



Tonnage, Shrink & Depth Values per Resin

The table below shows tonnage requirement, shrink rates and vent depths suggested by material suppliers for assorted resins. Part design (wall thickness, uniformity, part stiffness and general shape) as well as material selection affect shrinkage and warpage. We work with our material suppliers to research and determine the actual values to be used.

Material	Tons per inch ²	Shrink Values	Vent Depth (inches)
ABS/Polycarbonate Blend (PC/ABS)	3.00 — 4.00	0.004 — 0.007	0.0015 — 0.003
Acetal (POM)	3.00 — 4.00	0.020 — 0.035	0.0005 — 0.002
Acrylic (PMMA)	3.00 — 4.00	0.002 — 0.010	0.0015 — 0.002
Acrylonitrile Butadiene Styrene (ABS)	2.50 — 3.50	0.004 — 0.008	0.0010 — 0.002
Ethylene Vinyl Acetate (EVA)	2.00 — 3.00	0.010 — 0.030	0.0005 — 0.001
High Density Polyethylene (HDPE)	2.50 — 3.50	0.015 — 0.030	0.0008 — 0.001
Ionomer	2.50 — 3.50	0.003 — 0.020	0.0005 — 0.001
Low Density Polyethylene (LDPE)	2.00 — 3.00	0.015 — 0.035	0.0005 — 0.001
Polyamide - Nylon (PA) Filled	4.00 — 5.00	0.005 — 0.010	0.0003 — 0.001
Polyamide - Nylon (PA) Unfilled	3.00 — 4.00	0.007 — 0.025	0.0005 — 0.002
Polybutylene Terephthalate (PBT)	3.00 — 4.00	0.008 — 0.010	0.0005 — 0.002
Polycarbonate (PC)	4.00 — 5.00	0.005 — 0.007	0.0010 — 0.003
Polyester	2.50 — 3.50	0.006 — 0.022	0.0005 — 0.001
Polyetheretherketone (PEEK)	4.00 — 5.00	0.010 — 0.020	0.0005 — 0.001
Polyetherimide (PEI)	3.00 — 4.00	0.005 — 0.007	0.0010 — 0.002
Polyethersulfone (PES)	3.00 — 4.00	0.002 — 0.007	0.0005 — 0.001
Polyethylene (PE)	2.50 — 3.50	0.015 — 0.035	0.0005 — 0.002
Polyphenylene Oxide (PPO)	3.00 — 4.00	0.005 — 0.007	0.0010 — 0.002
Polyphenylene Sulfide (PPS)	3.50 — 4.50	0.002 — 0.005	0.0005 — 0.001
Polyphthalamide (PPA)	3.50 — 4.50	0.005 — 0.007	0.0005 — 0.002
Polypropylene (PP)	2.50 — 3.50	0.010 — 0.030	0.0005 — 0.002
Polystyrene (PS)	2.00 — 2.50	0.002 — 0.008	0.0015 — 0.002
Polysulphone (PSU)	4.00 — 5.00	0.006 — 0.008	0.0010 — 0.002
Polyurethane (PUR)	2.50 — 3.50	0.010 — 0.020	0.0004 — 0.001
Polyvinyl Chloride (PVC)	2.50 — 3.50	0.002 — 0.030	0.0005 — 0.002
Thermoplastic Elastomer (TPE)	2.50 — 3.50	0.005 — 0.020	0.0008 — 0.001

When a part is being evaluated for clamp tonnage requirements, consider that a thin wall part would need a higher amount of tonnage, while a thick wall part will be in the lower range. Cycle time of the mold also affects tonnage.