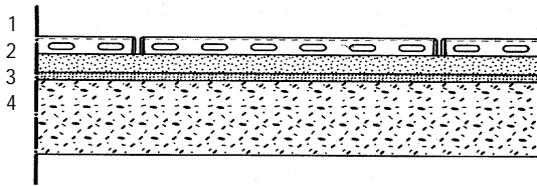


## Information sheet for laying STELCON steel anchor tiles (plates)

### Floor construction using STELCON steel anchor tiles



- 1 = STELCON steel anchor tiles
- 2 = Setting mortar/concrete
- 3 = Adhesive slurry
- 4 = Concrete base  $\geq$  C20/25 (B 25)

1. Concrete base (onsite)
  - 1.1 Strength class  $\geq$  C20/25 (B 25) (also applies to blinding concrete).
  - 1.2 Surface roughening (brush stroke).
  - 1.3 Completely remove all dirt, mortar residue and loose concrete residue by hammer milling or shot blasting.
  - 1.4 Subsequently roughen smooth areas, as before.
  - 1.5 Remove contaminations, such as oils, grease, paint, asphalt or plastics by means of appropriate methods such as hammer milling, shot or flame blasting.
  - 1.6 In the case of old concrete surfaces with unknown hardness, subsequently determine the strength class and/or tensile strength of the surface ( $\geq 1.5 \text{ N/mm}^2$ ).
  - 1.7 The flatness of the concrete base surface must meet the requirements of DIN 18202, table 3, line 2.
2. Floor construction (onsite)
  - 2.1 Height levelling for the determination of layer thickness, and if necessary for slope correction.
  - 2.2 The mortar bed thickness must be  $\geq 4.0 \text{ cm}$
  - 2.3 For layer thickness of  $\geq 6.0 \text{ cm}$ , a blinding concrete with the strength class of  $\geq$  C20/25 (B 25) can be integrated.
  - 2.4 For floors with heat insulation: one-layer construction  $\geq 10 \text{ cm}$
3. Joints
  - 3.1 Building joints/expansion joints in concrete base are to be arranged in the same position and in the same width in the slab covering.
  - 3.2 Edge joints are to be arranged on rising walls and penetrating Through the entire floor construction.
  - 3.3 The expansion joints should be  $\geq 8 \text{ mm}$  wide and based on the onsite conditions, sealed with, nonshrink sealing compounds.
  - 3.4 Edge protection should be done according to utilisation demands.
    - - double-sided STELCON anchor tile row or steel edge-protection profile
    - - Metal profile constructions for expansion joints widths  $\geq 15 \text{ mm}$ .
4. Laying Procedure
  - 4.1 All STELCON anchor tiles can be arranged in the joint section or with displaced joints.
  - 4.2 Tiles can be cut to fit.
5. Fixing mortar
  - 5.1 Raw materials
    - Cement according to DIN 1164 CEM I, CEM II
    - Strength class at least 32.5 R
    - Supplement according to DIN 4226, frost proof eF
    - Gravel sand 0/8, grain-size distribution curve for layer thicknesses  $\geq 4 \text{ cm}$
  - 5.2 Consistency
    - KP malleable
  - 5.3 Strength class
    - $\geq$  ZE 30 according to DIN 18560 or
    - $\geq$  C20/25 (B 25) according to DIN 1045, both with cement content  $Z \geq 370 \text{ kg/m}^3$
  - 5.4 Transport concrete mixed by the manufacturer are preferred.
  - 5.5 Should the composition at the construction site be determined by the measurement by sections, an increased minimum cement content of  $50 \text{ kg/m}^3$  must be observed.
6. Pre-treatment of subsurface
  - 6.1 Determine a height benchmark.
  - 6.2 Pre-treat the concrete base according to paragraph 1 and wet it thoroughly.
  - 6.3 Apply bonding layer (1 part cement of the fixing mortar, 1 part water) with a rough brush, so that the surface can be completed within 2 hours.
  - 6.4 Apply the fixing mortar to prepared (slurry) sections and keep damp.
7. Laying and Grouting the Slabs
  - 7.1 Lay runners (an outer frame row of slabs) perpendicular to the string, joints width of 1 to 2 mm.

## Information sheet for laying STELCON steel anchor slabs

7.2 Take the approximate joints width into consideration in the runner.

7.3 Apply mortar and seal well.

Apply mortar for approx. 10 to 30 m<sup>2</sup>, depending on surface size at the level of the finished slab covering.  
(seal well and evenly.)

7.4 Lightly tap the tiles in place with a hammer on the outer area of the base, in alignment with the string.

7.5 The fixing mortar must be bulging out and completely cover all openings.

8. Grouting the tiles

8.1 Wet every 4th to 5th row generously.

8.2 Clean the surfaces repeatedly with a rubber float and remove the mortar residue.

8.3 Repeated cleaning is absolutely necessary in order to avoid premature hardening of the mortar bed.

9. Post-treatment and implementation

9.1 Protect freshly laid tiles covering from being utilised too early, for example, with signs or bands.

9.2 Partially laid areas are scrubbed approx. 1 day after assembly with quartz sand, to roughly remove the cement film.

9.3 Implementation without hardness test

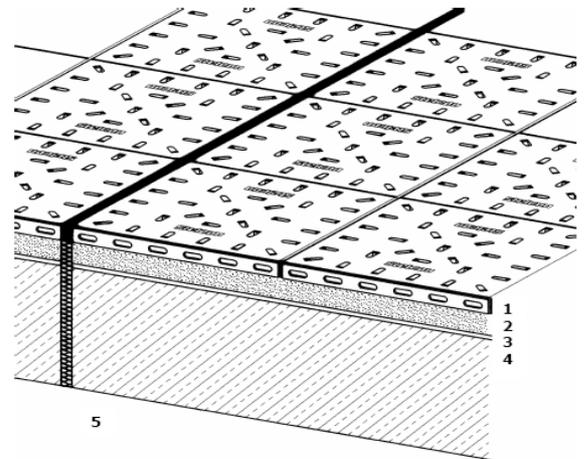
- for cement 32.5 R after 14 days
- for cement 45.5 R after 7 days

With hardness testing on specially manufactured trial specimens, for slab covering, after achieving batch hardness.

9.4 The final cleaning and the removal of flash rust on tiles of untreated normal steel are done onsite.

Subject to technical changes.

Suggestion for creating an expansion joint with STELCON steel anchor tiles



- 1 = STELCON Anchor tiles
- 2 = Setting mortar/concrete
- 3 = Adhesive slurry
- 4 = concrete base ≥ C20/25 (B 25)
- 5 = expansion joints

The following illustrations demonstrate the joint construction of STELCON steel anchor tiles



Type A (round-edged form)



Type S (sharp-edged form)