BILL OF QUANTITIES | DIVISION 03 — CONCRETE WORKS

Section 03 37 00 — Specialty Placed Concrete | 3D-Printed Concrete Walls (project-specific)

DRAFT FOR QS REVIEW — Quantity and Rate are editable; Amount = Quantity × Rate. No quantities or prices assume

Project: | Revision: Draft 01 **Currency: [enter]**

Preamble: All unit rates include the materials, plant, labour, handling, ordinary quality control, curing, protection and completion obligations expressly described in each item. See Preambles and Sources for measurement and exclusions.

Item No.	Description of Work	Unit	Quantity	Rate	Amount
GENERAL — PRINTING SYSTEM AND QUALIFICATION					
03.37.001	Mobilisation, delivery, assembly, erection and commissioning of the complete 3D concrete printing installation, including printer, compatible mixing and pumping system, temporary connections, calibration and all associated setup work; complete for the specified work area. Demobilisation, dismantling, removal from site and making good on completion included.	Item			
03.37.002	Preparation and submission of project-specific digital print models, coordinated print paths, sequencing, buildability checks, interface details and approved print files, including coordination with structural and MEP drawings; complete in accordance with the specifications.	Item			
03.37.003	Qualification and trial printing of the proposed material and printing system, including approved trial panels, preproduction checks, sampling, testing and submission of qualification records as specified; complete. Separately priced only where expressly required.	Item			
PRINTED CONCRETE WALLS					
03.37.010	Providing, batching, mixing, pumping and in-situ robotic extrusion of 3D-printable cementitious concrete for specified wall sections, nominal design compressive strength 35 MPa [SUBJECT TO APPROVED DESIGN AND TEST BASIS]; including all constituents, admixtures, equipment and operator labour, uninterrupted layer placement, formation of the approved bead profile, control of tolerances, ordinary construction joints, routine QA/QC, curing, temporary protection, cleaning, trimming and making good workmanship defects; all complete as shown on approved drawings and in accordance with project specifications.	m^3			

03.37.011	Providing, batching, mixing, pumping and robotic printing of 3D-printable concrete for other wall grades or profiles, complete as described in Item 03.37.010, but of separately specified grade/profile [SPECIFY ONLY IF REQUIRED].	m³		
STRUCTURAL INFILL AND REINFORCEMENT				
03.37.020	Providing and placing approved structural concrete or grout to cavities and reinforced cores within printed walls, including substrate preparation, delivery/pumping, filling, consolidation where specified, curing, protection and cleaning, complete in accordance with approved design and manufacturer's instructions; reinforcement measured separately.	m³		
03.37.030	Providing, cutting, bending and fixing high-yield steel reinforcing bars to printed wall cores, intersections, horizontal reinforcement zones and connections, including ties, laps, chairs, spacers, supports and fixing accessories; complete in accordance with approved bar bending schedules and structural drawings.	kg		
03.37.031	Providing and installing specified proprietary reinforcement or mesh integrated with 3D-printed wall layers, including cutting, placing, joining, anchorage and support, complete to approved details [USE ONLY WHERE NOT INCLUDED IN ITEM 03.37.030].	kg		
BUILT-IN ACCESSORIES AND INTERFACES				
03.37.040	Providing and fixing specified cast-in, built-in or post-installed structural connectors, anchor plates, threaded inserts, hold-downs and proprietary wall connection accessories at foundations, wall junctions and roof/slab interfaces, complete including drilling or setting as required [EXCLUDING ITEMS MEASURED UNDER REINFORCEMENT].	No.		
03.37.041	Forming and providing approved pre-coordinated service sleeves, box recesses, conduits or cast-in inserts within printed concrete walls, including installation during printing, temporary support, protection and coordination with the relevant MEP trades, complete [ONLY WHERE NOT ALREADY IN MEP BOQ].	No.		
03.37.042	Providing formed openings, recesses, special closures and wall terminations requiring additional approved print-path or temporary support works beyond the standard wall profile, including local finishing and making good, complete [ONLY IF EXPRESSLY MEASURED SEPARATELY].	No.		
ASSOCIATED CONVENTIONAL CONCRETE WORKS				

03.37.050	Providing and placing cast-in-situ structural concrete in bond beams, lintels, headers and closure pours integral to the printed wall system, including delivery, placing, compaction, curing and making good; reinforcement and formwork measured separately.	m³		
03.37.051	Providing, erecting, supporting and striking temporary formwork to the cast-in-place bond beams, lintels and closure pours included under Item 03.37.050, including stop-ends and approved release agents; complete.	m²		
OPTIONAL SPECIAL FINISHES AND TESTING				
03.37.060	Providing approved special surface dressing or protective treatment to exposed 3D-printed concrete wall faces, including cleaning, surface preparation, application, curing and protection, complete to specified finish [EXCLUDES GENERAL PLASTERING WHERE MEASURED IN DIVISION 09].	m²		
03.37.070	Additional independent laboratory tests or project-specific performance verification expressly required beyond routine production quality control included in the printed-wall rates, including sample preparation, testing and submission of reports [SPECIFY METHOD AND FREQUENCY].	No.		

TOTAL — DIVISION 03 / 3D-PRINTED WALL WORKS

Cost is only calculable after design-based quantities and local rates are entered. Do not add equipment and labour twice when included in work-item rates.