C l a i m s

1. A method for the manufacture of a high alumina hydraulic binder comprising hydrating a source of aluminium ions with a source of calcium ions in the presence of water to form mineral hydrates and subsequently heating said mineral hydrates to form said high alumina hydraulic binder, wherein said source of aluminium ions comprises water treatment residuals, wherein the water treatment residuals comprise amorphous alumium oxide and/or amorphous aluminium hydroxide.

2. A method as claimed in claim 1,
wherein a source of sulphate ions is mixed with said source of aluminium ions and said source of calcium ions prior to and/or during hydration.

3. A method as claimed in claim 1,
wherein organic material present in said water treatment residuals forms a source of fuel energy during said heating step, air or oxygen being added to the mixture during said heating step to facilitate oxidation of said organic material.

4. A method as claimed in claim 1,
further comprising comminuting said hydrated minerals prior to said heating step.

5. A method as claimed in claim 1,
wherein said hydrated minerals are heated to at least 350°C in said heating step.

6. A method for the manufacture of calcium aluminate cement comprising the steps of mixing a source of calcium ions with water treatment residuals, or other aluminium rich waste residuals, in the presence of water, in a mixing step, such that mineral hydrates are formed, and subsequently heating the resulting mineral hydrates to a temperature of at least 350°C in a thermal treatment step to oxidise organic material present and to at least partially dehydrate the hydrated minerals to form the resulting cement product, wherein the water treatment residuals or the other aluminium rich waste residuals comprise amorphous alumium oxide and/or amorphous aluminium hydroxide.

7. A method for the manufacture of calcium sulphoaluminate cement comprising the steps of mixing a source of calcium ions and sulphate salts with water treatment residuals, or other aluminium rich waste residuals, in the presence of water, in a mixing step, such that

mineral hydrates are formed, and subsequently heating the resulting mineral hydrates to a temperature of at least 350°C in a thermal treatment step to oxidise organic material present and to at least partially dehydrate the hydrated minerals to form the resulting cement product, wherein the water treatment residuals or the other aluminium rich waste residuals comprise amorphous alumium oxide and/or amorphous aluminium hydroxide.

8. A method as claimed in claim 6 or claim 7,
wherein the mineral hydrates are comminuted prior to said thermal treatment step.

9. A method as claimed in any of claim 6 or claim 7,
wherein said water treatment residuals are at least partially dewatered prior to said mixing step.

10. A method as claimed in any of claim 6 or claim 7,
wherein air is added to the material during the thermal treatment stage to facilitate oxidation of organic material.

11. A method as claimed in any preceding claim,
wherein said source of calcium ions comprises lime or hydrated lime.