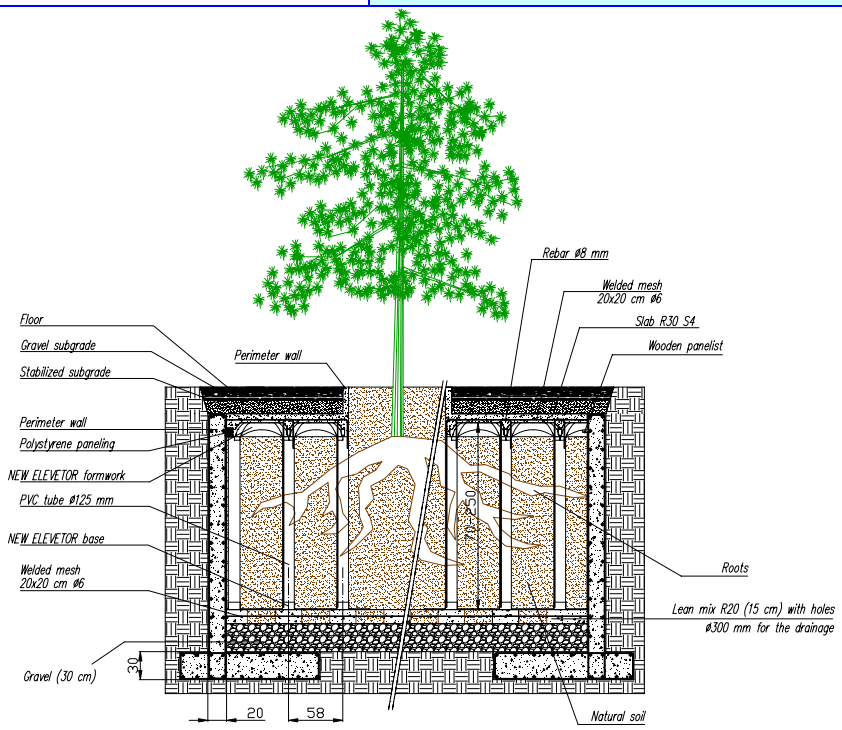
NEW ELEVETOR

ROOT PROTECTION

NEW ELEVETOR	Advantages
NEW ELEVETOR is used to create underground tree root protection cells. The system forms a r.c. slab resting on a matrix of pillars; the void created underneath the slab is filled with vegetation soil, and openings in the slab are left to for the trees to grow. The soil around the trees is left free from the compression caused by vehicles and pedestrians, which ultimately may cause the trees to die; a few cm of air are left above the vegetation soli so that the slab is protected from root damage. The slab is capable of handling the dynamic loads of vehicle trafic.	▪ Roots grow freely ▪ Soil compression avoided ▪ Elimination of root damage to paving ▪ Irrigation is efficient and inaccessible to vandalism ▪ System depth of up to 2.5 m ▪ Creates a structure with high load-bearing capacity, handles dynamic load ▪ High job-site productivity ▪ Simple job-site logistics & handling ▪ Low concrete consumption ▪ Made with recycled material



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FILL VOLUME

h	Fill volume	Concrete consumption	h	Fill volume	Concrete consumption
[cm]	[m³/m²]	[m³/m²]	[cm]	[m³/m²]	[m³/m²]
80	0.564	0.078	170	1.464	0.167
90	0.664	0.088	180	1.564	0.176
100	0.764	0.098	190	1.664	0.186
110	0.864	0.108	200	1.764	0.196
120	0.964	0.118	210	1.864	0.206
130	1.064	0.127	220	1.964	0.216
140	1.164	0.137	230	2.064	0.225
150	1.264	0.147	240	2.164	0.235
160	1.364	0.157	250	2.264	0.245

*h = inner depth of the system
** "fill volume" is the volume up to the top of the PVC pipes

LOAD CHART

Eurocode category	Imposed + permanent loads	Slab	Lean mix	Pressure on the ground	Reinforcement	Cover (min.)
	[kg/m²]	[cm]	[cm]	[kg/m²]		
Cat. A - General	1,000	4	-	3.44	Ø6/20x20	20mm
			5	1.49	Ø6/20x20	20mm
			10	0.82	Ø6/20x20	20mm
			5	0.52	Ø6/20x20	20mm
	1,800	5	-	5.68	Ø6/20x20	25mm
			5	2.45	Ø6/20x20	25mm
			10	1.36	Ø6/20x20	25mm
			5	0.86	Ø6/20x20	25mm
	5,000	7	10	0.67	Ø8/20x20	25mm
INDUSTRIAL	10,000	10	15	0.87	Ø8/20x20	25mm

reference standard for accidental loads is Eurocode.

DETAILS

Fig. 1 – Polystyrene filler strip along perimeter wall.

Fig. 2 – cut form supported by wood panelist along the perimeter wall
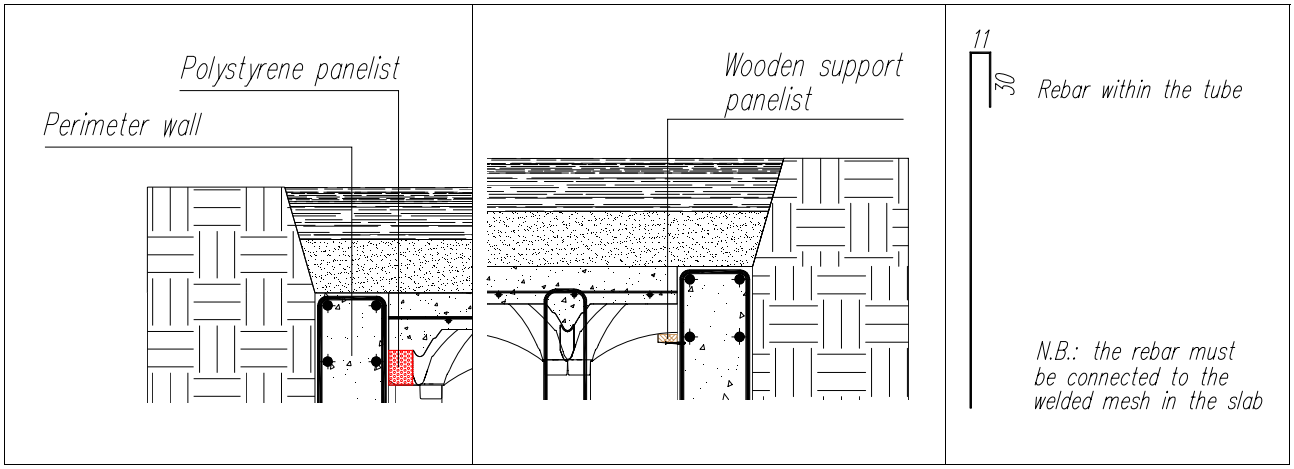
Fig. 3 – pillar reinforcement