Truss bridge

Analysis by Máté Szedlák
With the help of Rolando Chacón (UPC, Barcelona)

AxisVM 13.0 R3f · Registered to Szedlák Máté
3D bridge - Axis model.axs

Report

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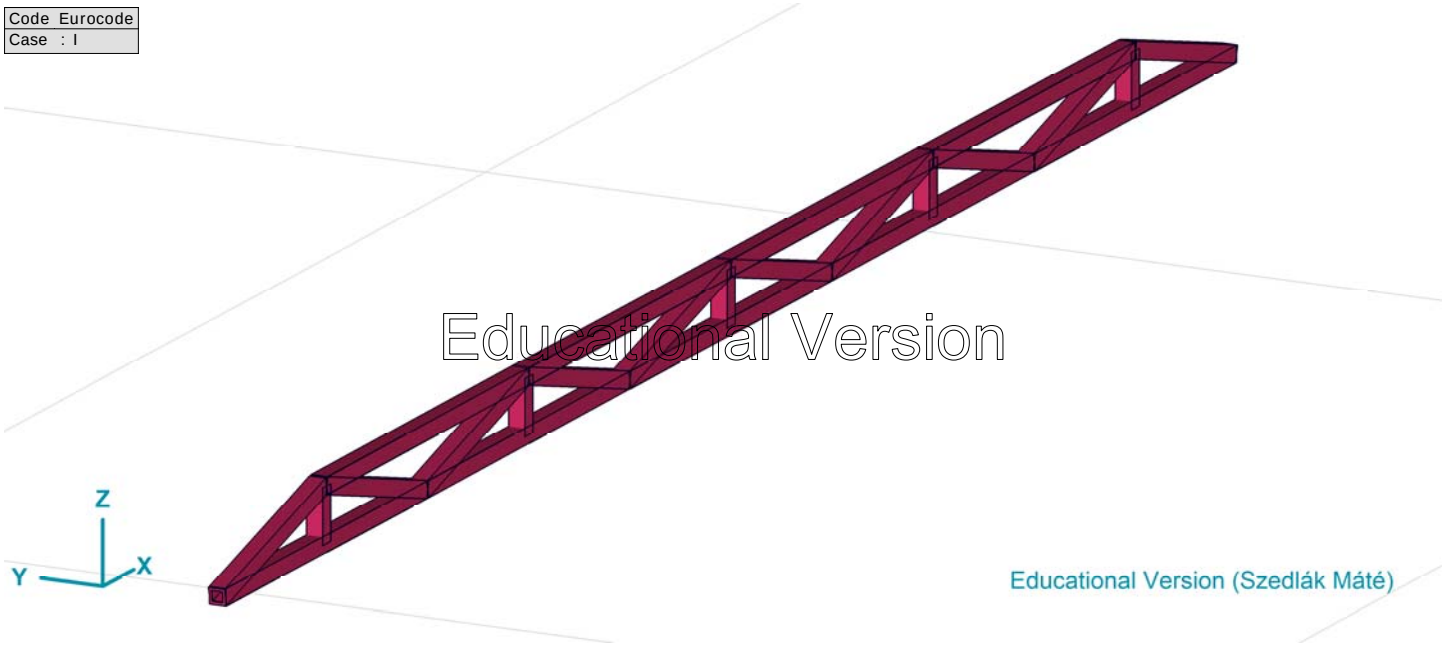
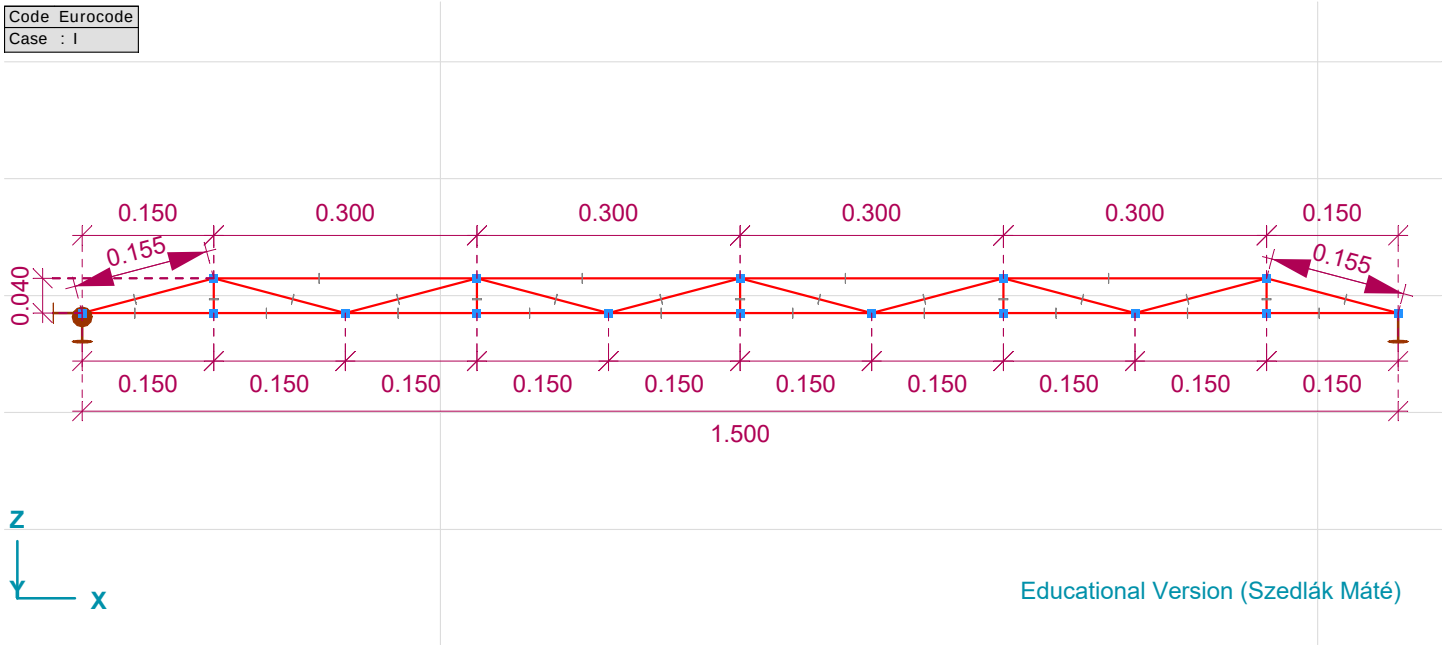
Model: **3D bridge - Axis model.axs** 12/12/2016



