



Expanded Polypropylene (EPP) Foam Typical Material Tolerances For Molded Product

Dimensions	Tolerance / Density				
Linear/Thickness Foam Dims.	16 to 24 g/l	25 to 32 g/l	33 to 50 g/l	51 to 80 g/l	81 g/l +
0 to 5 mm	± 0.75 mm	± 0.5 mm	± 0.5 mm	± 0.5 mm	± 0.5 mm
6 to 15 mm	± 1.25 mm	± 1.0 mm	± 1.0 mm	± 1.0 mm	± 1.0 mm
16 to 25 mm	± 1.75 mm	± 1.5 mm	± 1.5 mm	± 1.0 mm	± 1.0 mm
26 to 50 mm	± 2.25 mm	± 2.0 mm	± 2.0 mm	± 1.5 mm	± 1.5 mm
51 to 100 mm	± 2.5 mm	± 2.0 mm	± 2.0 mm	± 1.5 mm	± 1.5 mm
101 to 250 mm	± 3.0 mm	± 2.5 mm	± 2.5 mm	± 2.0 mm	± 2.0 mm
251 to 500 mm	± 4.0 mm	± 3.5 mm	± 3.0 mm	± 3.0 mm	± 2.5 mm
501 to 1000mm	± 6.0 mm	± 5.0 mm	± 4.5 mm	± 4.0 mm	± 3.5 mm
greater than 1000 mm	± 1.25%	± 1.1%	± 1.0%	± 0.75%	± 0.5%
Surface Profiles (GD&T)¹	7.0	6.0	5.0	4.0	3.0
Hole/Slot Dimensions (MMC)	16 to 24 g/l	25 to 32 g/l	33 to 50 g/l	51 to 80 g/l	81 g/l +
5 to 10 mm	± 1.25 mm	± 1.0 mm	± 0.5 mm	± 0.5 mm	± 0.5 mm
11 to 25 mm	± 1.25 mm	± 1.0 mm	± 1.0 mm	± 1.0 mm	± 1.0 mm
26 to 50 mm	± 2.0 mm	± 1.5 mm	± 1.0 mm	± 1.0 mm	± 1.0 mm

¹Note: per ASME Y14.5 (Geometric Dimensioning and Tolerancing). 16 g/l (or kg/m³) = 1.0 pcf

Molded EPP dimensional tolerances vary depending on part datum structure. The ability to achieve tighter tolerances with EPP parts is possible, and requires consideration of density, material grade, number of cavities, press/platen size, molding technique, datum locations, inspection fixture design, and inspection environment (temperature, etc.). Typical tolerances are shown in the table. These are general guidelines. In the case of tolerances on the density borderline (i.e. 33 g/l), defer to the MIN density based on the total tolerance (i.e. if part is 33 g/l ±10%, use 30 g/l as the density in the table). Consult JSP to discuss optimal EPP dimensional tolerances for each specific application.

