Technical Article

Visual guide to the Eurocodes supporting documentation

January 2012

Written by NBS for The Construction Information Service
The image below illustrates the format of this document, highlighting the Eurocodes and their related publications, which are currently available within the Construction Information Service.

Starting with the Eurocode at the top of the pyramid, each level of documentation is shown as you progress down the page to the non-essential ‘background reading’ box at the bottom of the page. These levels of documentation are:

- Eurocode
- National Annex
- Non Contradictory Complementary Information (NCCI)
- NCCI Cited – not part of the Eurocodes; however, they give important information and best practice guidance for the correct application of the NCCI documents. This area also shows ‘Execution Standards’ and offers ‘Suggested reading’ from the Construction Information Service editorial team, where appropriate, of newly published documents directly related to the Eurocodes.
- CEN suggested background reading (white box) – not related directly to the Eurocodes but suggested by CEN, as these documents give best practice guidance on the application of the relevant Eurocode.

The relevant Eurocode parts and their National Annexes are available by following the ‘in image’ links to a complete reference list (the list contains citations for all of the documents related to the Eurocodes – not just those that are within the Service. These image links and the relevant titles within the document can be used to tab between a complete reference list for the documents mentioned, including full Title, Series name and number, Publisher and Date of publication, and the visual guide pages.

As well as this visual guide, there are several ‘Introduction to the Eurocodes’ guides already available through the Service. These are:

- Eurocodes: the basics
- ENs and National Standards
- Background documents.

Note: this document will be updated bi-monthly, to reflect the huge amount of documentation that is published relating to the Eurocodes. Updates will be marked in the margin of the ‘Reference list’ to highlight new editions or amendments to publications in the list.
BSI and CEN have both stated that while some of these standards will remain current they will not be updated in future. They are made available to the Service through being cited in the UK and other Building Regulations. The links below lead to the summary page of each document; notes are attached where relevant:

- **BS 648:1964** - Obsolescent, but remains current
- **BS 2853:1957** - Superseded by BS EN 1993-6:2007, but remains current
- **BS 4076:1989** - BR Scotland
- **BS 8002:1994** - BR UK and Ireland
- **BS 8004:1986** - BR UK and Ireland
- **BS 8007:1987** - Withdrawn, but remains within the Service
- **BS 8081:1989** - Partially replaced, but remains current
- **BS 4046** - BR Scotland (multiple parts)
- **BS 4604-1:1970**
- **BS 4604-2:1970**
- **BS5268** - BR UK and Ireland (multiple parts)
- **BS 5268-2:2002**
- **BS 5268-3:2006**
- **BS 5268-4:1:1990**
- **BS 5268-4:2:1990**
- **BS 5268-6:1:1996**
- **BS 5400** - BR UK (multiple parts)
- **BS 5400-1:1988**
- **BS 5400-2:2006**
- **BS 5400-3:2000**
- **BS 5400-4:1990**
- **BS 5400-5:2005**
- **BS 5400-6:1999**
- **BS 5400-7:1978**
- **BS 5400-8:1978**
- **BS 5400-10:1980**
- **BS5628** - BR UK (multiple parts)
- **BS 5628-1:2005**
- **BS 5628-2:2005**
- **BS 5628-3:2005**
- **BS 5950** - BR UK (multiple parts)
- **BS 5950-1:2000**
- **BS 5950-2:2001**
- **BS 5950-3:1:1990**
- **BS 5950-4:1994**
- **BS 5950-5:1998**
- **BS 5950-6:1995**
- **BS 5950-7:1992**
- **BS 5950-8:2003**
- **BS 5950-9:1994**
- **BS 6399** - BR UK and Ireland (multiple parts)
- **BS 6399-1:1996**
- **BS 6399-2:1997**
- **BS 6399-3:1988**
- **BS 8100** - BR UK (multiple parts)
- **BS 8100-1:1996**
- **BS 8100-2:1986**
- **BS 8100-3:1999**
- **BS 8100-4:1995**
- **BS 8110** - BR UK (multiple parts) - Withdrawn, but remains within the Service
- **BS 8110-1:1997**
- **BS 8110-2:1985**
- **BS 8110-3:1985**
- **BS 8118** - BR UK and Ireland (multiple parts)
- **BS 8118-1:1991**
- **BS 8118-2:1991**
BS EN 1990