3D View



Geometry

Materials

	Name	*Type*	*Model*	E_x *[N/mm²]*	E_y *[N/mm²]*	*v*	*ρ [kg/m³]*
1	Weak	Steel	Linear	1500	1500	0.20	1000
2	Rigid	Steel	Linear	4000	4000	0.20	1000

Name: Material name; **Type:** Type of material; **Model:** Material model; **E_x:** Young's modulus of elasticity in local x direction; **E_y:** Young's modulus of elasticity in local y direction; **v:** Poisson's ratio; **ρ:** Density;

Cross-sections

	Name	*Shape*	*h [mm]*	*b [mm]*	*Ax [mm²]*	*Ay [mm²]*	*Az [mm²]*
1	9x4	Rect.	4.0	9.0	36.00	30.00	30.00

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Cross-sections

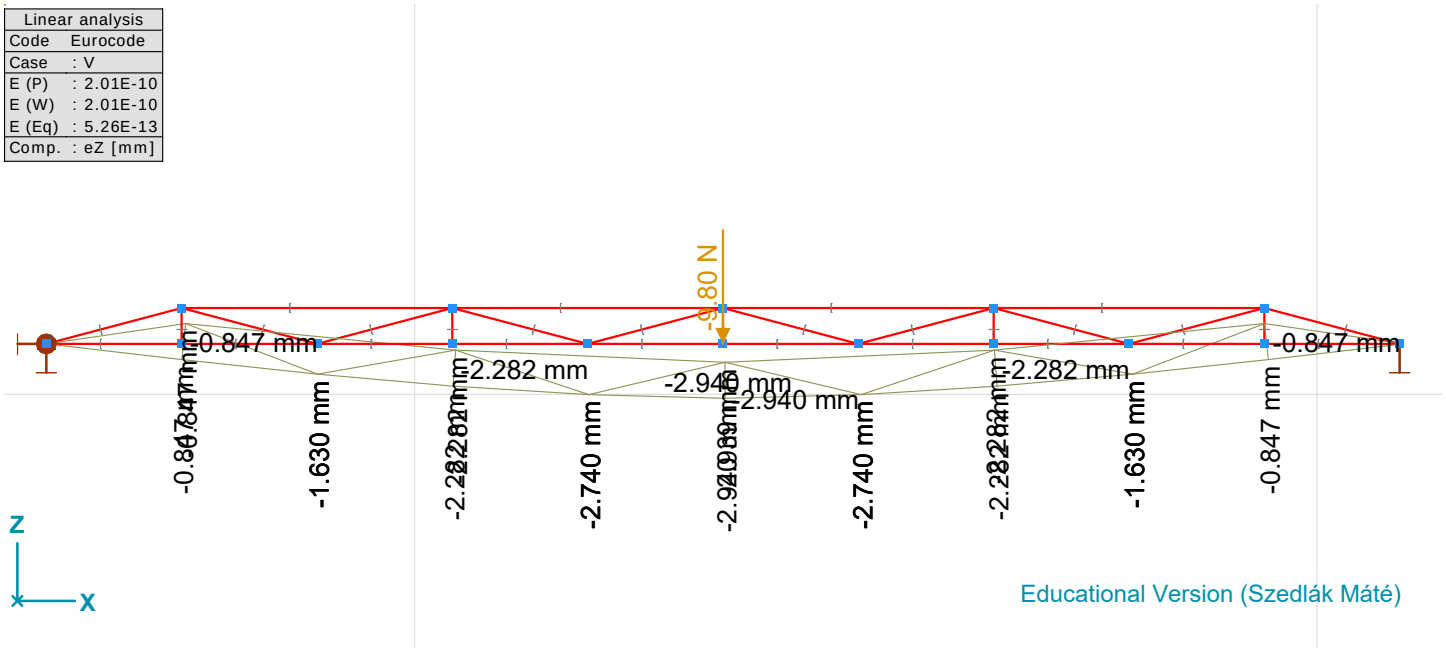
	Name	Shape	h [mm]	b [mm]	Ax [mm²]	Ay [mm²]	Az [mm²]
2	9_2.0 x 9_2.0	Box	9.0	9.0	53.96	27.48	27.48
3	12_2.0 x 12_2.0	Box	12.0	12.0	80.00	38.21	38.21

Name: Cross-section name; **h:** Cross-section height; **b:** Cross-section width; **Ax:** Cross-section area; **Ay, Az:** Shear area;

Nodes

	X [mm]	Y [mm]	Z [mm]	e_X	e_Y	e_Z	θ_X	θ_Y	θ_Z
1	1592	0	1056	f	Con	f	Con	Con	Con
2	2792	0	1056	f	Con	f	Con	Con	Con
3	1742	0	1096	f	Con	f	Con	Con	Con
4	2642	0	1096	f	Con	f	Con	Con	Con
5	1892	0	1056	f	Con	f	Con	Con	Con
6	2042	0	1096	f	Con	f	Con	Con	Con
7	2192	0	1056	f	Con	f	Con	Con	Con
8	2342	0	1096	f	Con	f	Con	Con	Con
9	2492	0	1056	f	Con	f	Con	Con	Con
10	1742	0	1056	f	Con	f	Con	Con	Con
11	2042	0	1056	f	Con	f	Con	Con	Con
12	2342	0	1056	f	Con	f	Con	Con	Con
13	2642	0	1056	f	Con	f	Con	Con	Con
14	2942	0	1096	f	Con	f	Con	Con	Con
15	3092	0	1056	f	Con	f	Con	Con	Con
16	2942	0	1056	f	Con	f	Con	Con	Con

