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### **Jammed packings of deformable and rigid 2D spherocylinders and spheropolygons**

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We study mechanically stable packings of deformable and rigid 2D spheropolygons using computer simulation. A 2D spheropolygon is a particle shape formed by the collection of all points within a perpendicular distance  $r$  from the edge of a polygon. It is a generalization of the 2D spherocylinder and a circle, which are the collection of all points within a distance  $r$  from a line and a point. In our model, the spheropolygon can be deformable. The lengths of the sides are fixed, but the angles are only constrained by the requirement that the shape factor,  $S = 4\pi A/p^2$  is fixed, where  $A$  is the area of the polygon and  $p$  is the perimeter. The particles can be made rigid by requiring that the shape factor is the maximum possible for the edge length ratios. For example, the maximum for a square is  $S = \pi/4$ . We present densities and average contact numbers for collections of mono- and bi-disperse packings of spheropolygons for a range of shape factors, edge numbers, and system sizes. We find mechanically stable packings with fewer than isostatic contacts.