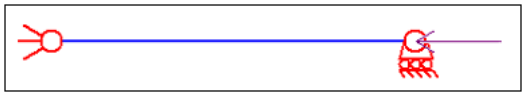
TEST SCHEDULE B 1	EN 1993-1-1: 2005 (EUROCODE 3)	Sargon ©, Cescoplus ©
BUCKLING	COMPRESSION	EC3.BUC.NN.001



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

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BEAM			
Length [mm]	Buckling factors	Left end	Right end
1000	β_1=0 β_2=1 β_3=1	HINGE	SIMPLY SUPPORTED

LOAD		
Type	Value	Point of application
COMPRESSION	N=100.000N	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	IPE 100	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]
1032	1,710e+06	1,592e+05	1,202e+04	3,420e+04	5,789e+03
W_{pl2} [mm^3]	W_{pl3}	i_2 [mm]	i_3 [mm]	i_t [mm]	
3,941e+04	9,145e+03	40,7	12,42	15,88	
h	b	t_w	t_f	r	
100	55	4,1	5,7	7	

OTHER DATA*					
α_2(h/b>1,2 tf<40)	α_3(h/b>1,2 tf<40)	λ_2	λ_3	$\bar{\lambda}_2$	$\bar{\lambda}_3$
0,21	0,34	24,6	80,5	0,283	0,927
Φ_2	Φ_3	χ_2	χ_3	$N_{b2.Rd}$ [N]	$N_{b3.Rd}$ [N]
0,549	1,054	0,981	0,644	(253.189)	166.058

TARGET VALUES BASED ON PRELIMINAR COMPUTATIONS

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

Tv
6,022E-01

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

Cv	(Cv-Tv)/Tv
6,022E-01	**0,000E+00**

(*) 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

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