DIN EN 12485:2026-07 (E)

Chemicals used for treatment of water intended for human consumption - Calcium carbonate, high-calcium lime, half-burnt dolomite, magnesium oxide, calcium magnesium carbonate and dolomitic lime - Test methods

Contents

Page

European foreword 4

1 Scope 5

2 Normative references 5

3 Terms and definitions 5

4 General requirements 6
4.1 Number of determinations 6
4.2 Methods for analysis 6
4.3 Sample preparation 8
4.4 Reagents 8
4.5 Glassware 9
4.6 Expression of results 9
4.7 Repeatability and reproducibility limits 10
4.8 Test report 10

5 Determination of screen oversize of high-calcium lime 10
5.1 Air-jet sieving method 10
5.2 Wet sieving method 12

6 Preparation of test solutions 14
6.1 Fusion with lithium tetraborate 14
6.2 Extraction with hydrochloric acid 15
6.3 Microwave digestion with nitric acid 16
6.4 Pressurized digestion with nitric acid 16

7 Conventional methods of determining major and minor constituents 17
7.1 Determination of free water 17
7.2 Loss on ignition at 500 °C 18
7.3 Determination of carbon dioxide 19
7.4 Determination of residue insoluble in hydrochloric acid 20
7.5 Determination of content of water soluble calcium oxide or calcium hydroxide (reference method) 21
7.6 Determination of sugar soluble calcium oxide or calcium hydroxide (alternative method) 23
7.7 Water-insoluble matter 25
7.8 Determination of free CaO 26
7.9 Determination of calcium oxide and magnesium oxide 26
7.10 Determination of sulfate 29
7.11 Determination of solubility index by conductivity 31
7.12 Calculation of the composition of a commercial product 34

8 Determination of constituents by modern techniques 36
8.1 Determination of minor constituents by AAS flame technique 36
8.2 Determination of major and minor constituents by ICP-OES 40

9 Determination of chemical parameters 45
9.1 Determination of lead, cadmium, chromium and nickel by AAS graphite tube technique ..45

9.2 Determination of lead, cadmium, chromium and nickel by ICP-OES 50
9.3 Determination of arsenic, antimony and selenium by AAS hydride technique 54
9.4 Determination of mercury by cold-vapour technique 57

Annex A (informative) Analytical scheme 61

Annex B (informative) Precision data for the test methods 68

Bibliography 70