

# AMERICAN SOCIETY FOR TESTING AND MATERIALS

1916 Race St., Philadelphia 3, Pa.

Reprinted from Copyrighted 1967 Book of ASTM Standards, Part 9.

## *Standard Specifications for*

## QUICKLIME AND HYDRATED LIME FOR WATER TREATMENT<sup>1</sup>



ASTM Designation: C 53 - 63

ADOPTED, 1963

This Standard of the American Society for Testing and Materials is issued under the fixed designation C 53; the final number indicates the year of original adoption as standard or, in the case of revision, the year of last revision.

### Scope

1. These specifications cover lime suitable for all water-treating applications. Two types of lime are covered as follows:

Type A—lime suitable for use in the softening of water for municipal and industrial supplies, and

Type B—lime suitable for silica removal from boiler feedwater, and for color removal and clarification of water for municipal and industrial supplies.

### General Requirements

2. (a) Either quicklime or hydrated lime may be furnished, as specified for both types A and B.

(b) Quicklime shall be reasonably free of unslakable residues and shall be capable of disintegrating in water to form a suspension of finely divided material.

<sup>1</sup> Under the standardization procedure of the Society, these specifications are under the jurisdiction of the ASTM Committee C-7 on Lime.

### Chemical Composition

3. (a) The available lime content of type A lime (calculated on the basis of weight of sample taken at place of manufacture), shall be at least 90 per cent in quicklime and at least 68.1 per cent in hydrated lime.

NOTE 1.—In the softening of water for municipal and industrial supplies, lime is used alone or with coagulant aids to produce a precipitate which assists in the clarification of water, removal of bacteria, and removal of hardness. Lime and soda ash may be used together for softening water. The lime serves as a chemical reagent in water softening. The only useful constituent of the lime is the calcium oxide content of the quicklime or hydrated lime capable of reacting with the other chemicals in the water or added to it. Inert material, besides reducing the value in proportion to its amount, also makes more sludge to be disposed of for a given amount of chemical action and thus reduces the capacity of the equipment in which it is used.