National Annex

PD 6704 [Not yet available]

BRE: Digest 462; Digest 487-2; Digest 487-4; Report 223; Report 231; Report 459; FBE Report 5

IstructE: Guide to the advanced fire safety engineering of structures

SCI [Suggested reading]: AD 335

TRADA [Suggested reading]: GD 2

CEN Suggested Background Reading


BS EN 1991

NA to BS EN 1991


BCSA: Publication No. 39/05

BRE: Digest 439

DMRB: TD 19/06

BRE: Report 173; Special Digest SD5

BCSA: Publication 34/02; Publication 36/04; Publication 38/05

CIRIA: SP 131; Report C703

DIT: Traffic signs regulations and general directions

Highways Agency: BD 2/05; BD 24/92; BD 29/03; BD 37/01; BD 44/95; BD 48/93; BD 51/98; BD 60/04; BD 68/97; BD 94/07; BA 41/98; GD 02/08; HA 37/97; HA 56/92; HA 83/99; HA 119/06; HD 19/03; TA 64/94; TA 66/95; TA 73/97; TA 77/97; TA 89/03; TA 90/05; TA 91/05; TA 92/03; TA 93/03; TD 9/10; TD 22/06; TD 27/05; TD 41/95; TD 42/95

TSO: Traffic Signs Regulations (Northern Ireland)1997; Highways Act 1980; Roads (Northern Ireland) Order 1993; Construction (design and management) regulations 2007; Construction (design and management) regulations (Northern Ireland) 2007; Traffic Signs Manual: Chapter 8-1

TRADA [Suggested reading]: GD2 How to calculate the design values of loads using Eurocodes _2nd edition

CEN Suggested Background Reading


CEN Suggested Background Reading


BS EN 1994

National Annex


SCI: Modified limitation on partial shear connection in beams for buildings; Resistance of headed stud shear connectors in transverse sheeting

ASFP - Yellow Book (4th edition): Fire protection for structural steel in buildings Volume 1; Volume 2-1; Volume 2-2; Volume 2-3; Volume 2-4

IstructE: Safety in tall buildings and other buildings with large occupancy

SCI: Publication 291

CEN Suggested Background Reading

BS EN 1995

NA to BS EN 1995

BSI: PD 6693 [not yet available]; PD 6693-1-1 [not yet available]

BSI: BS EN 14081-1

TRADA [TCIS suggested reading]: Eurocode 5 span tables for solid timber members in floors, ceilings and roofs for dwellings; GD2, GD5, GD6, GD10, WIS4/7; Worked example. 12-storey building of cross-laminated timber (Eurocode 5)

CEN Suggested Background Reading


Whittles [Suggested reading]: Steel structures: analysis and design for vibrations and earthquakes
CEN Suggested Background Reading

BS EN 1990:2002 Eurocode - Basis of structural design
NA to BS EN 1990:2002

NCCI

PD 6704 Guidance on the design of structures to the UK National Annex to BS EN 1990 [not yet available]
PD 6688-1-4:2009 Background information to the UK National Annex to BS EN 1991-1-4 and additional guidance
PD 6698:2009 Recommendations for the design of structures for earthquake resistance to BS EN 1998
PD 6705-2:2010 Structural use of steel and aluminium. Recommendations for the execution of steel bridges to BS EN 1090-2

NCCI Cited

BRE
Digest 462 Steel Structures Supporting Composite Floor Slabs: Design for Fire
Digest 487-2 Structural Fire Engineering Design: Materials Behaviour-Steel
Digest 487-4 Structural Fire Engineering Design: Materials Behaviour-Timber
Report 223 Mathematical Fire Modelling and its Application to Fire Safety Design
Report 231 Fire and Disabled People in Buildings
Report 459 Fire safety engineering – a reference guide
FBE Report 5 New Fire Design Method for Steel Frames with Composite Floor Slabs

