



Navigation



Extrusion 1-0-Wiki Pages

- [Main Page](#)
- [Best Papers](#)
- [Book Reviews](#)
- [Consultants Corner](#)
- [Extruder Software](#)
- [Extrusion Hints](#)
- [Safety](#)
- [Shop Tools](#)
- [Sponsors](#)
- [Technical Articles](#)

Search the Wiki

  »

Viewing/Creating

- [Random Page](#)
- [Create a new Page](#)
- [All Pages](#)
- [Categories](#)

Account Management

- [Login/Logout](#)
- [Language Selection](#)
- [Your Profile](#)
- [Create Account](#)

Administration

- [Administration](#)
- [File Management](#)

Brought to you by:

The SPE Extrusion Division
Board of Directors



Tips for Side Stuffing of High Levels of Fillers into a Twin Screw Extruder

Modified on Thursday, 26 February 2015 04:37 PM by [mpieler](#) Categorized as [Extrusion Hints](#) 

[\(10\)](#) » [Troubleshooting Tools](#) » [Problem Solving](#) » [Tips for Side Stuffing of High Levels of Fillers into a Twin Screw Extruder](#)

Tips for side stuffing of high levels of fillers into a twin screw extruder
Vol. 34 #1, Winter 2008

Processors often desire high % loadings of low bulk density (fluffy) materials in a polymer compound. Side stuffing of fillers into downstream barrel sections is a common practice to achieve maximum filler levels, and to decrease screws/barrel wear associated with melting. The ultimate % which is attainable is usually limited by two parameters:


- Volumetric capacities of the side stuffer and main extruder screws
- Venting capacity to allow air/volatiles to escape the extruder

The volumetric capacity is based on the free volume geometry of the side stuffer screws and main extruder screws, and of course the RPM of each. When the stuffer is attached to the extruder, capacity is often limited by the amount of material the extruder screws can accept. Higher free volume translates into a higher fill capability.

For the twin screw extruder, it is best to have flighted elements with a long pitch at the stuffer location, extending 2 to 4 L/D downstream of the stuffer. This keeps the melted material in the extruder moving forward and allows the maximum free volume for the filler to enter. A relief vent is beneficial when situated slightly upstream from the side stuffer to allow entrapped air and flashing volatiles to exhaust without causing a back-up in the side stuffer.

- Charlie Martin, Leistritz

Return to [Extrusion Hints](#)

Some of the icons were created by [FamFamFam](#) .