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Development of greener alkali-activated cement: utilisation of sodium carbonate for activating slag and fly ash mixtures

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**Highlights:**

1. The strength and the reaction rate are highly dependent on  $\text{Na}_2\text{CO}_3$  content.
2. The inclusion of fly ash up to 25% had marginal effect on the strength while the inclusion beyond 25% could lead to remarkable reduction in strength.
3. Reaction products include mainly C-(N)-A-S-H gel, hydrotalcite-like phases, calcite, and gaylussite.
4. The elemental compositions of the binding phase depend mainly on fly ash to slag ratio.

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