Claims

1. A method of producing steel, comprising:

providing a cold-formed pellet, the pellet comprising a particulate iron ore, between 0.05 and 1.0 % by weight, typically less than 0.3% by weight of an organic binder comprising polyvinyl alcohol, the pellet additionally comprising up to 20 wt% of carbonaceous material;

optionally producing the pellet by mixing a particulate iron ore with up to 0.3% by weight of the binder;

transporting the pellet to an electric arc furnace; and

producing steel by heating the pellet in the electric arc furnace.

2. A method according to claim 1, wherein the organic binder additionally comprises a polymeric binder selected from polyacrylamide resin, resole resin, Novolac resin, and a polysaccharide.

3. A method according to claim 1 or claim 2, wherein the particulate iron ore is magnetic.

4. A method according to claims 1 to 3, wherein the pellet comprises a waterproofing agent.

5. A method according to claims 1 to 4, wherein the particulate iron ore is capable of passing through a 100μm mesh prior to pelleting.

6. A method according to claims 1 to 5, wherein the pellet is heated under a reducing atmosphere.

7. A method according to claim 6, comprising heating under a reducing atmosphere comprising hydrogen, shale gas or natural gas.

8. A method according to claims 1 to 7, comprising mixing the pellet with scrap metal.

9. A method according to claim 8, wherein up to 50% by weight of the pellet plus scrap metal is formed of the iron ore pellets.

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