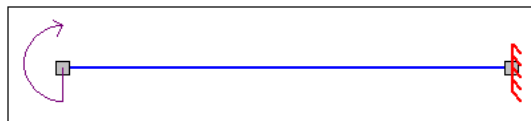


TEST SCHEDULE R 20	EN 1993-1-1: 2005 (EUROCODE 3)	Sargon ©, Cescoplus ©
RESISTANCE	BENDING - AXIS 3	EC3.RES.M3.003



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]	Left end	Right end
1000	FREE	FIXED

LOAD		
Type	Value	Point of application
BENDING MOMENT M_3	$M=5.000.000.000\text{Nmm}$	LEFT END

MATERIAL	S490					
f_y [N/mm ²]	f_u [N/mm ²]	E [N/mm ²]	ν	γ_{M0}	γ_{M1}	γ_{M2}
490	570	2,10E+05	0,3	1,1	1,1	1,25

CROSS SECTION	HSB 600X828	CLASS: $M_3 \rightarrow 1$			
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				
Reduced f_y [N/mm ²]				
450				

TARGET VALUES BASED ON PRELIMINAR COMPUTATIONS

$$M_{pl,Rd} = W_{pl} \cdot f_y / \gamma_{M0}$$

$$T_v = M / M_{pl,Rd}$$

$$8,863E-01$$

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

C_v	$(C_v - T_v) / T_v$
8,860E-01	-3,504E-04

According to table 3.1 when cross section thickness is higher than 40mm yield stress should be decreased. Here a yield stress equal to 450N/mm² has been used.

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