e_X: Nodal DOF (translation constraint X); **e_Y:** Nodal DOF (translation constraint Y); **e_Z:** Nodal DOF (translation constraint Z); **θ_X:** Nodal DOF (rotation constraint about X-Axis); **θ_Y:** Nodal DOF (rotation constraint about Y-Axis); **θ_Z:** Nodal DOF (rotation constraint about Z-Axis);



[I], Linear, V, eZ, Diagram, Front view

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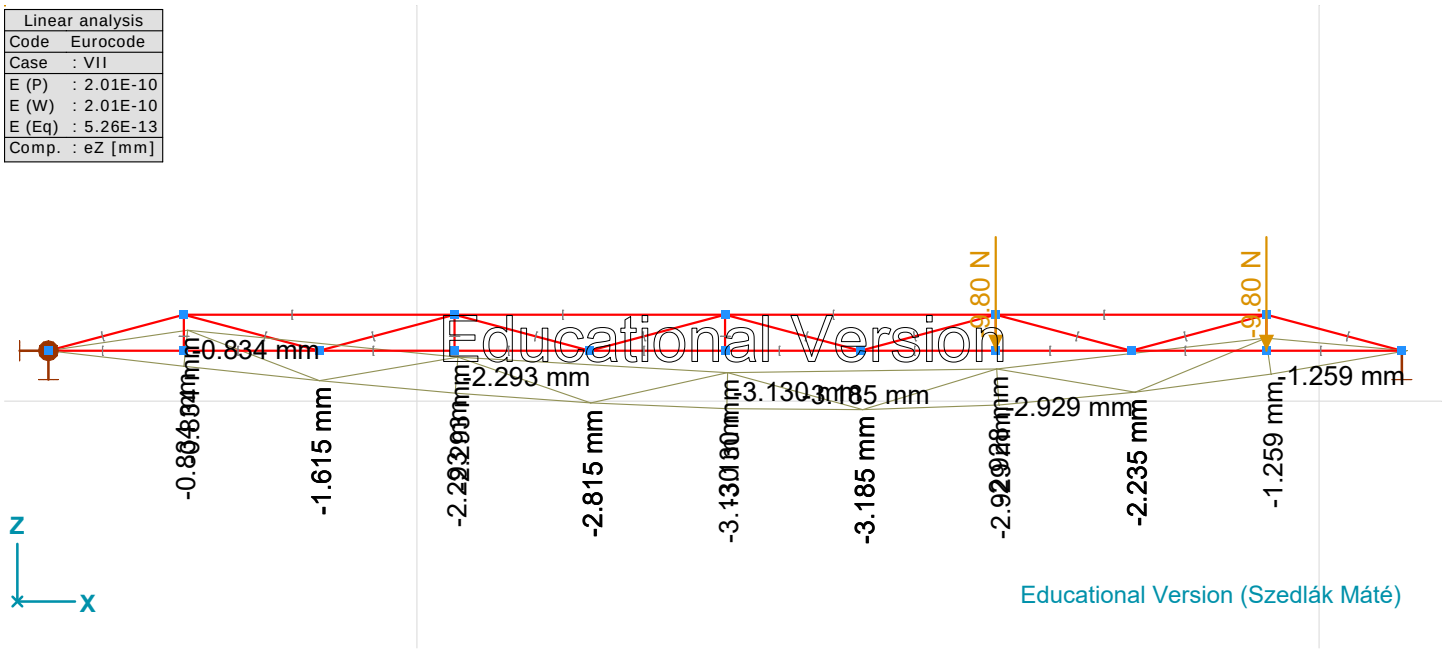

[I], Linear, VII, eZ, Diagram, Front view