

# Material Flowability

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Often, extrusion problems begin before the material even enters the extruder. Therefore, the flowability of the material and the bulk density can be directly related to the performance of the extruder. A simple test is to build an apparatus that consists of a standard two quart funnel, a stand to hold and support the funnel, a rubber stopper, and a stop watch. In using this apparatus, the stopper is placed in the bottom of the funnel. The funnel is filled and the material is then leveled to the top of the funnel. Then, at the same time, the stopper is pulled and the stop watch is started. After the material finally exits the funnel, the time is measured.

A standard can be established by first testing a common pelleted resin, such as LDPE. If blends of virgin/regrind or 100% regrind have a dramatic difference than the standard, then the size of the granulated material may want to be evaluated. This is an ASTM test (#) that is commonly used by companies who process PVC dry-blend compounds. The apparatus may have to be modified for mixtures with high percentages recycle in pellets. If this simple test is done periodically, many processing problems can be addressed prior to experiencing them on the production floor.

- Tim Womer, Spirex Corp.

See also:

- [Answers - preheating feedstocks for extrusion](#)
- [The importance of periodic audits of extrusion performance](#)
- [Lost output](#)

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