admixed to the new material, then the shrinkage, the warpage and especially the mechanical properties can be affected.

The addition of ground material to the original granules can adversely affect the normal feed behavior. For that reason it should only be added to a production run if it is certain that it will not disturb the processing conditions or impair the properties (e. g. impact strength) of the finished parts.

Compatibility with other thermoplastics

The Ultraform® grades can be mixed with one another and with other polyoxymethylenes. Due to the limited homogenizing action of the processing machine, excessively large differences in viscosity must be avoided. Ultraform® is immiscible with most other thermoplastics. Even small amounts of such extraneous materials become evident in the form of a laminate structure, particularly in the vicinity of the sprue. The result is the well known flaky pastry effect.

Contamination of Ultraform® by thermoplastics exercising a destructive effect on POM, e. g. PVC, must be avoided without fail. Mixtures with thermoplastics containing halogen-based flame retardants must also be excluded. Even small amounts can bring about uncontrolled and rapid decomposition of Ultraform® during processing.

When ground material is added, it is therefore important to take special care that the material is clean, free of dust and homogeneous.

When changing over to other thermoplastics or from other thermoplastics to Ultraform®, it is advisable to purge the barrel with a granular PE or PP material or suitable cleaning compounds.

In general, once the required temperatures have been set, production can be resumed, the first few moldings being rejected. When changing over from PVC to Ultraform® and vice versa it is essential to purge the processing machine thoroughly and then clean it mechanically.



Toy dragon