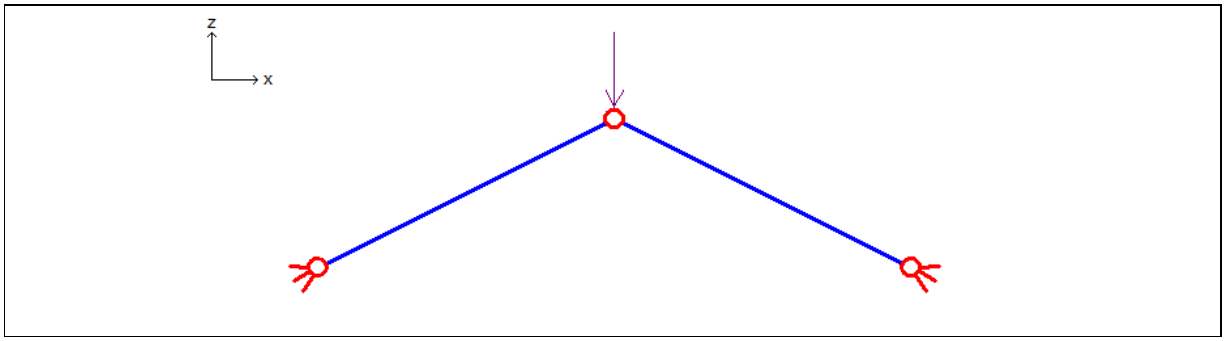
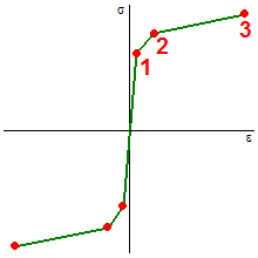
Validation of Sargon Nonlinear solver (CURAN, version 9.60)			
TEST TR006	**VALIDATION, RELIABILITY, BENCHMARK**	**Marco Croci**	**Rev.2-03/12/2010**

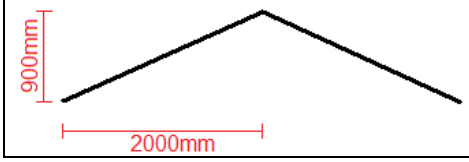


Test description
Constitutive law of trusses material: trilinear If f_y is not exceeded, solution should coincide with a linear elastic analysis
Test model: **curanTR_006.WSR**

Material properties		
Name	S235TR	
ν	0,3	
ε_1	0,001119	
σ_1	235N/mm^2	
ε_2	0,004	
σ_2	300N/mm^2	
ε_3	0,02	
σ_3	360N/mm^2	

Cross-section: circular section, diameter=40mm (area=1256,64mm^2)

Geometry



Force (z direction)	
Load case 1	F = -240000N
Load case 2	F = +240000N
Load path: not active	

CHECK

Load case	Value	Unit	CURAN	THEORETICAL	% diff.
1	Truss #1 axial force	N	-2,924E+05	-2,924E+05	0,00
1	Node #8 displacement (z)	mm	-5,922E+00	-5,922E+00	0,00
2	Truss #1 axial force	N	2,924E+05	2,924E+05	0,00
2	Node #8 displacement (z)	mm	5,922E+00	5,922E+00	0,00

% difference = (CURAN - THEORETICAL) / THEORETICAL * 100

Precision of limit multiplier for the analysis: 0.005