

The proposed ideal resilient shell can be used in building, aviation, shipbuilding, or instrument-making industry. The shell is designed as a regular star-shaped pyramid and contains symmetrically arranged resilient panels with hinged joints, which form the upper hipped structure of the shell. To the sides of each panel, triangular side facets of the shell are adjacent. The projection of the facet on the horizontal plane is a triangle with interior angles of $\alpha < 90^\circ$, $90^\circ - \alpha$ and an exterior angle of $90^\circ + \alpha$. As a result, the facet can deform when it is displaced relative to the shell panel due to the decrease of the structure stiffness. The dimensions of the projection and the height of the shell are the basic independent parameters of the shell.