

**GOOD CONCRETE: A
MANUAL FOR THE
RATIONAL USE OF
PORTLAND CEMENT**

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Good concrete: a manual for the rational use of Portland Cement by Associated Portland Cement Manufacturers

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ASSOCIATED PORTLAND CEMENT MANUFACTURERS

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PORTLAND CEMENT**

Good Concrete

A Manual
For The Rational Use of
Portland Cement



Riverside Portland Cement Company

Los Angeles

1914

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PREFACE.

In Portland Cement Concrete the world has an ideal structural material whose possibilities are limited only by the skill and ingenuity of the user. Its widespread and ever increasing use is exerting a profound influence in making our cities and towns safer and more sanitary.

The fire risk has by its use already been reduced enormously, and millions of dollars are being saved annually in insurance.

It is doing much to beautify our cities by the ease with which it lends itself to the artistic treatment of our homes, business buildings, sidewalks and streets.

It has given to building operations an air of permanence which heretofore they did not possess.

Once properly built a concrete structure becomes a thing of permanence. It will not deteriorate with age, it becomes, so to speak, a part of the geology.

There are few structural operations to which concrete in some form cannot be economically applied.

Portland cement is sometimes abused. The seeming simplicity with which it can be worked has often led the uninitiated to attempt its use without regard to the laws that govern its proper use.

This hand-book is written to present to the cement-user in concise form the general and detailed operations necessary for the full realization of the value of Portland cement as a material of construction.



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CONCRETE AXIOMS.

Concrete construction does not belong to the class of work that can be done by unskilled labor.

Definite laws govern the use of concrete as well as all other structural materials.

Good rock, sand and cement will not make good concrete in the hands of inexperienced workmen.

Don't guess at proportions—measure them.

The cement in a concrete is the smallest of its ingredients. Don't make it smaller than the specifications require.

Cement is the only ingredient in a concrete or mortar that has been scientifically and accurately made. It is a finished product as it comes on the market, in the preparation of which great care and pains have been exercised, whereas the sand and rock, which constitute more than 80% of the total, are natural products and have been collected at random.

Use clean materials. Cement cannot bind sand and rock together if clay coats them.

Concrete cannot be any stronger than its weakest ingredient. Therefore, use sand and rock whose individual strength is sufficient for the purpose.

Don't use very fine sands, or those containing much quicksand.

Test all your materials for strength and fitness for the purpose to which they are to be put.

Cement needs water to properly harden. If it is robbed of any of the necessary water its strength suffers. Too much water is as bad as too little. Learn to use the right amount.

Protect fresh concrete from drying out.

Don't lay concrete in cold weather. Cold retards and warmth hastens the hardening of a concrete or mortar.

Don't blame cement for poor work before you have considered every factor that might have contributed to the failure. Men and materials are just as liable to be wrong, and more so, than the cement.