Plastic Extrusion Tolerance Guide

Please keep in mind that (1) general tolerances vary by material extruded, and (2) specialized tooling can hold tighter tolerances than those listed below. It is critical to take great care to determine required working tolerances before purchasing potentially unnecessary tooling. Holding all dimensions to extremely tight tolerances can be prohibitively expensive. In practice, we usually find that only a few critical dimensions (such as mating areas with other parts) actually affect part function and must be controlled critically during the extrusion. Allowing tolerance relief in less critical areas will always improve overall extrusion quality and throughput. Lincoln Plastics maximizes tolerance controls through (1) vacuum sizing, (2) streamlines die design, and (3) strict quality controls.

Although this information is intended to be accurate, it is provided without a warranty of any kind.
No representation as to accuracy, usability, or results should be inferred.
All recommendations or suggestions contained in this document must be evaluated by you to determine the applicability or suitability of your plant operation.

Dimension Type	Rigid PVC	ABS	Polystyrene	Polyethylene	Polypropylene	Polycarbonate	ASA	Acrylic
Other Dimensions by Size								
Up to 0.125”	+/-0.007”	+/-0.010”	+/-0.007”	+/-0.010”	+/-0.010”	+/-0.010”	+/-0.010”	+/-0.010”
0.125” to .500”	+/-0.010”	+/-0.020”	+/-0.012”	+/-0.025”	+/-0.015”	+/-0.020”	+/-0.022”	+/-0.020”
0.500” to 1.00”	+/-0.015”	+/-0.025”	+/-0.017”	+/-0.030”	+/-0.020”	+/-0.025”	+/-0.027”	+/-0.025”
1.00” to 1.50”	+/-0.020”	+/-0.027”	+/-0.025”	+/-0.035”	+/-0.027”	+/-0.027”	+/-0.030”	+/-0.027”
1.50” to 2.00”	+/-0.025”	+/-0.035”	+/-0.030”	+/-0.040”	+/-0.035”	+/-0.035”	+/-0.037”	+/-0.035”
2.00” to 3.00”	+/-0.030”	+/-0.037”	+/-0.035”	+/-0.045”	+/-0.037”	+/-0.037”	+/-0.040”	+/-0.037”
3.00” to 4.00”	+/-0.045”	+/-0.050”	+/-0.050”	+/-0.065”	+/-0.050”	+/-0.050”	+/-0.055”	+/-0.050”
4.00” to 5.00”	+/-0.060”	+/-0.065”	+/-0.065”	+/-0.093”	+/-0.065”	+/-0.065”	+/-0.075”	+/-0.065”
5.00” to 7.00”	+/-0.075”	+/-0.093”	+/-0.093”	+/-0.125”	+/-0.093”	+/-0.093”	+/-0.093”	+/-0.093”
Wall Thickness	+/-8%	+/-8%	+/-8%	+/-10%	+/-8%	+/-8%	+/-9%	+/-8%
Angles	+/-2 degrees	+/-3 degrees	+/-2 degrees	+/-5 degrees	+/-3 degrees	+/-3 degrees	+/-3 degrees	+/-3 degrees

Outside and inside corner radii cannot be controlled below 0.015R. Large radii improve material flow and eliminate breaking points.
Dimensions inside a hollow require considerably wider tolerances.

Radii Minimum

Wall Thickness Ranges for Radii Tolerances		
0.020” to 0.040”	0.040” to 0.078”	0.078” and Up
0.016R	0.032R	0.062R