IStructE
Guide to the advanced fire safety engineering of structures

Suggested reading
SCI
AD335 Eurocode design and National Annexes

TRADA
GD2 How to calculate the design values of loads using Eurocodes. 2nd edition

Background Reading

BSI
Structural Eurocodes Companion (BSI 2009)

DCLG

Elsevier

Thomas Telford
NA to BS EN 1991-1-1:2002:2005

BS EN 1991-1-2:2002  Eurocode 1: Actions on structures. General actions - Actions on structures exposed to fire

BS EN 1991-1-3:2003  Eurocode 1 - Actions on structures. General actions - Snow loads
NA to BS EN 1991-1-3:2003:2005


BS EN 1991-1-7:2006  Eurocode 1: Actions on structures. General actions - Accidental actions


BS EN 1991-3:2006  Eurocode 1: Actions on structures. Actions induced by cranes and machinery

BS EN 1991-4:2006  Eurocode 1 - Actions on structures. Silos and tanks

BSI

BS 6187:2000  Code of practice for demolition
BS 5975:2008  Code of practice for temporary works procedures and the permissible stress design of falsework
BS EN 1317-2:2010  Road restraint systems. Performance classes, impact test acceptance criteria and test methods for safety barriers
PD 6688-1.2:2007  Background paper to the UK National Annex to BS EN 1991-1.2
PD 6688-1-4:2009  Background information to the UK National Annex to BS EN 1991-1-4 and additional guidance
PD 6688-1-7:2009  Recommendations for the design of structures to BS EN 1991-1-7

BCSA

Publication No. 39/05  BCSA Guide to steel erection in windy conditions (2005)

BRE

Digest 439  Roof loads due to local drifting of snow (1999)

Highways Agency

TD 19/06  Highway structures: Design (substructures and special structures) materials. Special structures. Requirement for road restraint systems (DMRB 2.2.8)

Building regulations

Building Regulations 2000 and subsequent amendments (Quicklink from the Service’ homepage)
Building (Scotland) Regulations 2004 (Quicklink from the Service’ homepage)
Building Regulations (Northern Ireland) 2000 (Quicklink from the Service’ homepage)
NCCI Cited

BCSA
Publication 34/02 Steel bridges. 2nd edition
Publication 36/04 BCSA Code of practice for erection of low rise buildings
Publication 38/05 BCSA Guide to the erection of steel bridges

BRE
Special Digest SD5 Wind loads on unclad structures
Report 173 Design guide for wind loads on unclad building structures during construction

CIRIA
SP 131 Crane Stability on Site
Report C703 Crane stability on site: an introductory guide. 2nd edition

Department for Transport
Traffic signs regulations and general directions (TSRGD) 2002

Highways Agency
BD 2/05 Technical Approval of Highway Structures on Motorways and other Trunk Roads Part 1: General Procedures
BD 24/92 The Design of Concrete Highway Bridges and Structures. Use of BS 5400: Part 4: 1990
BD 29/03 Design Criteria for Footbridges
BD 37/01 Loads for Highway Bridges
BD 44/95 The Assessment of Concrete Highway Bridges and Structures
BD 48/93 The Assessment and strengthening of Highway Bridge Supports
BD 51/98 Portal and Cantilever Sign/Signal Gantry
BD 60/04 Design of Highway Bridges for Vehicle Collision Loads
BD 68/97 Crib Retaining Walls
BD 94/07 Design of minor structures
BA 41/98 Design and Appearance of Bridges
GD 02/08 Quality Management Systems for Highway Design
HA 37/97 Hydraulic Design of Road-Edge Surface Water Channels
HA 56/92 New Roads Planning, Vegetation and Soils
HA 83/99 Safety Aspects of Road Edge Drainage Features
HA 119/06 Grassed Surface Water Channels
HD 19/03 Road Safety Audits
TA 64/94 Narrow lane and tidal flow operations at road works on motorways and dual carriageway trunk roads with full width hard shoulders
TA 66/95 Police Observation Platforms on Motorways
TA 73/97 Motorway Emergency Telephones
TA 77/97 Motorways
TA 89/08 Use of passively safe signposts, lighting columns and traffic signal posts to BS EN 12767:2007
TA 90/05 The Geometric Design of Pedestrian, Cycle and Equestrian Routes
TA 91/05 Provision for Non-motorised Users
TA 92/03 Crossover and Changeover Design
TD 9/10 Road Link Design
TD 22/06 Layout of Grade Separated Junctions
TD 27/05 Cross Sections and Headroom
TD 41/95 Vehicular Access to All Purpose Trunk Roads
TD 42/95 Geometric Design of Major/Minor Priority Junctions

