

DIN EN 196-12:2025-03 (E)

Methods of testing cement - Part 12: Reactivity of cement constituents - Heat of hydration and bound water content methods

Contents		Page
	European foreword.....	3
1	Scope.....	4
2	Normative references.....	4
3	Terms and definitions.....	4
4	General requirements for testing.....	5
4.1	Number of tests.....	5
4.2	Repeatability and reproducibility.....	5
4.2.1	Repeatability.....	5
4.2.2	Reproducibility.....	5
4.3	Expression of masses, volumes, factors and results.....	5
5	Principle of test methods (A and B).....	6
6	Reagents.....	6
6.1	General.....	6
6.2	Calcium hydroxide (Ca(OH) ₂).....	6
6.3	Potassium hydroxide (KOH).....	6
6.4	Potassium sulfate (K ₂ SO ₄).....	7
6.5	Calcium carbonate (CaCO ₃) dried to constant mass at (200 ± 10) °C.....	7
6.6	Potassium solution.....	7
7	Apparatus.....	7
8	Procedures.....	7
8.1	Preparation of a test cement constituent specimen.....	7
8.2	Testing paste.....	8
8.3	Method A, heat of hydration.....	8
8.3.1	Preparation of the apparatus.....	8
8.3.2	Paste specimen preparation.....	9
8.3.3	Measurement of heat release.....	9
8.3.4	Calculations.....	9
8.4	Method B, bound water content.....	9
8.4.1	Paste specimen casting.....	9
8.4.2	Paste specimen curing.....	9
8.4.3	Cured specimen preparation.....	10
8.4.4	Bound water content measurement.....	10
8.4.5	Calculations.....	10
8.4.6	Correction for natural pozzolana (P) containing bound water.....	11
9	Report.....	11
10	Precision.....	12
10.1	Method A, heat of hydration - repeatability and reproducibility.....	12
10.2	Method B, bound water content - repeatability and reproducibility.....	12
	Bibliography.....	13