HYDRATION DEGREE CALCULATION ON BLENDED CEMENT PASTE BY THERMOGRAVIMETRY

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Abstract
Nowadays many studies on hydration degree of cement paste have been carried out with the use of different instrumental techniques (XRD, TG, DTA, density, etc...). This work deals with the studies of cement paste by mean of TG and DTA, as one of the methods more used in this hydration degree calculation. But this calculation is not clearly defined and many authors used different procedures, giving different kind of results.

The hydration degree has been calculated in base of the non-evaporable water (20ºC-1000ºC), combined water (20ºC-400ºC), Calcium hydroxide (aprox.400º-500ºC). The study shows the necessity to consider:

- Initial weight correction
- Adjust of the weight loss to the dry residue.
- Consideration of the different kind of hydrated composition.
- Specific loss weight due to the additions.
- A simplified method.

The result shows the possibility of determinate the hydration degree of cement paste with additions.