Typical Shrink Rates for PVC

Shrinkage is dependent on a number of factors; however, the actual pressure within the cavity has a direct bearing on the final part dimension and shrinkage. The higher the cavity pressure, the tighter the molecular structure and the lower the shrinkage.

Of course, there are other variables involved which have a bearing on pressure within the cavity: melt temperature of the PVC, injection pressure, wall thickness, gate size and position on the part and durometer of the compound.

Shrinkage is also proportional to the flow length, being greatest parallel to the flow. For this reason, whenever possible gates would be located to accomplish equal flow lengths within the part. In general, for the purpose of cavity design, gates would be located to accomplish equal flow lengths within the part. In general, for the purpose of cavity design, the following chart lists the expected shrinkage by durometer.

HARDNESS	INCHES PER INCH	%
50 A DUROMETER	.025 - .030	2.5 – 3.0
60 A DUROMETER	.020 - .025	2.0 – 2.5
70 A DUROMETER	.018 - .020	1.8 – 2.0
80 A DUROMETER	.015 - .018	1.5 – 1.8
90 A DUROMETER	.010 - .015	1.0 – 1.5
C DUROMETER	.012	1.2
RIGID	.004 - .008	0.4 – 0.8

REMEMBER:

Thick parts shrink more than thin parts.

Other factors that influence shrinkage: mold temp, injection speed, melt temp

For more information, please feel free to contact us at 978-537-8071.