Steel, concrete and composite bridges —

Part 5: Code of practice for the design of composite bridges

ICS 93.040



Committees responsible for this British Standard

The preparation of this British Standard was entrusted by Technical Committee B/525, Building and civil engineering structures, to Subcommittee B/525/10, Bridges, upon which the following bodies were represented:

Association of Consulting Engineers

British Cement Association

British Constructional Steelwork Association

British Precast Concrete Federation

Concrete Society

County Surveyors' Society

Department for Transport — Highways Agency

Institution of Civil Engineers

Institution of Structural Engineers

Network Rail

Rail Safety and Standards Board

Steel Construction Institute

UK NTC

UK Steel Association

Welding Institute

Co-opted members

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 18 November 2005

 $\ \odot$ BSI 18 November 2005

First published April 1979 Second edition November 2005

Amendments issued since publication

Amd. No.	Date	Comments

Draft for comment 05/30125587 DC

The following BSI references relate to the work on this British Standard:

Committee reference B/525/10

ISBN 0 580 46716 3

Contents

		age
Com	mittees responsible Inside front co	over
Fore	word	iii
1	Scope	1
2	Normative references	1
3	Definitions	1
4	General design principles	6
4.1	Design philosophy	6
4.2	Material properties	6
4.3	Limit state requirements	7
5	Design and detailing of the superstructure for the serviceability limit state	7
5.1	Analysis of structure	7
5.2	Analysis of sections	8
5.3	Longitudinal shear	10
5.4	Temperature effects and shrinkage modified by creep	17
5.5	Deflections	19
6	Design and detailing of superstructure for the ultimate limit state	20
6.1	Analysis of structure	20
6.2	Analysis of sections	20
6.3	Longitudinal shear	21
7	Composite box girders	25
7.1	General	25
7.2	Effective span	$\frac{-5}{25}$
7.3	Effective breadth	26
7.4	Distribution of bending moments and vertical shear forces	26
7.5	Longitudinal shear	26
7.6	Torsion	27
7.7	Composite plate	27
8	Cased beams and filler beam construction	28
8.1	General	28
8.2	Limit state requirements	28
8.3	Analysis of structure	28
8.4	Analysis of sections	29
8.5	Longitudinal shear	29
8.6	Temperature and shrinkage effects	29
8.7	Control of cracking	30
8.8	Design and construction	30
9	Permanent formwork	31
9.1	General	31
9.2	Materials	31
9.3	Structural participation	31
9.4	Temporary construction loading	31
9.5	Design	31
9.6	Special provisions for precast concrete or composite precast concrete permanent formwork	32
10	Use of friction grip bolts as shear connectors in composite beams	32
	General	32
	Design criteria: static loading	32
10.3		33
	=	

 $^{\circ}$ BSI 18 November 2005