

NATIONAL ANNEX
TO
CYS EN 1993-1-10: 2005 Eurocode 3: Design of steel
structures
Part 1-10: Material toughness and through-thickness
properties

Public Enquiry Draft

Period of Enquiry

November 19th 2007 to January 14th 2008

Readers are advised that this is a draft document and subject to change

Prepared by: Eurocodes Committee
Ministry of Interior / Technical Chamber of Cyprus

PUBLIC ENQUIRY DRAFT

National Annex to CYS EN 1993-1-10: 2005 Eurocode 3: Design of steel structures
Part 1-10: Material toughness and through-thickness properties

INTRODUCTION

This National Annex has been prepared by the Eurocodes Committee of the Technical Chamber of Cyprus which was commissioned by the Ministry of Interior of the Republic of Cyprus.

NA 1 SCOPE

This National Annex is to be used together with CYS EN 1993-1-10: 2005.

This National Annex gives:

- (a) Nationally determined parameters for the following clauses of CYS EN 1993-1-10: 2005 where National choice is allowed (see Section NA 2):
 - 2.2(5)
 - 3.1(1)
- (b) References to non-contradictory complementary information to assist the user to apply CYS EN 1993-1-10: 2005 (see Section NA 3).

NA 2 NATIONALLY DETERMINED PARAMETERS

NA 2.1 Clause 2.2(5) Procedure

Maximum values of the range between T_{Ed} and the test temperature and also the range of σ_{Ed} , to which the validity of values for permissible thicknesses shall be as shown in Table 2.1 (CYS) of CYS EN 1993-1-10: 2005.

The application of Table 2.1 (CYS) is extended to all steel grades shown in the table.

Table 2.1 (CYS): Maximum permissible values of element thickness t in mm

Steel grade	Sub-grade	Charpy energy CVN		Reference temperature T_{Ed} [°C]																							
		at T [°C]	J_{min}	$\sigma_{Ed} = 0,75 f_y(t)$								$\sigma_{Ed} = 0,50 f_y(t)$								$\sigma_{Ed} = 0,25 f_y(t)$							
				10	0	-10	-20	-30	-40	-50	10	0	-10	-20	-30	-40	-50	10	0	-10	-20	-30	-40	-50			
S235	JR	20	27	60	50	40	35	30	25	20	90	75	65	55	45	40	35	135	115	100	85	75	65	60			
	J0	0	27	90	75	60	50	40	35	30	125	105	90	75	65	55	45	175	155	135	115	100	85	75			
	J2	-20	27	125	105	90	75	60	50	40	170	145	125	105	90	75	65	200	200	175	155	135	115	100			
S275	JR	20	27	55	45	35	30	25	20	15	80	70	55	50	40	35	30	125	110	95	80	70	60	55			
	J0	0	27	75	65	55	45	35	30	25	115	95	80	70	55	50	40	165	145	125	110	95	80	70			
	J2	-20	27	110	95	75	65	55	45	35	155	130	115	95	80	70	55	200	190	165	145	125	110	95			
	M,N	-20	40	135	110	95	75	65	55	45	180	155	130	115	95	80	70	200	200	190	165	145	125	110			
	ML,NL	-50	27	185	160	135	110	95	75	65	200	200	180	155	130	115	95	230	200	200	200	190	165	145			
S355	JR	20	27	40	35	25	20	15	10	65	55	45	40	30	25	20	110	95	80	70	60	55	45				
	J0	0	27	60	50	40	35	25	20	15	95	80	65	55	45	40	30	150	130	110	95	80	70	60			
	J2	-20	27	90	75	60	50	40	35	25	135	110	95	80	65	55	45	200	175	150	130	110	95	80			
	K2,M,N	-20	40	110	90	75	60	50	40	35	155	135	110	95	80	65	55	200	200	175	150	130	110	95			
	ML,NL	-50	27	155	130	110	90	75	60	50	200	180	155	135	110	95	80	210	200	200	200	175	150	130			
S420	M,N	-20	40	95	80	65	55	45	35	30	140	120	100	85	70	60	50	200	185	160	140	120	100	85			
	ML,NL	-50	27	135	115	95	80	65	55	45	190	165	140	120	100	85	70	200	200	200	185	160	140	120			
S460	Q	-20	30	70	60	50	40	30	25	20	110	95	75	65	55	45	35	175	155	130	115	95	80	70			
	M,N	-20	40	90	70	60	50	40	30	25	130	110	95	75	65	55	45	200	175	155	130	115	95	80			
	QL	-40	30	105	90	70	60	50	40	30	155	130	110	95	75	65	55	200	200	175	155	130	115	95			
	ML,NL	-50	27	125	105	90	70	60	50	40	180	155	130	110	95	75	65	200	200	200	175	155	130	115			
	QL1	-60	30	150	125	105	90	70	60	50	200	180	155	130	110	95	75	215	200	200	200	175	155	130			
S690	Q	0	40	40	30	25	20	15	10	10	65	55	45	35	30	20	20	120	100	85	75	60	50	45			
	Q	-20	30	50	40	30	25	20	15	10	80	65	55	45	35	30	20	140	120	100	85	75	60	50			
	QL	-20	40	60	50	40	30	25	20	15	95	80	65	55	45	35	30	165	140	120	100	85	75	60			
	QL	-40	30	75	60	50	40	30	25	20	115	95	80	65	55	45	35	190	165	140	120	100	85	75			

PUBLIC ENQUIRY DRAFT

National Annex to CYS EN 1993-1-10: 2005 Eurocode 3: Design of steel structures
Part 1-10: Material toughness and through-thickness properties

	QL1	-40	40	90	75	60	50	40	30	25	135	115	95	80	65	55	45	200	190	165	140	120	100	85
	QL1	-60	30	110	90	75	60	50	40	30	160	135	115	95	80	65	55	200	200	190	165	140	120	100

NA 2.2 Clause 3.1(1) General

(1) The choice of quality class should be selected from Table (CYS) of CYS EN 1993-1-10: 2005 depending on the consequences of lamellar tearing.

Table 3.1 (CYS): Choice of quality class according to EN 10164

Class	Application of guidance
1	All steel products and all thicknesses listed in European standards for all applications
2	Certain steel products and thicknesses listed in European standards and/or certain listed applications

The recommended class 1 shall be used.

NA 3 REFERENCES TO NON-CONTRADICTORY COMPLEMENTARY INFORMATION

None