Foreword
Acknowledgements
Movements
Brief historical background
Sources of movement in structures
Temperature effects: Uniform change of temperature
Differentials temperature effects
Restraints associated with thermal bending
Example showing the effect of thermal bending
Creep and shrinkage
Axial and flexural strains
Dynamic loads: Moving structural elements
Live loading
Seismic
Accidental impacts
Overload
Foundations
Construction: General
Hydraulic jacks
Flat jacks
Sand jacks
Flexibility and articulation
General
Flexibility of the bridge structure
Flexibility of the bridge components: Superstructure - flexibility in the horizontal plane, flexibility in the vertical plane
Connection of superstructure to substructure
Substructure - short columns, twin walled piers, slender columns, multiple supports
Connection of substructure to foundation
Foundation
Articulation of the bridge structure
Movement joints
Introduction
Problems of geometrical layout
Joints for small movements
Joints for medium movements
Joints for large movements
Longitudinal joints
Design requirements
Sub-surface drainage
Rail expansion joints
Bridge bearings
Introduction
Function of bearings
Types of bearing: Roller bearings
Rocker bearing
Knuckle pin bearings
Leaf bearings
Link bearings
Sliding bearings
Pot bearings
Disc bearings
Elastomeric bearings
Concrete hinges
Other types of bearing
General design considerations: Design life
Durability
Movement restraint
Uplift
Limit states
Outer bearing plates
Location of bearings
Detail design considerations: Roller bearings
Rocker bearings
Knuckle bearings
Link bearings
Sliding bearings
Elastomeric bearings
Pot bearings
Fabreeka bearings
Wabo-Fyfe bearing
Guides
Concrete hinges
Selection of bearing type
Introduction
Horizontal movements
Rotations
Plan area
Life and maintenance
Roller bearings
Rocker bearings
Knuckle bearings
Sliding bearings
Pot bearings
Elastomeric bearings
Concrete hinges
Thrust bearings
Symbolic representation
Positioning of bearings
Installation
General
Bedding
Fixing elastomeric bearings
Fixing of bearings other than elastomeric
Bearings supporting in-situ concrete deck
Bearings supporting precast concrete or steel elements
Installation of concrete hinges
Labelling of bearings
Testing
Applications
Introduction
Bridge summary sheets
Hammersmith Flyover, London, UK
Medway Bridge, Rochester, Kent, UK
Mancunian Way elevated road, Manchester, UK
Westway, London, UK
London Bridge, UK
Tyne & Wear Metro Bridge N106, Newcastle/Gateshead, UK
Orwell Bridge, Ipswich, Suffolk, UK
Redheugh Bridge, Newcastle/Gateshead, UK
Foyle Bridge, Northern Ireland, UK
Kylesku Bridge, Highland Region, Scotland
Torridge Bridge, Bideford, Devon, UK
River Dee Viaduct, Newbridge, Clwyd, Wales
Narrows Bridge, Perth, Australia
Westgate Bridges Approaches, Melbourne, Australia
Commonwealth Avenue Bridge, Canberra, Australia
Gladesville Bridge, Sydney, Australia
Tasman Bridge, Hobart, Australia
Bowen Bridge, near Hobart, Australia, Ahmad Shah Bridge, Temerloh, Malaysia, Adhamiyah Bridge, Iraq
Particular features of selected bridges
Severn Bridge, UK
Faro Bridge, Denmark
Penang Bridge, Malaysia
Tsing Yi North Bridge, Hong Kong
Singapore Mass Rapid Transport System, Singapore
Benjamin Sheares Bridge, Singapore
Huntleys Point Overpass, Australia
Tarban Creek Bridge, Australia
Gateway Bridge, Brisbane, Australia
jindo and Dolsan Bridges, Korea
Appendix
Index

Table of Contents provided by Blackwell's Book Services and R.R. Bowker. Used with permission.