

Design & Technology

AQA A-Level

Wood finishing

Materials required for questions

- Pencil
- Rubber
- Calculator

Instructions

- Use black ink or ball-point pen
- Try answer all questions
- Use the space provided to answer questions
- Calculators can be used if necessary
- For the multiple choice questions, circle your answer

Advice

- Marks for each question are in brackets
- Read each question fully
- Try to answer every question
- Don't spend too much time on one question

Good luck!

Q1. What is the main purpose of pressure-treating wood with chemical preservatives?

- A** To add decorative colours
- B** To prevent decay and insect damage
- C** To make the wood softer

Q2. Which finish is specifically designed for outdoor woods like garden furniture?

- A** Colour wash
- B** Teak oil
- C** Stain

Q3. Which finish requires regular reapplication to maintain protection?

- A** Wax
- B** Polyurethane varnish
- C** Pressure-treated preservatives

Q4. What is the primary purpose of using wood stain?

- A** To create a thick protective layer
- B** To change the wood's colour while showing grain
- C** XTo make the wood waterproof

Q5. Explain why teak is an appropriate material for the manufacture of an outdoor sun lounger **(6 marks)**

Q6. State two reasons why outdoor decking might be pressure treated before use **(2 marks)**

1.

2.

Q7. State two reasons why Danish oil is used as a surface finish for timber **(2 marks)**

1.

2.

Answers

Q1. B

Q2. B

Q3. A

Q4. B

Q5.

- Teak has a naturally occurring oil that makes it resist damage and degradation associated with the sun lounger being used and left outside.
- Teak has a good level of hardness meaning it will resist the scratching and abrasion associated with it being used, moved and stored.
- The natural oils in the timber provide a good level of chemical resistance preventing the accelerated degradation of the sun lounger that may be caused by bird droppings or cleaning products.
- Teak is a naturally attractive aesthetic material that requires no additional surface finish for the sun lounger.
- Teak has a close grain pattern making the sections and profile of timber used in the chair strong enough to be suitable for accommodating the weight of the user.
- The natural oils in the teak remove the need for additional preservatives at point of manufacture to be added to the timber, reducing both production and ongoing maintenance costs.
- Teak can be successfully steam bent to create the shallow radiused sections of the sun lounger
- Teak is less prone to splinter or crack over time in the same way that alternative timbers might.

Q6.

- Outdoor decking will be consistently exposed to the elements so the pressure treating (tanalising) process will protect the timber from weathering increasing its durability and extending its lifespan.
- Outdoor timber is prone to fungal decay and insect attack. The preservative used in the tanalising process will protect the timber against both fungal decay and insect attack.
- The pressure used in the process forces the preservative into the outer cell layer of the timber providing long lasting protection. This is important as not all surfaces of decking will be accessible for subsequent maintenance.

Q7.

- Danish oil dries to a clear, transparent finish that maintains the natural appearance of the timber.
- Danish oil is a suitable finish for interior and exterior use.
- Danish oil penetrates the surface of the timber creating a hard wearing and durable finish.
- Danish oil is a suitable finish for use on food preparation surfaces.
- Danish oil is water and moisture resistant.