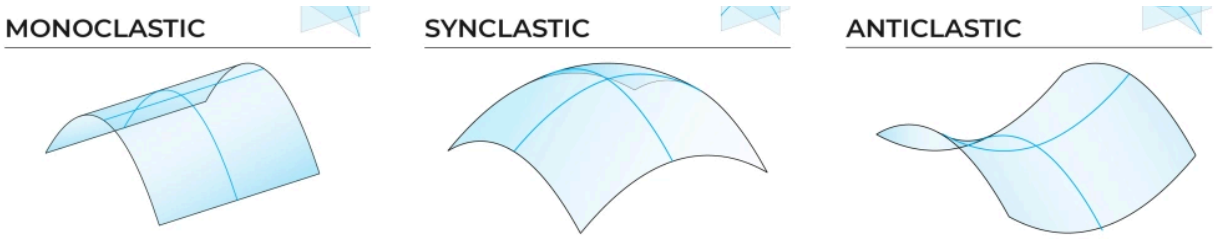
3D Gripper

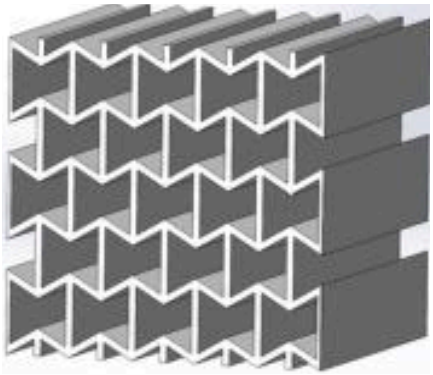
Objective

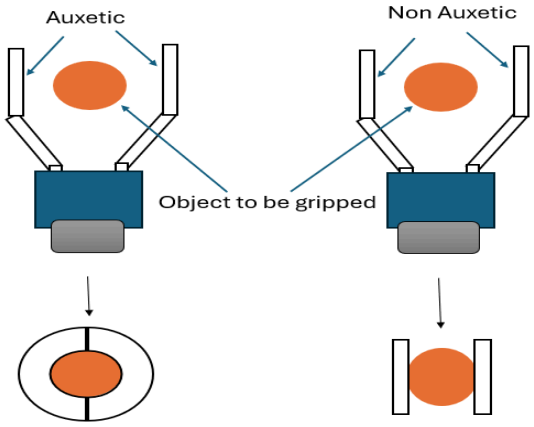
To improve the effectiveness between the gripper and the object with the help of synclastic structures and auxetic property by which the gripper can handle a wider variety of objects with greater precision and care.



Mechanism

The effectiveness of gripping applications is largely dependent on the contact area between the gripper and the object.In this mechanism, increasing the contact area is achieved through the unique properties of auxetic structures which increases the surface area that can make contact with an object. This expansion provides a more secure and stable grip, especially on irregularly shaped objects. With the help of synclastic properties,which curve inwards towards the same side in all directions,can conform to various shapes, enhancing the adaptability of the gripper to different objects.





Applications

These grippers can be used for handling diverse objects in industrial automation. For example, in robotics, grippers used in systems like the MoveMaster and Puma 360 can securely handle irregularly shaped components and improve efficiency.