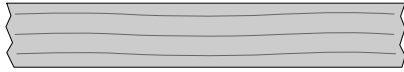


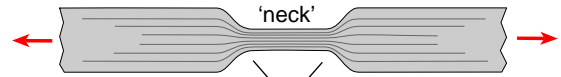
TAP 227- 4: Plasticity in polythene

Explaining plasticity

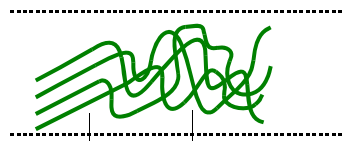
Polythene



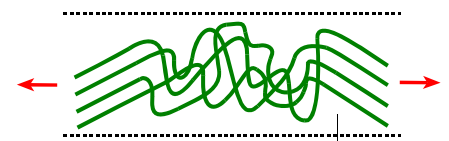
polythene strip 10 mm × 100 mm



thin crystalline strip 'pulled out of' wider region



crystalline amorphous



new crystalline region

Polythene is semi-crystalline. Think of polythene as like cooked spaghetti. In amorphous regions the chains fold randomly. In crystalline regions the chains line up.

When stretched plastically, the chains slip past each other. More of the material has lined-up chains. More of it is crystalline.

Plastic extensibility > 100%

External References

This activity is taken from Advancing Physics Chapter 5, 1900