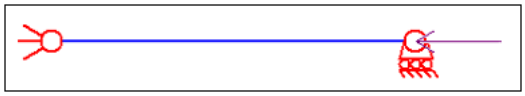
TEST SCHEDULE B 2	EN 1993-1-1: 2005 (EUROCODE 3)	Sargon ©, Cescoplus ©
BUCKLING	COMPRESSION	EC3.BUC.NN.002



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=10.000.000N	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→255	430	2,10E+05	0,3	1,1	1,1	1,25

CROSS SECTION	**HSH 600X828**	**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]
1,055E+05	6,544e+09	2,737e+09	1,813e+08	2,181e+07	9,124e+06
W_{pl2} [mm^3]	W_{pl3} [mm^3]	i_2 [mm]	i_3 [mm]	i_t [mm]	
2,550e+07	1,379e+07	149	161	173,2	
h	b_1=b_2	t_w	t_{f1}=t_{f2}		
600	600	32	76		

OTHER DATA*					
α_2(t_f>40)	α_3(t_f>40)	λ_2	λ_3	$\bar{\lambda}_2$	$\bar{\lambda}_3$
0,49	0,76	6,71	6,21	0,074	0,069
Φ_2	Φ_3	χ_2	χ_3	$N_{b2.Rd}$ [N]	$N_{b3.Rd}$ [N]
0,472	0,453	1,066 → 1	1,111 → 1	24.456.818	24.456.818

TARGET VALUES BASED ON PRELIMINAR COMPUTATIONS

$$Tv=N/N_{b2(or\ 3).Rd}$$

Tv
4,089E-01

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

Cv	(Cv-Tv)/Tv
4,087E-01	**-4,498E-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

According to table 3.1 when cross section thickness is higher than 40mm yield stress should be decreased. Here a yield stress equal to 255N/mm^2 has been used.