

Answers and marking guidance

Award one mark per correct, developed point unless stated. Other valid answers should be credited.

2 Explain why polypropylene is suitable for a box with a living hinge.

- Resists fatigue, so the hinge can be bent many times without breaking
- Tough, so it withstands knocks
- Lightweight

No marks for: "Flexible" on its own

3 Quick check

- a) Acrylic
- b) Acrylic
- c) Urea formaldehyde
- d) Polypropylene

4 Key terms

- 1 – A
- 2 – C
- 3 – B
- 4 – D
- 5 – E

5 Describe the difference between a thermoplastic and a thermosetting plastic. Give an example of each.

- Thermoplastics can be reheated and reshaped many times
- Thermosetting plastics cannot be reshaped once set (permanent cross-links)
- Thermoplastic example: acrylic, ABS, polypropylene, polystyrene
- Thermosetting example: urea formaldehyde, melamine formaldehyde

No marks for: Examples without the difference: maximum 1 mark

6 Give the properties and one use of Urea formaldehyde.

- Thermoset electrical insulator. Plugs and sockets.

7 Give the properties and one use of Melamine formaldehyde.

- Hard, scratch and heat resistant. Laminates, picnic ware.