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MADINAT AL RIYAD, ABU DHABI
**AURA DISTRICT COMMUNITY
CENTE MALL.**

COST REPORT
22nd NOVEMBER, 2025

CASA
D'ARGILLA
CONSULT

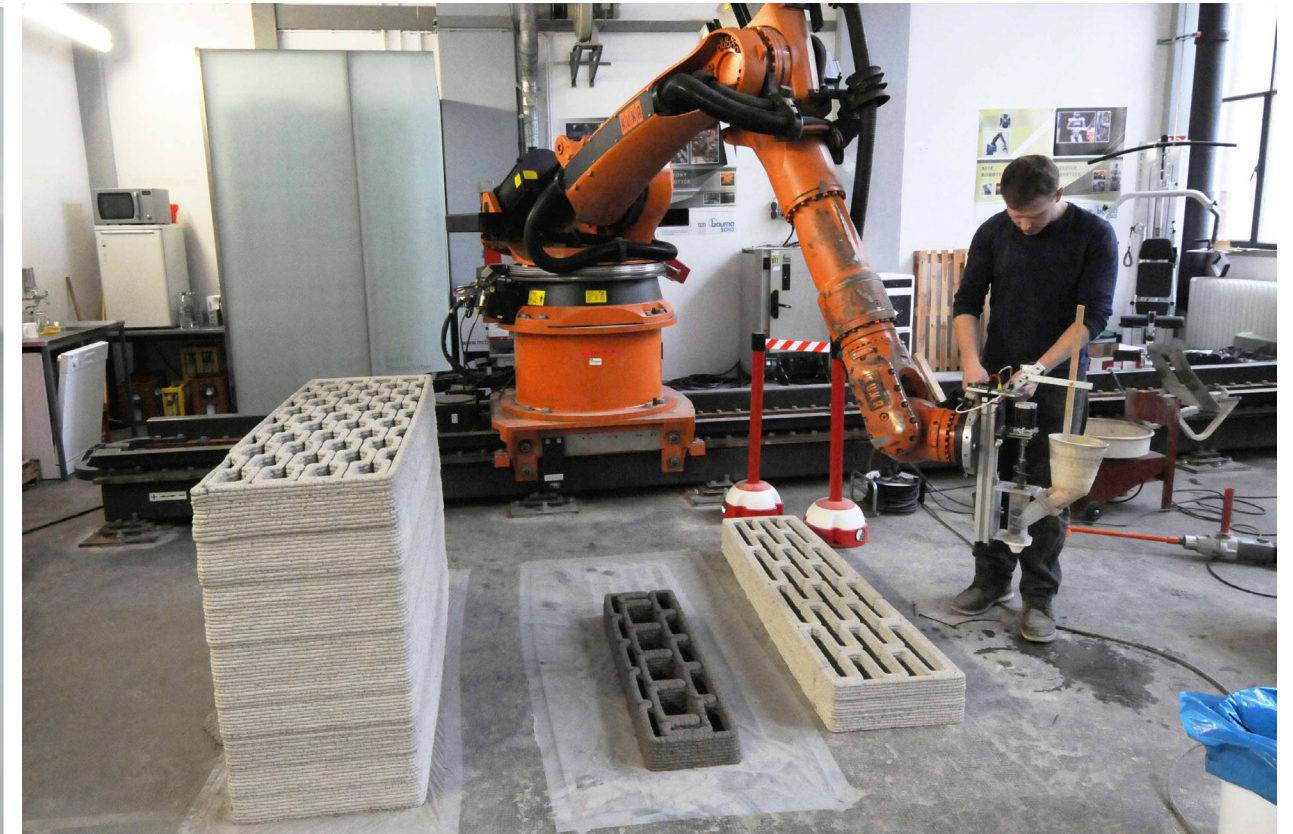
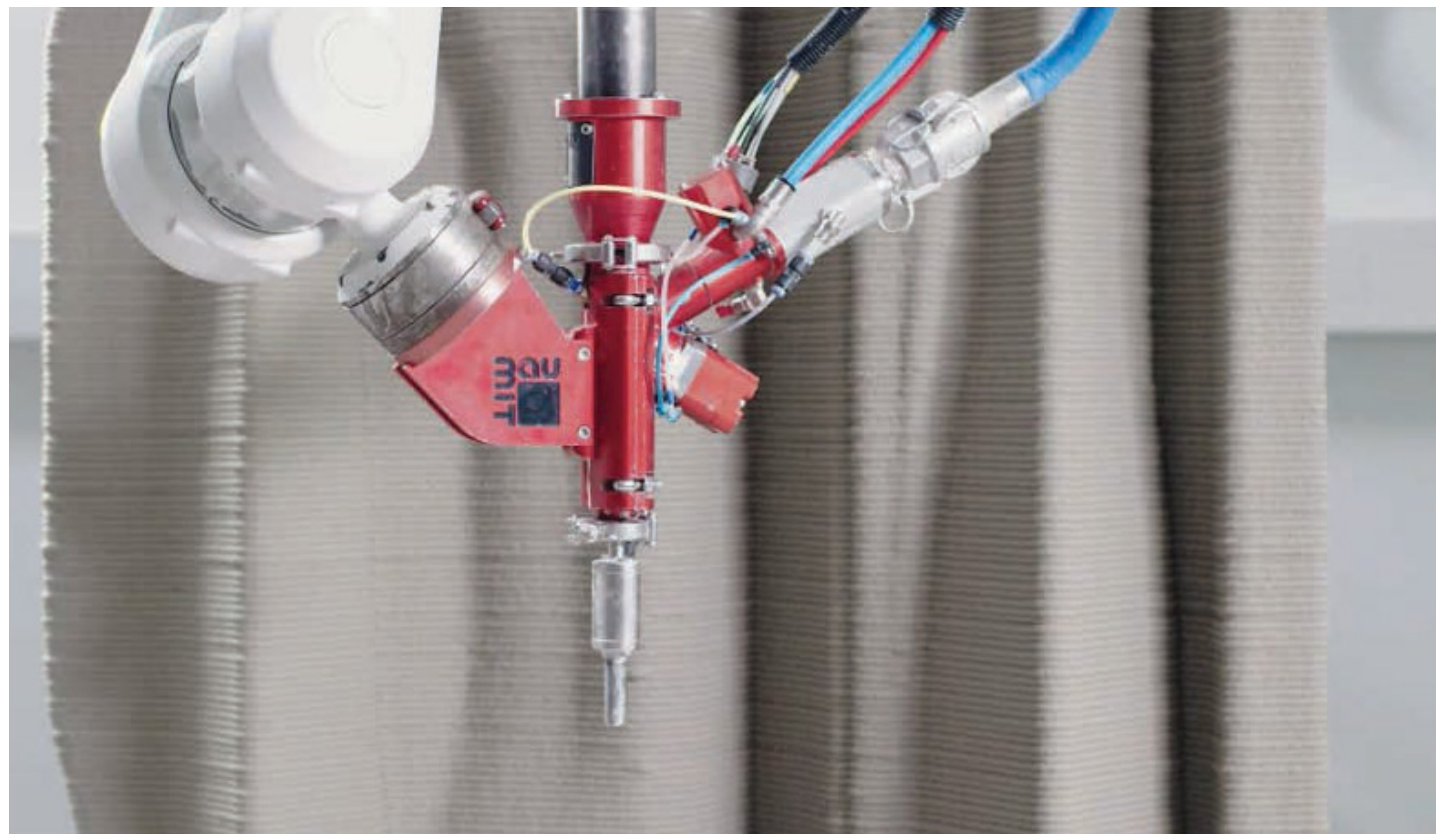
EXECUTIVE SUMMARY

