

# ALTERNATIVE CONCRETE MATERIALS DESIGN

Perdekraal East Wind Farm, South Africa

## PROJECT TYPE: Alternative Concrete Materials Design

CLIENT:

Mainstream

## PROJECT DESCRIPTION:

The aim was to achieve an application of 75% to 100% Portland cement replacement as well as a reduction of the materials carbon footprint of up to 90% per cubic meter.

Concor proposed an alternative concrete geopolymer design:

Rigorous testing comparing traditional design vs this approach was conducted allowing the client to make an informed decision:

Comparative slump testing was done using high strength concrete containing 85Kgs of Portland cement with 285Kgs of GGBS (a by-product of the steel industry) versus zero Portland cement concrete.

The zero cement concrete gave an initial set of 5 hours and a final set of 6.5 hours using 7Kgs of Activator and 4 litres of Admixture per cubic meter.

