

## 8. Sample text for the performance description of reinforcement work with textile concrete

### Preliminary remarks

All relevant standards and rules must be observed for performing the corrective maintenance and reinforcement work.

Inter alia applicable standards and rules

- ❑ DIN EN 1992-1-1 2011-01 Euro Code 2 - Design and construction of reinforced concrete and pre-stressed concrete structures.  
Part 1-1: General design rules for building construction
- ❑ DIN EN 1992-1-1/NA National annex; Nationally Determined Parameters; Euro Code 2
- ❑ DAfStb [German committee for steel concrete] RL SIB:2001-10 Restoration guidelines 2001-10, Part 1-4:  
Protection and repair of components  
Part 1: General regulations and planning principles  
Part 2: Construction products and application  
Part 3: Requirements for operations and monitoring  
Part 4: Test Procedure
- ❑ DIN EN 1504 Products and systems to protect and repair concrete structures -Definitions, requirements, quality control and assessment of conformity Part 1-10

### Preliminary remark – textile concrete work

The work is to be carried out in accordance with the general building supervisory approval Z-31.10-182 of the DIBt (enclosed with this tender).

The laying of the textile reinforcement takes place according to the static requirement.

While laying, it must be ensured that the textile is oriented vertically and does not slip. If required, the insertion of corresponding fastening points must be considered. The static boundary conditions, such as the overlap lengths, etc., must be adhered to.

Quality control must be carried out in accordance with the textile concrete approval with the corresponding number of test specimens.

Item Site equipment

Costs incurred

- For setting up of the construction site, the supply and removal of all equipment required for carrying out the work, machinery (even construction cranes) and accommodation containers as well as their provision during the construction period.
- For creating material storage places, assembly and dismantling of the accommodation, transports, production of the necessary power distribution connections,
- For cleaning of the construction site and all of its subcontractors or contaminated areas and roads during and after completion of the work.

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Item Costs for the local construction management, construction supervision or building supervision of the construction project with schedule monitoring as well as supervision according to the UV and official regulations valid during the construction phase.

The contractor shall ensure that a continuous monitoring of the work and compliance with the safety regulation is carried out by the company's construction supervisor or foreman.

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Item Self-monitoring for concrete repair work in accordance with the test and monitoring regulations of an approved test center such as the (GÜB) Society for Surveillance in Building Industry, registered organization.

- Self-monitoring in accordance with the requirements of the General Building Inspection Approval of the DIBt, approval number Z-31.10-182
- Documentation of test results

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Item External monitoring in accordance with the requirements of the General Building Inspection Approval of the DIBt

- Site inspections with on-the-spot audits
  - Implementation of lab tests
  - Documentation of test results
- Final report to client

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Item Verification of the concrete surface to be treated on hollow areas low-strength ground by tapping with a suitable tool and marking the detected hollow areas, cracks and concrete defects.

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Item Removal of damaged concrete by means of a suitable blasting process.

A surface treatment with HDW beams (depth of removal up to 2 cm, concrete reinforced) can be achieved.

- The aggregate must be released  $d > 4\text{mm}$
- The average surface roughness should be 1.5 mm (deviating from the approval); Minimum value according to abZ [General building inspectorate approval] is 1.0mm.

The expected value of the average of surface tensile strength of minimum 1.0 N/mm<sup>2</sup> (or stat. requirement, see statics) is to be verified on the prepared concrete surface. Hose water and concrete removal must be collected without damage by means of appropriate collection devices. Appropriate suction and filter systems must be used in such a way that a controlled, environmentally sound disposal can be carried out. The disposal measures, including the tax on landfill, must also be taken into account.

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**Item** Prepare the concrete surface by removing all the loose and brittle parts as well as any intrinsic and extrinsic adhesive-bond removing layers that are easily detachable.

The concrete surface has to be roughened by means of suitable processes, cleaned and protected from further contamination. The accumulated material must be gathered from the scaffolding and the surrounding surfaces and removed according to official regulations.

Inclusive of tax on landfill.

