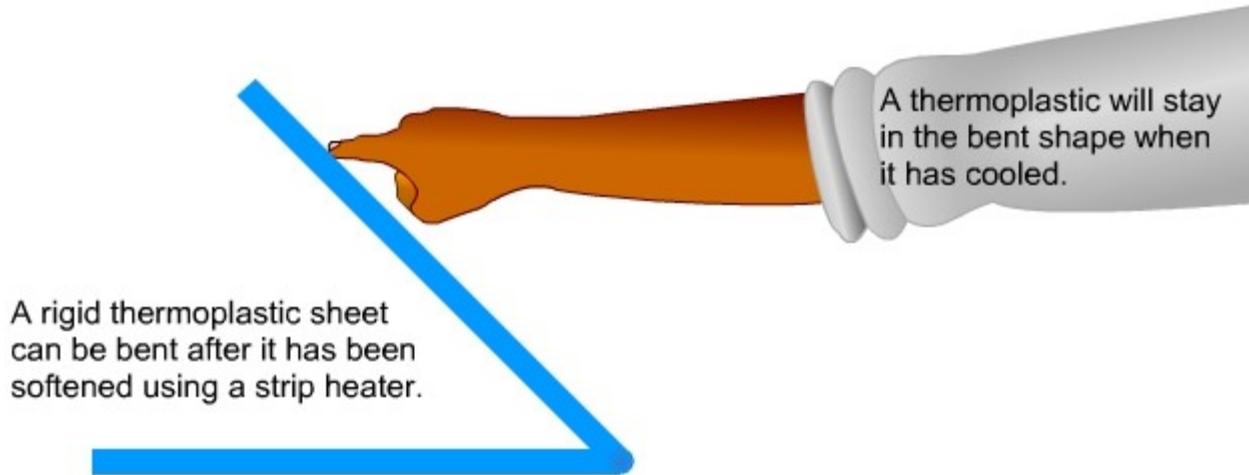


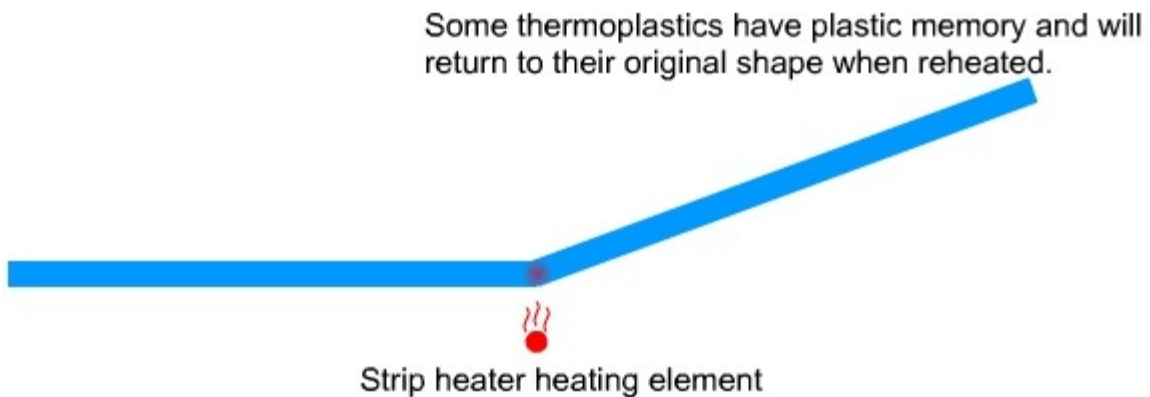
# Plastic Memory

A thermoplastic is a plastic that softens when it is heated. A heated and softened thermoplastic can be bent, twisted and stretched.

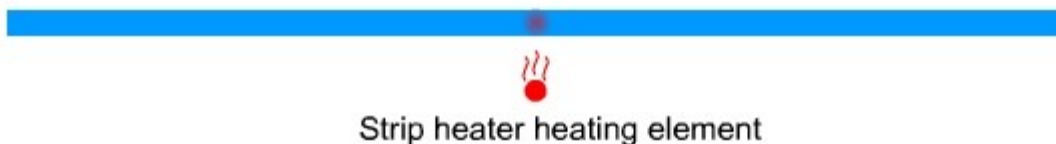
If the thermoplastic is held in its bent, twisted or stretched form until it is cool, it will stay in that form.



