

(PREVIEW)

HANDBOOK ON CAUSES AND PREVENTION OF CRACKS IN BUILDINGS

FOREWORD

Users of various civil engineering codes have been feeling the need for explanatory handbooks and other compilations based on Indian Standards. The need has been further emphasized in view of the publication of the National Building Code of India in 1970 and its implementation. The Expert Group set up in 1972, by the Department of Science and Technology, Government of India, carried out in-depth studies in various areas of civil engineering and construction practices. During the preparation of the Fifth Five-Year Plan in 1975, the Group was assigned the task of producing a Science and Technology plan for research, development and extension work in the sector of housing and construction technology. One of the items of this plan was the production of design handbooks, explanatory handbooks and design aids based on the National Building Code and various Indian Standards, and other activities in the promotion of the National Building Code. The Expert Group gave high priority to this item and on the recommendation of the Department of Science and Technology, the Planning Commission approved the following two projects which were assigned to the Indian Standards Institution:

- a) Development programme on code implementation for building and civil engineering construction, and
- b) Typification for industrial buildings.

A Special Committee for Implementation of Science and Technology Projects (SCIP) consisting of experts connected with different aspects was set up in 1974 to advise the ISI Directorate General in identifying the handbooks and for guiding the development of the work. Under the first project, the Committee has so far identified subjects for several explanatory handbooks/compilations covering appropriate Indian Standards/Codes/ Specifications which include the following:

Design Aids for Reinforced Concrete to IS:456-1978 (SP: 16-1980)
Explanatory Handbook on Masonry Code (SP : 20-1 981)
Explanatory Handbook on Codes of Earthquake Engineering (IS: 1893-1975 and
IS : 4326-1976) (SP : 22-1982)
Handbook on Concrete Mixes (SP : 23-1982)
Explanatory Handbook on Indian Standard Code of Practice for Plain and
Reinforced Concrete (IS : 456-1978) (SP : 24-1983.
Handbook on Causes and Prevention of Cracks in Building
Summaries of Indian Standards for Building Materials
Concrete Reinforcement and Detailing
Functional Requirements of Buildings
Functional Requirements of Industrial Buildings
Timber Engineering
Foundation of Buildings
Steel Code (IS : 800)
Building Construction Practices

Bulk Storage Structures in Steel
Formwork
Fire Safety
Construction Safety Practices
Tall Buildings
Inspection of Different Items of Building Work
Loading Code
Prefabrication

The Handbook on Causes and Prevention of Cracks in Buildings, which is one of the handbooks in this series, deals with the various causes of non-structural cracks which are due to moisture changes, thermal variations, elastic deformation, creep, chemical reaction, foundation movement and settlement of soil, vegetation, etc; it gives some typical examples of occurrence of cracks together with measures for prevention of cracks. This also covers guidelines for diagnosing causes of cracks of various types and suggestions for suitable remedial measures, where feasible.