Required surface tensile strength:

Expected value of the mean is at least 1.0 N/mm<sup>2</sup> required roughness depth: at least 1.0 mm

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**Item** Test of the surface tensile strength of the substrate after the dry blasting.

The expected value of the mean value must be at least 1.0 N / mm<sup>2</sup> (or stat. Requirement, see statics)

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**Item** Pre-dampening of the surface to be reinforced with textile concrete according to the DIBt approval Z-31.10-182 or DAfStb-directive "Protection and restoration of concrete components" Part 2, Section 2.3.5(2)

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**Item** Special concrete / mortar for undercutting, prepare and apply to prepared, pre-wetted surfaces by wet spraying in accordance with DIN 18551

Special concrete: Pagel/Tudalit Fine concrete

TF 10 Thickness: up to 3mm

Number of layers: 1

Surface: removed

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**Item** Prepare special concrete / mortar for component reinforcement and apply immediately by wet spraying method in accordance with DIN 18551.

1. Layer

Special concrete: Pagel/Tudalit Fine concrete TF 10

Thickness: up to 3-4 mm

Number of layers: 1

Surface: spray rough

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**Item** Textile reinforcement TUDALIT-BZT2-V.Fraas

Vertical / horizontal installation, during installation, it is necessary to ensure that the textile is oriented vertically and cannot slip. If required, appropriate fixing points must be introduced.

While laying the textile reinforcement for the textile concrete, it may be necessary to re-structure the anchoring of the framework. The cost of this measure is to be calculated in the offer.

Flat textile surface (Including the required coverage in case of horizontal and vertical shocks)

**Item** 1. Layer Textile reinforcement TUDALIT-BZT2-V.Fraas

Deliver, imbed, press and fix the textile reinforcement into the fresh mortar according to the static specifications and custom-tailored based on the selected design version.

Overlapping at the impacts must be considered and adhered to in accordance with the specified horizontal and vertical impacts of the selected design variant.

The quantity indicated for the item refers to the wall surface to be repaired; the total area of the textile reinforcement including the necessary covering on the horizontal and vertical bumps is to be taken from the note „Textile reinforcement TUDALIT-BZT2-V.Fraas“

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Item Prepare special concrete / mortar for component reinforcement and apply immediately by wet spraying method in accordance with DIN 18551.

2. Lage

Special concrete: Pagel/Tudalit Fine concrete TF 10

Thickness: 6 mm

Number of layers: 1

Surface: spray rough

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Item 2. Layer Textile reinforcement TUDALIT-BZT2-V.Fraas

Deliver, imbed, press and fix the textile reinforcement into the fresh mortar according to the static specifications and custom-tailored based on the selected design version.

Overlapping at the impacts must be considered and adhered to in accordance with the specified horizontal and vertical impacts of the selected design variant

The quantity indicated for the item refers to the wall surface to be repaired, the total area of the textile reinforcement including the necessary covering on the horizontal and vertical bumps is to be taken from the note „Textile reinforcement TUDALIT-BZT2-V.Fraas“.

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Item Provide the top layer of special concrete / mortar as an outer covering layer, process it and apply it to prepared surfaces in the wet spraying method in accordance with DIN 18551

Special concrete: Pagel/Tudalit Fine concrete TF 10

Thickness: 6 mm

Number of layers: 1

Surface: Very heavily smoothed according to the specifications of the AG, the release is performed after the acceptance of a sample surface.

Adhesive tensile strength: 1.5 N/mm<sup>2</sup>

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Item Supply and contributions of carbon fiber fabric molded parts in the gorges, as a supplement to the textile and concrete work.

Total width: .... cm

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Item Supplement to textile concrete work for the careful formation of gorges.

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Item Supply and contributions of carbon fiber fabric molded parts in the ridges, as a supplement to the textile and concrete work.

Total width: .....cm

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Pos. Supplement to the textile concrete work for the careful formation of sharp-edged ridges including edge formwork as auxiliary formwork manufacture, supply, crop, remove and install again.

Incl. all auxiliary work, fastening material supply etc.

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