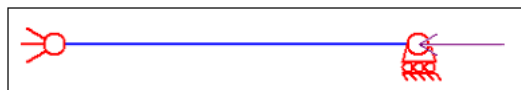


TEST SCHEDULE B 11	EN 1993-1-1: 2005 (EUROCODE 3)	Sargon ©, Cescoplus ©
BUCKLING	COMPRESSION	EC3.BUC.NN.011



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
2500	$\beta_1=0 \quad \beta_2=1 \quad \beta_3=1$	HINGE	SIMPLY SUPPORTED

LOAD			
Type	Value	Point of application	
COMPRESSION	N=400.000N	RIGHT END	

MATERIAL	S275					
f_y [N/mm ²]	f_u [N/mm ²]	E [N/mm ²]	ν	γ_{M0}	γ_{M1}	γ_{M2}
275	430	2,10E+05	0,3	1,1	1,1	1,25

CROSS SECTION	2 UPNH 140 10	CLASS: N° → 1			
A [mm ²]	J_2 [mm ⁴]	J_3 [mm ⁴]	J_t [mm ⁴]	W_2 [mm ³]	W_3 [mm ³]
4073	1,209E+07	3,323E+06	1,051E+05	1,728e+05	5,112e+04
W_{pl2} [mm ³]	W_{pl3} [mm ³]	i_2 [mm]	i_3 [mm]	i_t [mm]	d
1,728e+05	9,188E+04	54,49	28,56	17,32	10
h	b	t_w	t_f	r	r1
140	60	7	10	10	5

OTHER DATA*					
α_2	α_3	λ_2	λ_3	$\bar{\lambda}_2$	$\bar{\lambda}_3$
0,49	0,49	45,9	87,5	0,528	1,008
Φ_2	Φ_3	χ_2	χ_3	$N_{b2,Rd}$ [N]	$N_{b3,Rd}$ [N]
0,720	1,206	0,827	0,535	842.022	544.968

TARGET VALUES BASED ON PRELIMINAR COMPUTATIONS

$$Tv = N/N_{b3,Rd}$$

Tv
7,340E-01

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

Cv	(Cv-Tv)/Tv
7,340E-01	1,712E-05

(*) formulae for $\lambda_{2,3}$, $\bar{\lambda}_{2,3}$, $\chi_{2,3}$ and $N_{b2,3,Rd}$ are given in EN 1993-1-1 6.3.1