

OTHER REINFORCED CONCRETE PRODUCTS

OÜ TMB Element manufactures staircase elements according to standard EVS-EN 14843:2007 "Precast concrete products. Stairs", foundation piles according to EVS-EN 12794 "Precast concrete products. Foundation piles", foundation elements according to EVS-EN 12991 "Precast concrete products. Foundation elements" and special-purpose precast concrete products in conformity with the standard EVS-EN 13369 "Common rules for precast concrete products".

Other reinforced concrete products are cast on the basis of working drawings compiled by various designing companies.

Other reinforced concrete products can be divided as follows:

- 1) Flights
 - step width 260-300 mm
 - step height 150-185 mm (vertical front edge)
- 2) Landings;
- 3) Flights together with landings;
- 4) Step covers;
- 5) Foundation piles with the length of 4–12 m;
- 6) Collars of column foundation blocks for framework columns with various cross-sections;
- 7) Columns with foundation pads;
- 8) Balcony slabs
 - there is an inclined groove in upper surface of the slab for rainwater drainage
 - surface finish: upper surface is a smooth moulded surface, bottom surface is a rolled surface.

M A T E R I A L S

The following materials are used at the production of other reinforced concrete products:

- normal-weight concrete with the strength class of at least C25/30 (for stair elements at least C30/37), with production and characteristics conforming to the standard EVS-EN 206-1 "Concrete. Specification, performance, production and conformity";
- normal-weight concrete with prescribed characteristics with the strength class of at least C25/30 (for stair elements at least C30/37) and with a cold-resistance additive for those products which will remain in a cold environment during exploitation. Concrete with prescribed characteristics is produced in conformity with the requirements of EVS-EN 206-1;
- reinforcing steel as non-pre-stressed reinforcement with qualities conforming to the European standard EVS-EN 10080 "Steel for the reinforcement of concrete. Weldable reinforcing steel".

P R O D U C T I O N A N D Q U A L I T Y

Products are cast on heated inclinable stands and on a casting bed by moulding with formwork. Squared timber and veneer is used as formwork, the formworks are fastened to the inclinable stand or casting bed with magnetic locking devices.

In the method of moulding with formwork, the lower surface of the product is formed against a smooth steel mould or veneer formwork and the side surfaces against the veneer formwork, the upper surface is finished by manual steel rubbing or by roller surface. The fresh concrete is compacted by high frequency vibration. The demoulding strength of hardened concrete is at least 50% of the compressive strength indicated in the design, unless otherwise indicated in working drawings.

The quality of other reinforced concrete products is secured by factory production control. The factory production control includes regular control of all the used equipment and the production process itself and the testing of raw materials.

T O L E R A N C E S

Table 1.

Production tolerances of stair elements, foundation elements and special-purpose precast concrete products

Dimension	Tolerance (mm)
Length L	$\pm (10 + L/1000) \leq \pm 40$
Nominal dimensions of cross-section ¹⁾	
h ≤ 150	+ 10; - 5
h = 400	+/- 15
h ≥ 2500	+/- 30

¹⁾ The intermediate values of nominal dimensions are interpolated linearly

Table 2.

Production tolerances of foundation piles

Dimension	Tolerance (mm)
Cross-section dimensions of the pile	+ 15; - 10
Nominal length of the pile	+ 150; - 100
Straightness of shaft axis	
L ≤ 10 m	+/- 20
10 m ≤ L < 20 m	+/- 2 L
Top or bottom maximum angular deviation	3/100 or 10 mm of cross-section, the smallest measurement of them

Nominal dimension of reinforcement's concrete cover must be at least the minimum thickness of the concrete cover, based on durability plus smallest allowed deviation.

T R A N S P O R T

Reinforced concrete products can be hoisted and transported only from the hoisting eyes or assembly openings meant for that purpose.

In addition to hoisting anchors the flights have also hoisting eyes on one side for taking them out of the form, these eyes are removed before the element is assembled.