# Estimating flow rate of a continuous sheet line


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The flow rate for an extruder in a continuous process can be easily approximated with some fundamental measurements. Line speed, thickness, width, and density can be combined to give rate as the "rule of 26" by rate (lbni/ hr) = 26 x (line speed, fpm)(thick, in)(width, in)(specific gravity).

For example, a line speed of 100 fpm at a width of 12 inches and a thickness of .004 inch with a specific gravity of 1.25 would have a rate of:

RATE, lbm/hr = 26x(100)(.004)(12)(l .25)

RATE = 1.56 lbm/hr.

In metric units the equation becomes RATE, kg/hr = 0.06 x (line speed, m/min)(thickness,mm)(width,mm)(specific gravity).

For example, a line speed of 30 m/min at a width of 300 mm and a thickness of 0.1 mm with a specific gravity of 1.25 would have a rate of:

RATE, lbm/hr = .06 x(30)(.1)(300)(l.25)

RATE = lbm/hr. 67.5 kg/hr.

It is wise to carry a stop watch, micrometer, and tape measure to check the various dimensions and speed for the most reliable results.

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See also:

- Designing high performance screws
- Maximum rate of an extruder
- Rheometers versus melt index for polymer analysis
- Technical developments
- Using shape factors for extrusion die design

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