

Technical Datasheet

EN



urb-x modules toolkit

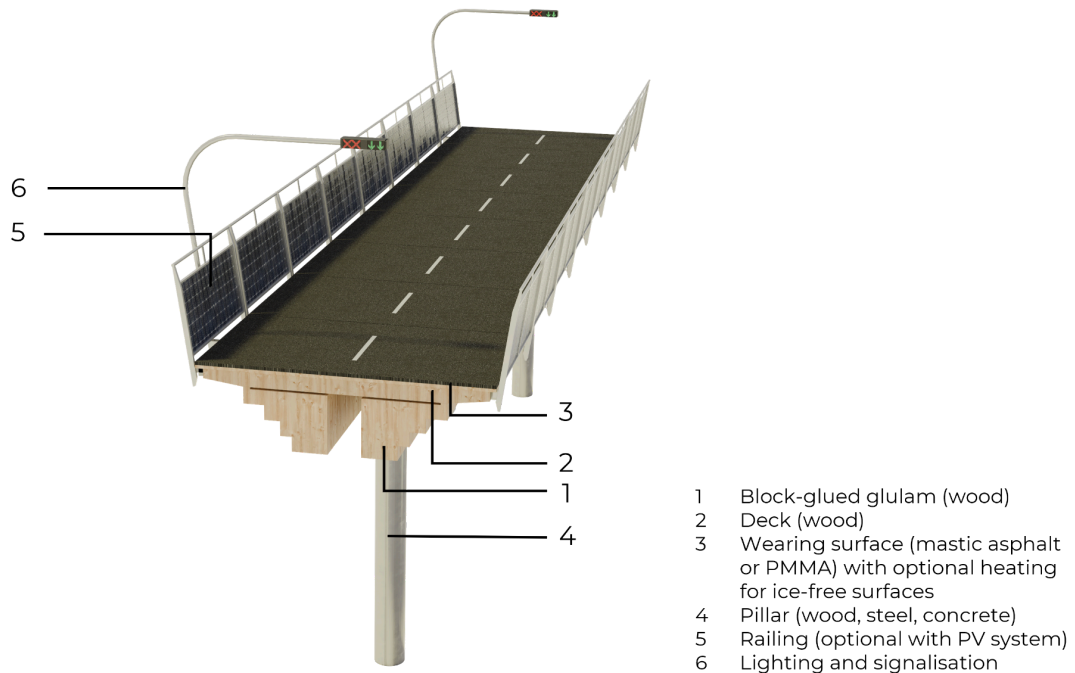


Figure: An urb-x module, comprising structure, track surface and installations (such as railings, lighting, track surface heating).

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Modules

The urb-x modules form the basis for planning an elevated cycling track. There are straight modules, curve modules and junction modules. The track width for all modules is 4.4 m. The designations of the urb-x modules begin with the letter **X**.

Modules Toolkit

The dimensions of the straight and curve modules are shown in the table below.

Table: Overview of the urb-x modules with dimensions

Module	Length/ Curve Length	Radius (m)	Angle (°)
XS10	10'000	∞	-
XS15	15'000	∞	-
XS20	20'000	∞	-
XS25	25'000	∞	-
XS30	30'000	∞	-
XC10	6'131	10	36
XC12	6'358	12	30
XC25	9'235	25	20
XC50	9'617	50	10
XC100	14'712	100	7.5
XC200	19'808	200	5
XC500	19'904	500	2.5
XC1000	19'952	1000	1.25

Straight Modules (XS)

The length of the straight modules can be selected in 5m-increments from 10 m to 30 m.

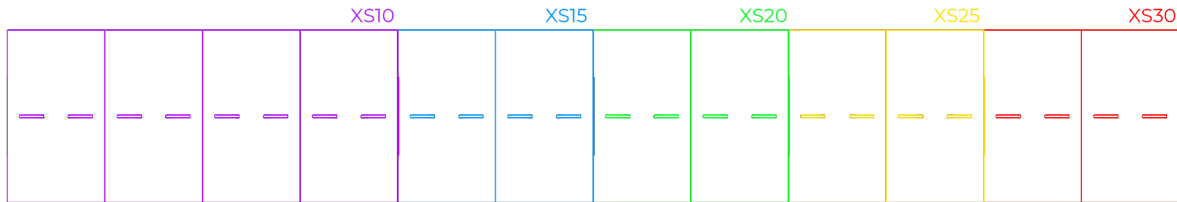


Figure: Straight Modules with lengths of 10 m (XS10), 15 m (XS15), 20 m (XS20), 25 m (XS25) and 30 m (XS30).

Curve Modules (XC)

The curve length and the curve angle of the curve modules are determined by the curve radius. The curve modules have constant radii of 10, 12, 25, 50, 100, 200, 500 and 1,000m. This makes it easy to realise smooth changes in direction.

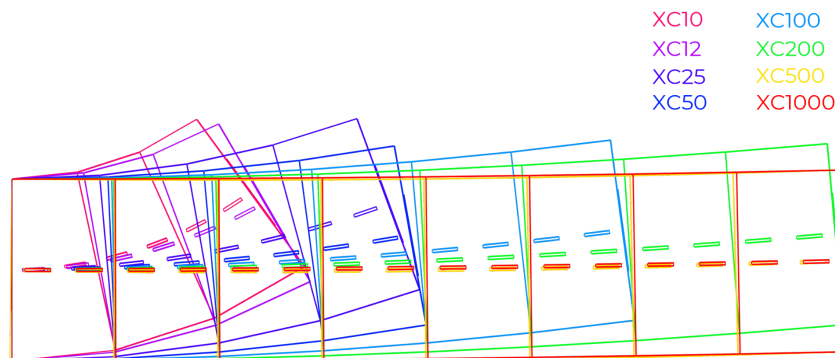


Figure: Curve modules with radii 10 m (XC10), 12 m (XC12), 25 m (XC25), 50 m (XC50), 100 m (XC100), 200 m (XC200), 500 m (XC500) und 1'000 m (XC1000)

Structure

The construction is designed as Gerber beams. This means that the system is statically determinate and insensitive to restraint forces. This system allows for a variable support position to account for local environmental conditions, regardless of the track layout. The supports are each positioned 1/7 of the beam length away from the ends. Their position can vary in longitudinal direction by 10% of the total beam length.



Figure: Conceptual static system (Gerber beam) with variable column position

Load assumptions

Design according to Eurocode:

Live Load $q_L = 5 \text{ kN/m}^2$

Service & maintenance vehicles $Q = 100 \text{ kN}$