Introduction & Scope

Introduction

3D printing in commercial construction is a modern method that uses large-scale printers to build any space element Layer by layer from materials like concrete. This technology offers faster construction, lower costs, Less waste, and more design flexibility compared to traditional methods. It is increasingly being used Worldwide as a solution for affordable, sustainable, and efficient construction process.

The scope of this Report aim to analyze the given mall proposal and calculate the areas and volumes of both Structural and Non-Structural elements to quantify the number of elements and construction cost for review, next phase will include the preparation of documents through a well-organized layout, detailed studies, and Research.



BUILDING ELEMENTS ANALYSIS

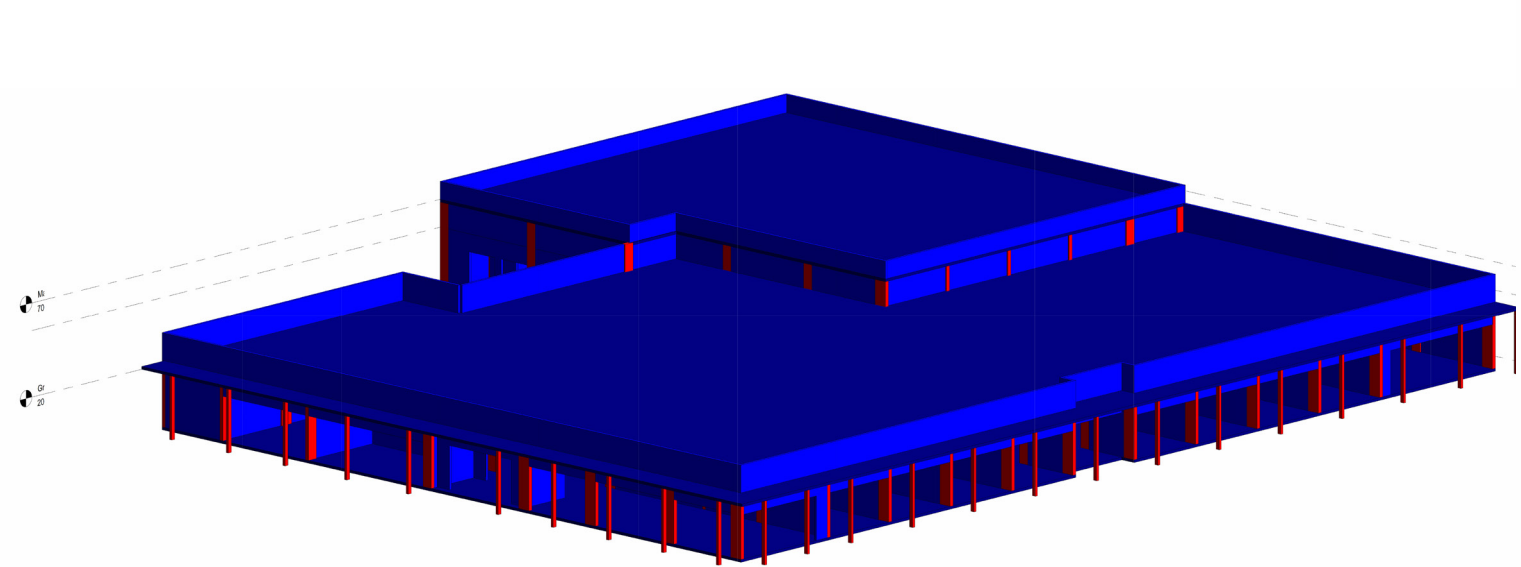
COMPONENTS INCLUDED IN CALCULATIONS



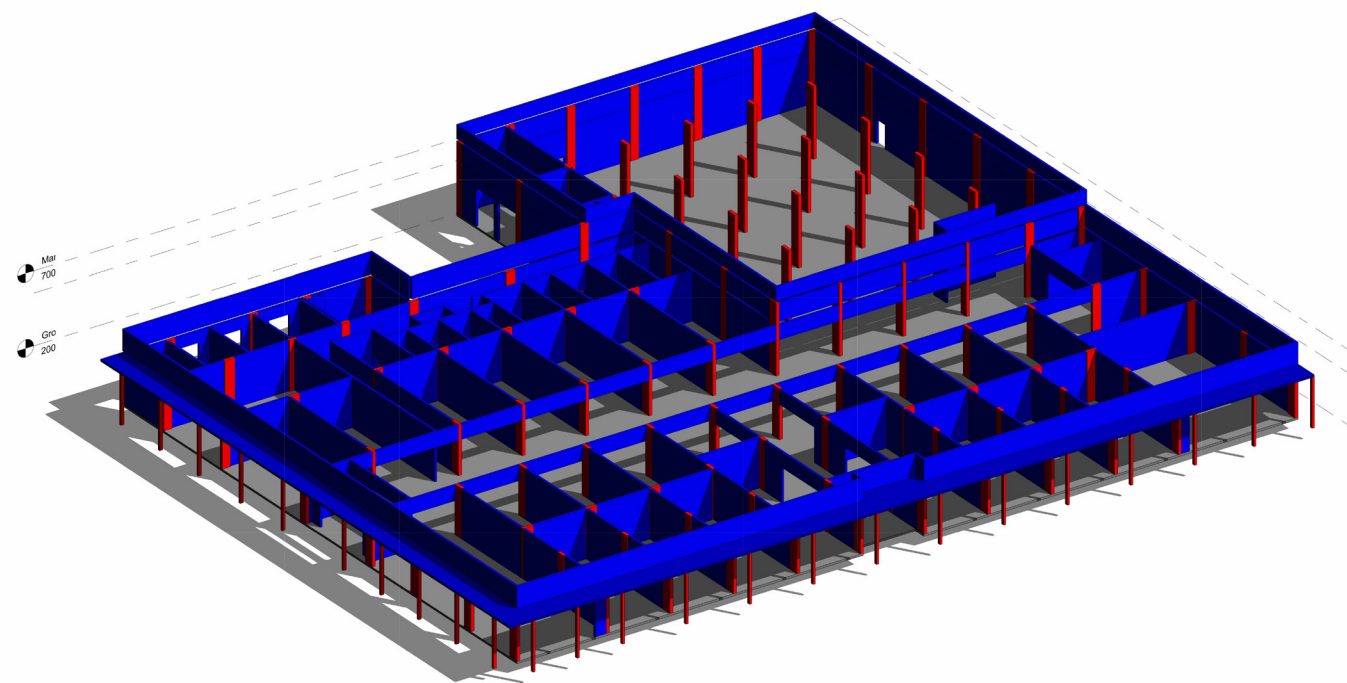
- STRUCTURAL COLUMNS
- WALLS & CEILING

BUILDING ELEMENTS ANALYSIS

ALL COMPONENTS INCLUDED IN CALCULATIONS



1 3D Perspective



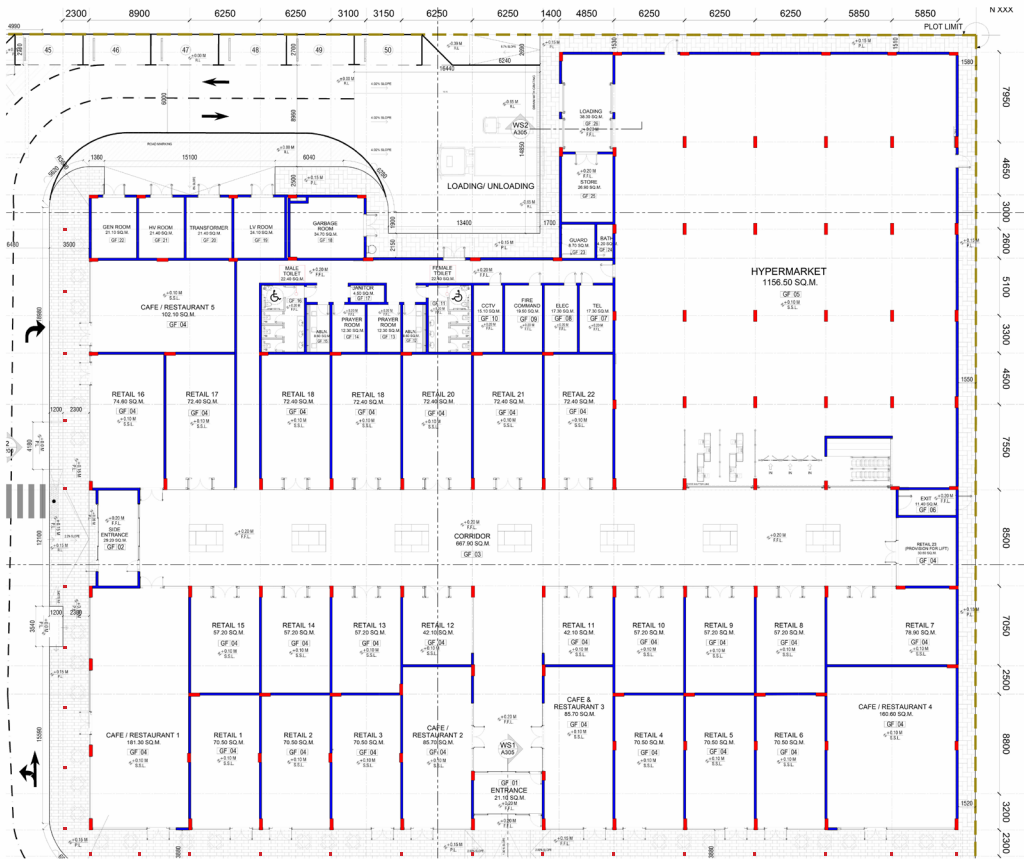
1 3D Detail 01

Walls Schedule

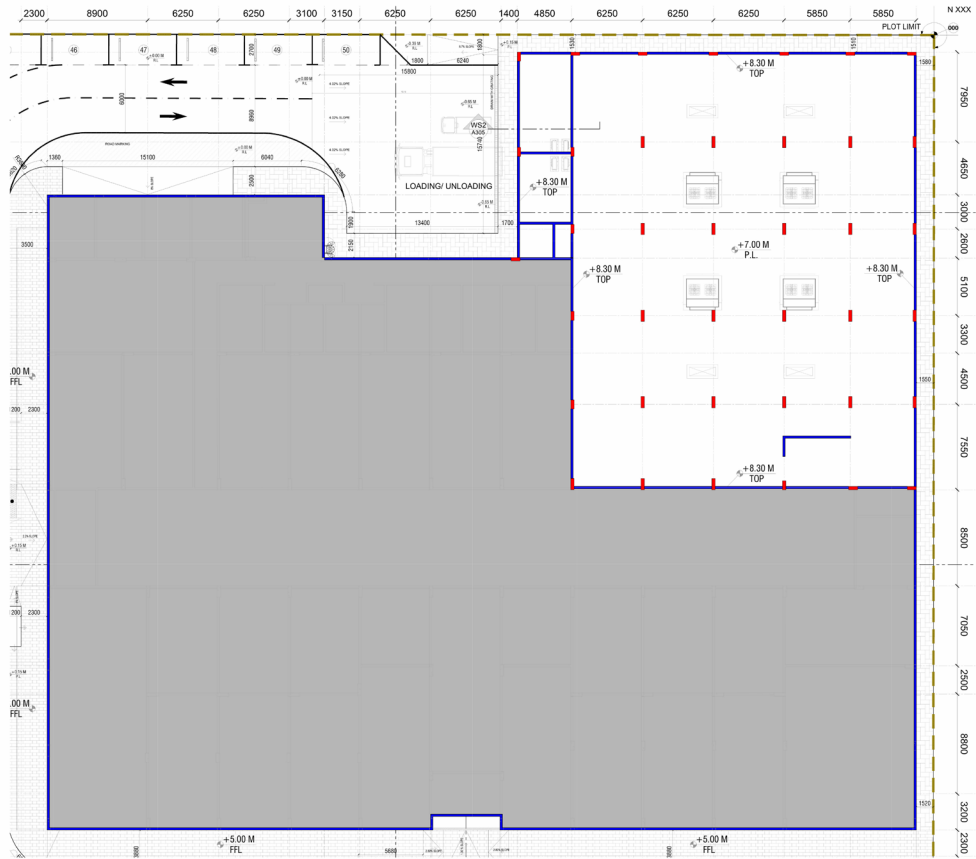
Area	Volume	Length	Width	Unconnected Height
190.97 m ²	38.19 m ³	147 m	200 mm	1300 mm
377.19 m ²	75.44 m ³	270 m	200 mm	1400 mm
227.16 m ²	45.43 m ³	126 m	200 mm	1800 mm
431.32 m ²	86.26 m ³	216 m	200 mm	2000 mm
2745.02 m ²	549.00 m ³	623 m	200 mm	4600 mm
364.52 m ²	72.90 m ³	81 m	200 mm	4800 mm
214.57 m ²	42.91 m ³	36 m	200 mm	6600 mm
4550.75 m ²	910.15 m ³	1498 m		

Structural Column Schedule

Type	Volume
210x300 mm	6.96 m ³
24	6.96 m ³
300x800 mm	51.89 m ³
40	51.89 m ³
300x900mm	2.48 m ³
2	2.48 m ³
300x1000 mm	111.78 m ³
71	111.78 m ³
Grand total: 137	173.11 m ³



