IN-LB	Inch-Pound Units
SI	International System of Units

Analysis and Design of Reinforced and Prestressed Concrete Guideway Structures—Guide

Reported by Joint ACI-ASCE Committee 343

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This guide presents a procedure for the design and analysis of reinforced and prestressed concrete guideway structures for public transit, and design guidance for elevated transit guideways. The engineer is referred to the appropriate highway and railway bridge design codes for items not covered in this document.

Limit state philosophy is applied to develop design criteria. A reliability approach is used in defining load combinations and deriving load and resistance factors. Different target reliability indexes (4.0 for design strength, 2.5 for serviceability design for cracking, and 2.0 for serviceability design for fatigue) and a service life of 75 years were used as the basis for safety analysis. A 75-year service life is consistent with the American Association of State Highway and Transportation Officials (AASHTO) Load and Resistance Factor Design (LRFD) Bridge Design Specifications.

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Keywords: cracking; deformation; fatigue; guideway structures; precast concrete; prestressed concrete; prestressing loads; reinforced concrete; vibration.

CONTENTS

Chapter 1—Introduction and scope, p. 2
1.1—Introduction
1.2—Scope

Chapter 2—Notation and definitions, p. 2
2.1—Notation
2.2—Definitions

Chapter 3—General design considerations, p. 4
3.1—Scope
3.2—Structural considerations
3.3—Functional considerations
3.4—Economic considerations
3.5—Urban impact
3.6—Transit operations

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