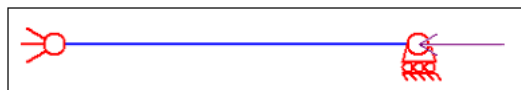


TEST SCHEDULE B 8	EN 1993-1-1: 2005 (EUROCODE 3)	Sargon ©, Cescoplus ©
BUCKLING	COMPRESSION	EC3.BUC.NN.008



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	
1000		$\beta_1=0 \quad \beta_2=1 \quad \beta_3=1$		HINGE		SIMPLY SUPPORTED	
LOAD							
Type		Value		Point of application			
COMPRESSION		N=10.000N		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		L 40x20x5		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]		
277	4,550e+04	4,800e+03	2,292e+03	1,790e+03	4,200e+02		
W _{pl2} [mm ³]	W _{pl3} [mm ³]	i ₂ [mm]	i ₃ [mm]	i _t [mm]			
1,790e+03	4,200e+02	12,8	4,2	0			
h	b	t	r	r1			
40	20	5	4	2			
OTHER DATA*							
α_2	α_3	λ_2	λ_3	$\bar{\lambda}_2$	$\bar{\lambda}_3$		
0,34	0,34	78,13	238,10	0,900	2,743		
Φ_2	Φ_3	χ_2	χ_3	N _{b2,Rd} [N]	N _{b3,Rd} [N]		
1.024	4.693	0.661	0.118	(45.789)	8.145		

TARGET VALUES BASED ON PRELIMINAR COMPUTATIONS

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

Tv
1,228E+00

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

Cv	(Cv-Tv)/Tv
1,228E+00	2,569E-04

(*) 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