2 Ground Floor
1 : 200



3 Roof Plan Level
1 : 200

BUILDING ELEMENTS ANALYSIS

ALL COMPONENTS INCLUDED IN CALCULATIONS

WALL SCHEDULE	TYP	LENGTH(m)	HEIGHT(m)	THICKNESS(m)	Quantity if Pcs	AREA (m2)	OPENING CUT(m2)	NET AREA (m2)	PRINT TIME min/m2	TOTAL PRINT TIME - hours	COST AED	COST ELEMENT	CONCRETE	M3	COST CONC + REBAR AED
EX- W 01 Parapet	EXTERIOR	147	1.30	0.2		191.1	0	191.1	2.20	7.01	133	25,416.30	40% voids	22.914	8,111.56
EX- W 02 Parapet	EXTERIOR	270	1.40	0.2		378	0.6	377.4	2.20	13.84	133	50,194.20	40% voids	45.264	16,023.46
EX- W 03 Parapet	EXTERIOR	126	1.80	0.2		226.8	0	226.8	2.20	8.32	133	30,164.40	40% voids	27.258	9,649.33
EX- W 04	EXTERIOR	216	2.00	0.2		432	0.45	431.55	2.20	15.82	133	57,396.15	40% voids	51.756	18,321.62
EX- W 05	EXTERIOR	623	4.60	0.2		2865.8	0.35	2865.45	2.20	105.07	133	381,104.85	53% voids	258.03	91,342.62
EX- W 06	EXTERIOR	81	4.80	0.2		388.8	0	388.8	2.20	14.26	133	51,710.40	30% voids	51.03	18,064.62
EX- W 07	EXTERIOR	36	6.60	0.2		237.6	0	237.6	2.20	8.71	133	31,600.80	60% voids	17.164	6,076.06
COLUMN SCHEDULE	TYP	LENGTH(m)	HEIGHT(m)	THICKNESS(m)	Quantity if Pcs	AREA (m2)	OPENING CUT(m2)	NET AREA (m2)							
LB-C1	COLUMN	0.3	4.60	0.80	40.00	44.16	0	44.16	18.00	13	79	3,488.64	fill	33.5616	9,521.76
LB-C2 Arcade	COLUMN	0.21	4.60	0.30	24.00	6.96	0	6.96	18.00	2	79	549.46	fill	6.9552	1,973.26
LB-C3	COLUMN	0.3	4.60	0.90	2.00	2.484	0	2.48	18.00	1	79	196.24	fill	2.13624	1,204.22
LB-C4	COLUMN	0.3	4.60	1.00	71.00	97.98	0	97.98	18.00	29	79	7,740.42	fill	94.0608	26,685.99
SLAB SCHEDULE	TYP	LENGTH(m)	HEIGHT(m)	THICKNESS(m)		AREA (m2)	OPENING CUT(m2)	NET AREA (m2)							
EX-LB-S-RF 01	Recess Un	4	1.20	0.25	360	1728	1.68	1726.32	12.00	345	133	229,600.56	voids	0	0.00
EX-LB-S-RF 02	Skylight un	4	1.20	0.25	40	192	0	192	12.00	38	133	25,536.00	voids	0	0.00
CONCRETE Total	Beams/Slab	0	0.00	0		4700	0	2780			203,580		fill	377	203,580.00
REBAR Total	Beams/Slab					4700	0	2780			198,750		fill	377	198,750.00
GRAND TOTAL	ALL					6784.724	0	9417.02				1,572,231.55			609,304.49

GRAND TOTAL SUPERSTRUCTURE (Elem./Rebar/Concrete)	PRIMARY SCOPE OF CONTRACT	3,054,150.47
GRAND TOTAL FINISHING all surfaces (CDA)		5,970,557.12
GRAND TOTAL Found /Landscape (estimated) out of scope		9,640,312.50
GRAND TOTAL MEP out of scope		TBA

Quantity and Weight Calculation - Construction Element Example

Cavity Concrete 2.5m *4.5m - WALL - 20 cm depth

Dry-density2000 kg/m³

Dimensions: Height4.6 m
Width0.3 m
Depth0.21 m

With of Print Layer0.02 m

Reinforced Concrete voids0.11592

Dimensions reinforced concr0.194

Höhe4.6

Tiefe0.17

Area (facing surface) Front1.4 m²
Back1.4 m²
Side1.93 m²
Additional 2 Concrete voids0.09 m²
Total area - Projection4.78 m²
Deduct Cavity0.11592 m³

Building Volume3D Print Element0.093 m³

Total Volume (outer dimensi0.290 m³

Volume 3D Print	32%
Volume reinforced concrete	60%
Volume void	8%

Weight - total Element	ement without concrete infill	187 kg
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Print track	Length	389 m	12 mm
	Height	0.012 m	
	Speed	0.6 m/sec	
manufacture time		11 min	Element
or		0.18 h	Element
Printing time m²		2.3 min	

Cost Analysis (estimate)	est PrintCrete230 grey per ton	425 USD/mt
	Cost Print Concrete - Element	79 USD
	Cost on frontal view per m2	57 USD
	Cost on frontal view per m2	211 AED



THANK YOU

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