# REINFORCED CONCRETE IN EUROPE

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Reinforced concrete in Europe by Albert Ladd Colby

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# **ALBERT LADD COLBY**

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Trieste

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BY

## ALBERT LADD COLBY

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# Reinforced Concrete in Europe

INCLUDING

ITS APPLICATIONS, ECONOMIES, AND ENDURANCE; THE SYS-TEMS, THE FORMS OF BARS AND THE METAL USED IN ENGLAND AND ON THE CONTINENT,

#### TOGETHER WITH THE PRINCIPAL

#### SPECIFICATIONS FOR THE CEMENT, AND THE CONCRETE USED, AND THE RULES GOVERNING FOREIGN REIN-FORCED CONCRETE CONSTRUCTION,

#### TO WHICH IS ADDED

#### A LIST AND DESCRIPTION OF THE FOREIGN OFFICIAL AND TECHNICAL INSTITUTIONS WHICH HAVE STUDIED RE-INFORCED CONCRETE CONSTRUCTION AND AB-STRACTS OF THEIR RECOMMENDATIONS

#### AND FINALLY A COMPLETE

#### BIBLIOGRAPHY OF BOOKS AND PERIODICALS ON REINFORCED CONCRETE, CONCRETE AND CEMENT

BY

## ALBERT LADD COLBY

#### MEMBER

American Society of Civil Engineers, American Society of Mechanical Engineers, International Association and American Society for Testing Materials, Iron and Steel Institute, American Institute of Mining Engineers, Etc.

> South Bethlehem, Penna. July, 1909.

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### PREFACE.

A private edition of fifty copies of this Report was printed last May for distribution to the Subscribers.

In response to numerous requests, permission has been given to the Printer to reprint the Report for sale by him as a Book.

The Report is a compilation of information, on current practice in Reinforced Concrete Construction in Great Britain and on the Continent, collected during 1908, chiefly by personal interviews, with the leading authorities in each Country.

The theoretical branches of the subject, including the rules for calculation, are but briefly referred to, because elaborate Treatises in English, French and German, recently published, deal with the latest practice of each country in these matters.

The practical branches of the subject, on which the Subscribers desired information, are fully treated, including the economy and proof of the endurance of foreign Reinforced Concrete Construction, the Systems used Abroad, the specifications for the cement used, the ingredients and the mixing of the concrete, and the rules governing construction; much space is devoted to the kind of steel and the forms of bars at present in vogue Abroad, as the writer was requested to give particular attention to these two subjects.

The addresses of prominent consulting and contracting engineers of each country, are given, to enable the reader to obtain further information, if desired.

In Appendix No. 3, the addresses are given of the official and technical testing Stations, Congresses, Institutions, Associations and Committees of each Country, which are giving particular attention to this subject and from whom additional information can be obtained.

Besides the discussion in the body of the Report, of the forms of bars used in the Systems of each Country, an alphabetical list of 144 Foreign Systems, is given in Appendix No. 1, with a

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#### PREFACE

concise description of the special feature and the address of the inventor or owner of each System.

In Appendix No. 2, a comparison of the requirements of 14 foreign Cement Specifications is given.

A complete Bibliography of the Books, Journals, and Periodicals of each Country will be found in Appendix No. 4, with the price and the date of publication.

As the information contained in this Report was obtained from many sources, any, in fact, which were proved by inquiry or known to be reliable, only a general acknowledgment can here be made of the writer's indebtedness; in the text of the Report and Appendixes, reference is given to the source of information in most cases.

The writer visited England, France, Germany, Austria, Hungary, Switzerland and Italy, and desires to here record his appreciation of the courteous attention to his inquiries, accorded to him in each Country.

#### ALBERT LADD COLBY.

South Bethlehem, Pa., July, 1909.

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