

Department of Forest Products Technology

PUU-28.4001 WOOD MODIFICATION

Examination date 18th December 2009

1. Explain briefly the following terms: (5 marks)

- i. 'Relative humidity'
- ii. 'Biodeterioration'
- iii. 'Weathering'
- iv. 'Surface modification'
- v. 'Fibre saturation point'



2. Define wood modification and explain how, when wood modification is used to protect wood from decay, it differs from tradition preservation treatments (5 marks)

3. Briefly explain what causes 'movement' in wood and how modification can be used to overcome this (5 marks)

in - out

4. Explain how an improvement in the dimensional stability of wood would be quantified (7 marks)

grav. ASE
analysis: Anti swelling/shrinkage eff.
color - trans.

5. Explain what is meant by 'acetylation' and describe the factors that can affect acetylation (8 marks)

MC
Spruce/heartwood
Species
fine

acetic anhydride

6. Describe factors that might affect the impregnation modification of wood (10 marks)

7. Write an essay on one of the following: (10 marks)



species
spruce/heartwood
MC, diffusion

- a) Challenges and opportunities for furfurylated wood
- b) Manufacture and applications for thermally modified wood
- c) Chemical modification of wood
- d) Property changes in wood following modification

corn cobs
plant waste remains
use same plants

100% WPC

environmental

Can help wood market

can be used cladding

decks, no use barrier