
Faculty of Applied Earth Sciences*Tentamen ta3330 Metallurgical Processes*Date : 27nd January 2000

Time : 14h00-17h00

This is a closed book examination. Full marks are 35.

QUESTION 1: Secondary aluminium smelting (10 marks)

Summarise the pertinent points of your case study and clearly indicate how you will optimise the quality control in a secondary aluminium plant.

QUESTION 2: Quality control on a steel plant (15 marks)

Summarise various aspects of quality control on a steel plant, including all the following steps (you may add more):

- Scrap quality
- Pig-iron (inclusive of desulphurization) and additives
- Converting process and everything surrounding it
- Casting process ending with slab production

Please compare this with the quality control in secondary aluminium production.

QUESTION 3: Recycling of copper (10 marks)

Please discuss the recycling of copper in a primary copper plant. Indicate how a copper plant assists in closing the material cycle by referring to at least four elements other than copper. By this please evaluate qualitatively the importance of a copper plant for assisting in closing the various material cycles of our consumer society.
