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Title: Magnesium alloys and graphite wastes encapsulated in cementitious materials: reduction of galvanic corrosion using alkali hydroxide activated blast furnace slag

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Highlights

- 1> Embedded in cement, magnesium is corroded by residual water present in porosity of the matrix.
- 2> Corrosion is enhanced by galvanic phenomenon when magnesium is in contact with graphite
- 3> Galvanic corrosion of magnesium in contact with graphite debris is shown to be severe with ordinary Portland cement
- 4> Galvanic corrosion is significantly lowered in high alkali medium such as sodium hydroxide
- 5> Sodium hydroxide activated blast furnace slag is a convenient binder to embed magnesium

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