International Union of Railways

TSO
Traffic Signs Regulations (Northern Ireland) 1997
Highways Act 1980
Roads (Northern Ireland) Order 1993
Construction (design and management) regulations 2007
Construction (design and management) regulations (Northern Ireland) 2007
Traffic Signs Manual: Chapter 8-1 Traffic safety measures and signs for road works and temporary situations.
Design. 2nd edition
Traffic Signs Manual: Chapter 8-1 Traffic safety measures and signs for road works and temporary situations.
Operations. 2nd edition

Suggested reading

TRADA
GD2 How to calculate the design values of loads using Eurocodes. 2nd edition

Background Reading

DCLG

Elsevier

Thomas Telford
BS EN 1992-3:2006  Eurocode 2: design of concrete structures. Liquid retaining and containment structures

NCCI

BSI

CIRIA

Concrete Society
TR 58  Deflections in concrete slabs and beams (2005)

IStructE

NCCI Cited

BCA
Guide to contractor detailing of reinforcement in concrete
Early striking and improved backpropping for efficient flat slab construction (BCA - Best Practice Guide)

BPCF
Precast Eurocode 2: worked examples. For the design of precast concrete building structures to BS EN 1992-1-1:2004 and the UK National Annex

BRE
Digest 357  Shrinkage of natural aggregates in concrete

CIRIA
Report 92  Reinforcement connector and anchorage methods
Report 135  Concreting deep lifts and large volume pours
Report 139  Water resisting basements
Report C660, Early-age thermal crack control in concrete

Concrete Society
TR 22  Non-structural cracks in concrete. 4th edition
TR 34  Concrete industrial ground floors - a guide to their design and construction. 3rd edition
TR 43  Post-tensioned concrete floors - Design handbook. 2nd edition
TR 44  The relevance of cracking in concrete to corrosion of reinforcement
TR 59  Influence of tension stiffening on deflection of reinforced concrete structures

Highways Agency
BD 28/87  Early thermal cracking of concrete
**Background Reading**

**BPCF**
*Precast Eurocode 2: Design manual*. British Precast Concrete Federation, 2007

**Concrete Centre**
*Concise Eurocode 2*. Concrete Centre, 2009
*Concise Eurocode 2 for bridges*. Concrete Centre, 2009

**Concrete Society**

**DCLG**

**Elsevier**
*Concrete design to EN 1992*. Elsevier Press, 2005

**IStructE**

**Thomas Telford**

NA to BS EN 1993-1-1:2005:2008
NA to BS EN 1993-1-3:2006:2009
NA to BS EN 1993-1-4:2006:2009
NA to BS EN 1993-1-5:2006:2008
BS EN 1993-1-7:2005  Eurocode 3 - Design of steel structures. Plated structures subject to out of plane loading
BS EN 1993-1-10:2005  Eurocode 3: Design of steel structures. Material toughness and through-thickness properties
NA to BS EN 1993-1-10:2005:2009
BS EN 1993-3-1:2006  Eurocode 3 - Design of steel structures. Towers, masts and chimneys - towers and masts
NA to BS EN 1993-3-1:2006:2010
BS EN 1993-3-2:2006  Eurocode 3 - Design of steel structures. Towers, masts and chimneys - chimneys
BS EN 1993-4-1:2007  Eurocode 3 - Design of steel structures. Silos
BS EN 1993-4-2:2007  Eurocode 3 - Design of steel structures. Tanks
BS EN 1993-4-3:2007  Eurocode 3 - Design of steel structures. Pipelines
NA to BS EN 1993-6:2007:2009