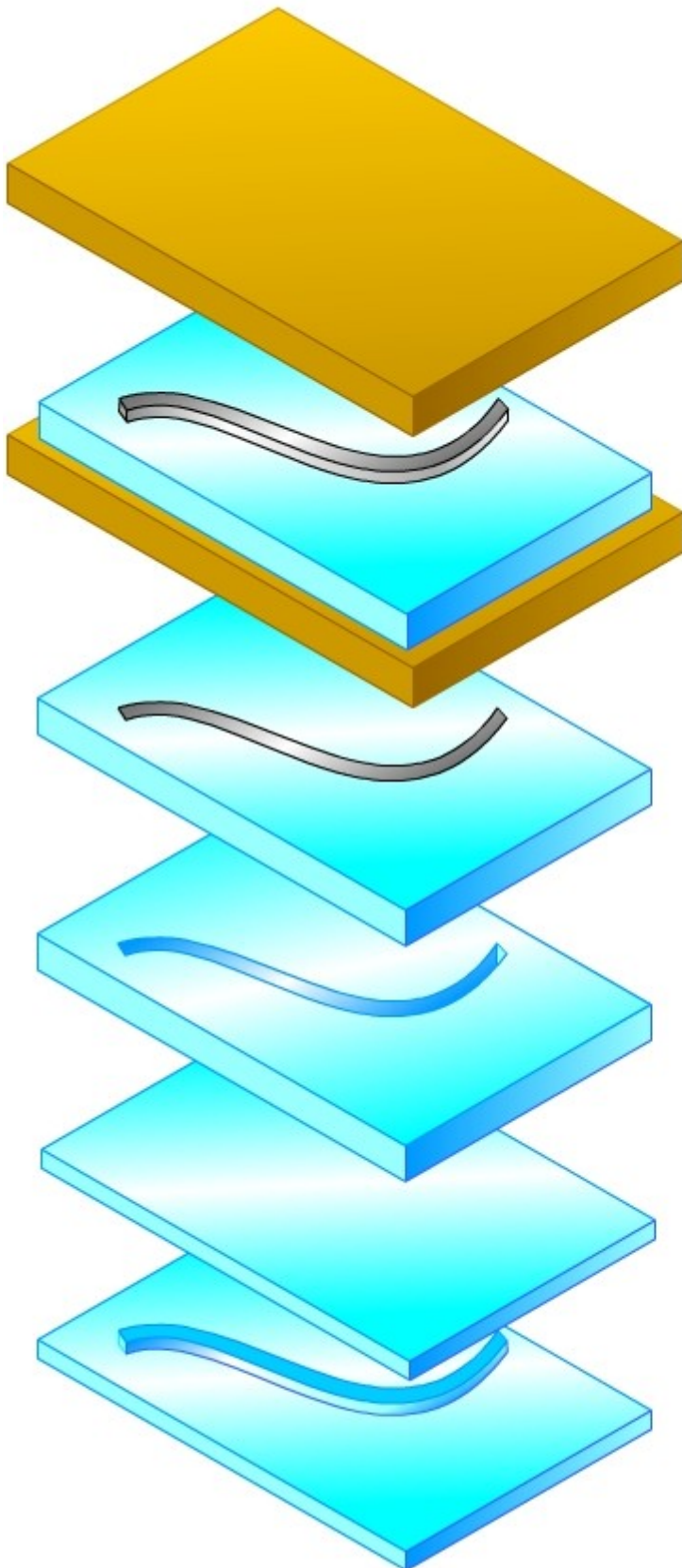
Some thermoplastics, including acrylics, exhibit "plastic memory", i.e. a deformed thermoplastic with plastic memory will return to its original shape when reheated, as long as it had not been overheated prior to bending/deforming or during reheating



A deformed thermoplastic sheet should be heated until the sheet returns to its original shape without it being forced. When the sheet is perfectly flat again, it should be removed from the heat to prevent the plastic from overheating and melting.



# Using Plastic Memory To Make A Key Fob



Design a shape that you would like on a key fob.

Make the shape in steel.

Place the steel shape on a piece of heated and softened acrylic.

Sandwich the steel shape and acrylic between two pieces of MDF.

Clamp the MDF, acrylic and steel sandwich in a vice and squash the steel shape into the heated acrylic.

Wait for the acrylic to cool, then remove the steel shape from the acrylic.

Use a sander or grinder to remove all the acrylic above the bottom of the groove.

Place the acrylic back in the oven and heat it until the shape that you pressed into the acrylic rises.

Drill a hole for the key ring.

## CLEAPSS

Please refer to CLEAPSS, Model Risk Assessments for Design and Technology in Secondary Schools and Colleges, Part 1.053 COSHH Regulations.