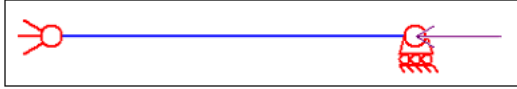


TEST SCHEDULE B 7	EN 1993-1-1: 2005 (EUROCODE 3)	Sargon ©, Cescoplus ©
BUCKLING	COMPRESSION	EC3.BUC.NN.007



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	$\beta_1=0$	$\beta_2=1$	$\beta_3=1$	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						
UPN 120		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]	
1698	3,642e+06	4,320e+05	4,15e+04	6,071e+04	1,106e+04	
W _{pl2} [mm ³]	W _{pl3} [mm ³]	i ₂ [mm]	i ₃ [mm]	i _t [mm]		
7,268e+04	2,127e+04	46,31	15,93	15,88		
h	b	t _w	t _f	r	r1	
120	55	7	9	9	4,5	
OTHER DATA*						
α_2	α_3	λ_2	λ_3	$\bar{\lambda}_2$	$\bar{\lambda}_3$	
0,49	0,49	21,59	62,77	0,249	0,723	
Φ_2	Φ_3	χ_2	χ_3	N _{b2,Rd} [N]	N _{b3,Rd} [N]	
0,543	0,890	0,975	0,710	(413.989)	301.557	

TARGET VALUES BASED ON PRELIMINAR COMPUTATIONS

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

Tv
3,316E-01

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

Cv	(Cv-Tv)/Tv
3,316E-01	-3,613E-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