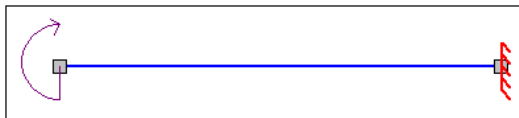


TEST SCHEDULE B 12	EN 1993-1-1: 2005 (EUROCODE 3)	Sargon ©, Cescoplus ©
BUCKLING	BENDING 2 (LATERAL TORSIONAL)	EC3.BUC.M2.001



Program: WEURO © version October 2007 for Sargon and Cescoplus
Keywords: EN 1993, Eurocode 3, example, validation, benchmark, reliability, quality control, error measure. **Parole chiave:** Eurocodice 3, esempio, validazione, test, affidabilità, controllo di qualità, misura dell'errore
Tv=exploitation target value, **Cv**=exploitation computed value
Authors: Ing. Marco Croci, Ing. Paolo Rugarli

BEAM						
Length [mm]		Buckling factors		Left end		Right end
3500		$\beta_1=2 \quad \beta_2=2 \quad \beta_3=2$		FREE		FIXED
LOAD						
Type			Value		Point of application	
BENDING MOMENT M_2			M=120.000.000Nmm		LEFT END	
MATERIAL		S235				
f_y [N/mm ²]	f_u [N/mm ²]	E [N/mm ²]	ν	γ_{M0}	γ_{M1}	γ_{M2}
235	360	2,10E+05	0,3	1,1	1,1	1,25
CROSS-SECTION		HE 240 A	CLASS: $M_2 \rightarrow 1$			
A [mm ²]		J_2 [mm ⁴]	J_3 [mm ⁴]	J_t [mm ⁴]	W_2 [mm ³]	W_3 [mm ³]
7684		7,763E+07	2,769E+07	4,155E+05	6,751E+05	2,307E+05
W_{pl2} [mm ³]		W_{pl3} [mm ³]	i_2 [mm]	i_3 [mm]	i_t [mm]	
7,446E+05		3,517E+05	100,5	60	69,28	
h		b	t_w	t_f	r	
230		240	7,5	12	21	
OTHER DATA*						
h/b		α_{LT}	I_{ω}	G		
0,96		0,21	3,285E+11	8,077E+04		
χ_{LT}		ϕ_{LT}	λ_{LT}	M_{cr}	C_1	
0.830		0.827	0.736	3,231E+08	1	

TARGET VALUES BASED ON PRELIMINAR COMPUTATIONS

$$T_v = M / (\chi_{LT} W_{pl} f_y / \gamma_{M1})$$

T_v
9,086E-01

CHECKER'S RESULTS (COMPUTED VALUES) AND COMPARISON WITH THE TARGET

C_v	$(C_v - T_v) / T_v$
9,086E-01	-1,751E-05

In Sargon was fixed the same C_1 value reported in Other Data section

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<http://www.castaliaweb.com>
staff@castaliaweb.com