NCCI

BSI
PD 6695-1-9:2008 Recommendations for the design of structures to BS EN 1993-1-9
PD 6695-2:2008 Recommendations for the design of bridges to BS EN 1993

SETRA
Cable Stays – Recommendations of French Interministerial Commission on Prestressing (English language version 2002) [Link is to availability through email order only]

SCI - Partner Agreement
Steel design can be simple using EC3 (Jun-2008)
Calculation of alpha-cr (Mar-2010)
Column base stiffness for global analysis (Apr-2006)
Design of out of plane and transverse restraint systems for portal frames (Mar-10)
Design of roof trusses (May-2006)
Modelling of portal frames - elastic analysis (Dec-2005)
Frame Stability (Jun-2008)
Practical analytical models for portal frames (plastic analysis) (Mar-2006)
Simple Construction - Concept and Typical Frame Arrangements (Oct-2005)
Simple methods for second order effects in portal frames (Mar-2006)
Simplified approaches to the selection of equivalent horizontal forces for the global analysis of braced and unbraced frames (Jun-2006)
Buckling lengths of columns: rigorous approach (Feb-2006)
Critical axial load for torsional and flexural torsional buckling modes (Feb-2005)
Design of a notched section at the end of a beam (Dec-2005)
Design of out of plane and transverse restraint systems for portal frames (Mar-2010)
Design rules for web openings in beams (May-2006)
Determination of moments on columns in simple construction (Apr-2005)
Determination of non-dimensional slenderness of I and H sections (Mar-2005)
Effective lengths of columns and truss elements in truss portal frame construction (Mar-2006)
Elastic critical moment for lateral torsional buckling (Mar-2005)
Elastic critical moment of cantilevers (Jun-2005)
General method for out-of-plane buckling in portal frames (Dec-2005)
Initial Design of non Composite Beams (Dec-2005)
Initial Design of non Composite Beams (GB) (Jun-2006)
Mono-symmetrical uniform members under bending and axial compression (Dec-2005)
Torsion and torsional-flexural buckling (Jun-2008)
Blue Book Resistance Tables (Jun-2008)
Sizing guidance - non-composite columns (H sections) (Mar-2006)
Sizing guidance - non-composite columns-UC sections (Mar-2006)
Torsion (Dec-2004)
Verification of columns in simple construction – a simplified interaction criterion (Mar-2006)
Practical deflection limits for single storey buildings (Mar-2006)
Vertical and horizontal deflection limits for multi-storey buildings (Feb-2006)
Web bearing and Buckling resistance (Mar-2010)
Bearing column splices (Feb-2006)
Column splices not requiring full continuity of stiffness (Aug-2005)
Design model for non-bearing column splices (Feb-2005)
Initial sizing of fin plate connections (Mar-2010)
Initial sizing of non-bearing column splices (Mar-2005)
Initial sizing of simple end plate connections (Mar-2005)
Shear resistance of a fin plate connection (Jan-2005)
Shear resistance of a simple end plate connection (Mar-2005)
Tying resistance of a fin plate connection (Mar-2005)
Tying resistance of a simple end plate connection (Mar-2005)
Design model for simple column bases- axially loaded I section columns (Mar-2010)
Design of fixed column base joints (Feb-2006)
Design of portal frame apex connections (Aug-2006)
Design of portal frame eaves connections (May-2006)
Design of simple column bases with shear nubs (Dec-2005)
Initial sizing of fin plate connections (Mar-2010)
Design model for welded joints in trusses using structural hollow sections (Apr-2006)
Design models for splices in structural hollow sections (May-2006)
Execution Standards

BSI

**BS EN 1090-1** Execution of steel structures and aluminium structures. Requirements for conformity assessment of structural components

**BS EN 1090-2** Execution of steel structures and aluminium structures. Technical requirements for steel structures

Suggested reading

SCI

**Publication 391** Structural robustness of steel framed buildings

**AD 335** Eurocode design and National Annexes

Whittles

*Steel structures: analysis and design for vibrations and earthquakes*

**Background Reading**

ECCS


Elsevier


European Commission


JRC: Scientific and technical reports


*Commentary and worked examples to EN 1993-1-5 "Plated structural elements"* http://eurocodes.jrc.ec.europa.eu/showpublication.php?id=100

SCI

*Section properties and member resistances to Eurocode 3 (UB, UC and hollow sections).* SCI Report – P158, 1997.

