

PD 6695-1-10:2009



BSI Standards Publication

PUBLISHED DOCUMENT

Recommendations for the design of structures to BS EN 1993-1-10

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ISBN 978 0 580 59346 8

ICS 91.080.01

The following BSI references relate to the work on this standard:
Committee reference B/525/10 and B/525/31

Publication history

First published January 2009

Amendments issued since publication

Date	Text affected
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Foreword

Publishing information

This Published Document is published by BSI and came into effect on 31 January 2009. It was prepared by Subcommittee B/525/10, *Bridges*, in consultation with B/525/31, *Structural use of steel*, under the authority of Technical Committee B/525, *Building and civil engineering structures*. A list of organizations represented on these committees can be obtained on request to their secretary.

Relationship with other publications

This Published Document gives non-contradictory complementary information for use in the UK with Part 1-10 of the Eurocode for the design of steel structures, BS EN 1993, and its National Annex.

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The provisions in this Published Document are presented in roman (i.e. upright) type. Its recommendations are expressed in sentences in which the principal auxiliary verb is “should”.

Commentary, explanation and general informative material is presented in smaller italic type, and does not constitute a normative element.

The word “should” is used to express recommendations of this Published Document. The word “may” is used in the text to express permissibility, e.g. as an alternative to the primary recommendation of the clause. The word “can” is used to express possibility, e.g. a consequence of an action or an event.

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1 Scope

This Published Document gives non-contradictory complementary information for use in the UK with BS EN 1993-1-10 and its UK National Annex.

2 Selection of Charpy impact sub-grade

2.1 Maximum permissible values of thickness for reference temperatures above 10 °C and below –50 °C (BS EN 1993-1-10:2005, 2.3)

Recommended maximum permissible values of element thickness t are given in Table 1 for reference temperatures above and below those given in BS EN 1993-1-10.

Table 1 Maximum permissible values of element thickness, t , for $\sigma_{Ed} = 0.75f_y(t)$

Steel grade	Sub-grade	Charpy energy CVN		Maximum values of element thickness t (mm) according to the reference temperature T_{Ed} (°C)						
		at T (°C)	J_{min}	50 ^{A)}	40 ^{A)}	30 ^{A)}	20 ^{A)}	–60 ^{A)}	–70 ^{A)}	–80 ^{A)}
S235	JR	20	27	125	105	90	75	15	10	10
	J0	0	27	170	145	125	105	25	20	15
	J2	–20	27	200	195	170	145	35	30	25
S275	JR	20	27	110	95	75	65	10	10	5
	J0	0	27	160	135	110	95	20	15	10
	J2	–20	27	200	185	160	135	30	25	20
	M, N	–20	40	200	200	200	185	35	30	25
	ML, NL	–50	27	200	200	200	200	55	45	35
S355	JR	20	27	90	75	60	50	10	5	5
	J0	0	27	130	110	90	75	15	10	10
	J2	–20	27	180	155	130	110	20	15	15
	K2, M, N	–20	40	200	180	155	130	25	20	15
	ML, NL	–50	27	200	200	200	180	40	35	25
S420	M, N	–20	40	185	160	135	115	25	20	15
	ML, NL	–50	27	200	200	185	160	35	25	20
S460	Q	–20	30	150	125	105	90	15	10	10
	M, N	–20	40	180	150	125	105	20	15	10
	QL	–40	30	200	180	150	125	25	20	15
	ML, NL	–50	27	200	200	180	150	30	25	20
	QL1	–60	30	200	200	200	180	40	30	25
S690	Q	0	40	90	75	60	50	5	5	5
	Q	–20	30	110	90	75	60	10	5	5
	QL	–20	40	130	110	90	75	10	10	5
	QL	–40	30	155	130	110	90	15	10	10
	QL1	–40	40	180	155	130	110	20	15	10
	QL1	–60	30	200	180	155	130	25	20	15

A) Reference temperature, T_{Ed} .