Thomas Telford

NCCI

BSI

SCI - Partner Agreement
Modified limitation on partial shear connection in beams for buildings (2010)
Resistance of headed stud shear connectors in transverse sheeting (2010)

NCCI Cited

ASFP - Yellow Book (4th edition)
Fire protection for structural steel in buildings. Vol 1 Sections 1-9
Fire protection for structural steel in buildings. Vol 2-1 Boards. Section 10:1 Product data sheets - Boards
Fire protection for structural steel in buildings. Vol 2-2 Casings, blankets and circular pre-formed products. Section 10:2 Product data sheets
Fire protection for structural steel in buildings. Vol 2-3 Sprayed non reactive coatings. Section 10:3 Product data sheets
Fire protection for structural steel in buildings. Vol 2-4 Sprayed reactive intumescent coatings. Section 10:4

IStructE
Safety in Tall Buildings and Other Buildings with Large Occupancy

SCI
Publication 291 Structural design of stainless steel

Background Reading

Elsevier

Thomas Telford
http://www.icevirtuallibrary.com/content/book/100289

NA to BS EN 1995-1-1:2004:2006

NCCI

PD 6693 Complementary information for use with Eurocode 5 [not yet available]

NCCI Cited

Suggested reading
BSI
BS EN 14081-1:2005 Timber structures - Strength graded structural timber with rectangular cross section. General requirements

TRADA
Eurocode 5 span tables for solid timber members in floors, ceilings and roofs for dwellings. 3rd edition.
Worked example, 12-storey building of cross-laminated timber (Eurocode 5)
GD 2 How to calculate the design values of loads using Eurocodes. 2nd edition
GD 5 How to calculate deformations in timber structures using Eurocodes. 2nd Edition
GD 6 Vibration in timber floors (Eurocode 5). 2nd edition
GD 10 Cross-laminated timber (Eurocode 5) design guide for project feasibility
WIS 4/7 Timber strength grading and strength classes

Background Reading

Elsevier

IstructE

Thomas Telford

British Masonry Society
Eurocode for Masonry, EN 1996-1-1 and EN 1996-2: Guidance and worked examples [Availability details]
http://www.masonry.org.uk/masonry/latest_news/eurocode_for_masonry_en_1996_1_1_and_en_1996_2_guidance_and_worked_examples_an_ims_special_publication

DCLG
Design Handbook for EN 1996 - Design of Masonry Structures

CIRIA

IStructE
Introduction to the fire safety engineering of structures (2003)
Manual for the design of plain masonry building structures to Eurocode 6

Thomas Telford
Designers guide to EN 1996-1-1 Eurocode 6: Design of masonry structures-Common rules for reinforced and unreinforced masonry structures [not yet available]

NCCI Cited

BDA
Handbook to BS 5628: structural use of masonry. Part 1 Unreinforced masonry

BRE
Digest 227 Estimation of thermal and moisture movements and stresses. Part 1
Digest 228 Estimation of thermal and moisture movements and stresses. Part 2

CIRIA
TN 107 Design for movement in Buildings

IStructE
Guide to the advanced fire safety engineering of structures

Background Reading

DCLG
Elsevier

IStructE

Thomas Telford
BS EN 1997-1:2004 Eurocode 7: Geotechnical design. General rules
NA to BS EN 1997-1:2004:2007
BS EN 1997-2:2007 Eurocode 7: Geotechnical design. Ground investigation and testing

NCCI

BSI
BS 5930:1999 Code of practice for site investigations
BS 6031:2009 Code of practice for earthworks
BS 8002:1994 Code of practice for earth retaining structures
BS 8004:1986 Code of practice for foundations
BS 8008:1996 Guide to safety precautions and procedures for the construction and descent of machine-bored shafts for piling and other purposes
BS 8081:1989 Code of practice for ground anchorages
PD 6694-1:2011 Recommendations for the design of structures subject to traffic loading to BS EN 1997-1:2004

CIRIA
Report C580 Embedded retaining walls - Guidance for economic design

Highways Agency
UK Design Manual for Roads and Bridges

NCCI Cited

BRE
Digest 403 Damage to structures from ground-borne vibration
Special Digest 1 Concrete in aggressive ground

CIRIA
Report 104 Design of retaining walls embedded in stiff clay
Report 152 Risk assessment for methane and other gases from the ground
Report 185 The Observational Method in ground engineering – principles and applications
Report C504 Engineering in glacial tills
Report C514 The use of grouting techniques for ground improvement
Report C515 Groundwater control – design and practice
Report C517 Temporary propping of deep excavations – guidance on design
Report C570 Engineering in Mercia mudstone

Remedial treatment for contaminated land (SP101-SP112)
SP101 Introduction and guide
SP102 Decommissioning, decontamination and demolition
SP103 Site investigation and assessment
SP104 Classification and selection of remedial methods
SP105 Excavation and disposal
SP106 Containment and hydraulic measures
SP107 Ex-situ remedial methods for soils, sludges and sediments
SP108 Ex-situ remedial methods for contaminated groundwater and other liquids
SP109 In-situ methods of remediation
SP110 Special situations
SP111 Planning and management
SP112 Policy and legislation
TRL
Report 172 Ground movements caused by different embedded retaining wall construction techniques
Report 213 The effectiveness of berms and raked props as temporary support to retaining walls
Report 228 Movement trigger limits when applying the Observational Method to embedded retaining wall construction on highway scheme
Report 239 Behaviour during construction of a propped diaphragm wall founded in London Clay at Aldershot road underpass
Report 381 Long term performance of embedded retaining walls
Report 427 Field evaluation of the TRL load cell pressuremeter in Gault Clay
LR 766 Experimental retaining wall facility – lateral stress measurements with sand backfill
LR 946 Earth pressures against an experimental retaining wall backfilled with silty clay
RR 192 Earth pressures against an experimental retaining wall backfilled with heavy clay

Execution Standards
BS EN 1536:2010 Execution of special geotechnical works - bored piles
BS EN 1537:2000 Execution of special geotechnical work - ground anchors
BS EN 1538:2010 Execution of special geotechnical works - diaphragm walls
BS EN 12063:1999 Execution of special geotechnical work - sheet pile walls
BS EN 12699:2001 Execution of special geotechnical work - displacement piles

Background Reading
CIRIA

DCLG

Thomas Telford


PD 6698:2009 Recommendations for the design of structures for earthquake resistance to BS EN 1998

Suggested reading
Whittles
Steel structures: analysis and design for vibrations and earthquakes

European Commission

Springer Press

Taylor and Francis
Eurocode 9 – Design of aluminium structures

NA to BS EN 1999-1-1:2007:2008
BS EN 1999-1-3:2007  Eurocode 9: Design of aluminium structures. Structures susceptible to fatigue
NA to BS EN 1999-1-4:2007:2009
BS EN 1999-1-5:2007  Eurocode 9: Design of aluminium structures. Shell structures
NA to BS EN 1999-1-5:2007:2009

NCCI

PD 6702-1:2009  Structural use of aluminium. Recommendations for the design of aluminium structures to BS EN 1999
PD 6705-3:2009  Structural use of steel and aluminium. Recommendations for the execution of aluminium structures to BS EN 1090-3

NCCI Cited

Execution Standards
BS EN 1090-1  Execution of steel structures and aluminium structures. Requirements for conformity assessment of structural components
BS EN 1090-3  Execution of steel structures and aluminium structures. Technical requirements for aluminium structures

Suggested reading

Whittles
Introduction to structural aluminium design

Background Reading

Elsevier

Springer Press

Spon Press

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