
MASTER CTS

ASATEEN GROUP

CONTROLLED TECHNICAL EDITION

MASTER FOAM CONCRETE

Technical Data Sheet

Controlled DF-01 technical reference for governed specification, technical review, and evidence-based project use.

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1. Document Title

MASTER Foam Concrete

Technical Data Sheet (DF-01)

2. Product Identity

Field	Value
Product Name	MASTER Foam Concrete
Institutional Identity	MASTER CTS — Construction Technology Systems
Organizational Relationship	A Division of ASATEEN GROUP
Product Type	Engineered cellular concrete
Primary Function	Lightweight insulating concrete matrix
Primary Technical Use	Dead-load reduction, thermal insulation, acoustic attenuation

3. Technical Overview

MASTER Foam Concrete is an engineered cellular concrete used for lightweight fill, thermal insulation, and acoustic attenuation. The system is produced through automated mixing and pumped placement across multiple density classes.

4. Product Description

MASTER Foam Concrete is a self-leveling lightweight concrete matrix designed for smooth placement and monolithic filling applications. The material provides reduced structural dead load together with thermal resistance, acoustic dampening, and stable execution behavior.

5. Composition / Material Basis

Component Category	Basis
Cementitious Base	Portland cement
Fine Aggregate	Sand
Water	Water
Foaming System	Proprietary chemical foaming agents
Raw Material Sourcing	High-grade chemical agents imported from Italy, Germany, and Turkey

6. Key Technical Properties

Property Group	Property	Value / Statement	Unit / Basis
Material Classification	Material Class	Ultra-lightweight	Qualitative
Thermal / Acoustic	Thermal Resistance	High thermal resistance under elevated temperature conditions	Qualitative
Thermal / Acoustic	Acoustic Performance	High sound dampening capacity	Qualitative
Dimensional / Service	Dimensional Stability	Minimal expansion coefficient	Qualitative
Dimensional / Service	Joint Requirement	Jointless execution in standard use context	Qualitative
Durability / Service	Biological Resistance	Resistant to insects and rodents	Qualitative
Material Basis	Environmental Profile	Non-hazardous, organic, and plant-based constituents	Qualitative
Execution Behavior	Surface Behavior	Self-leveling, smooth, non-fragmented	Qualitative
Test Reference	Strength Test Age	Compressive strength values reported at 28 days	days

7. Performance Characteristics

7.1 Density Class Performance

Density Class	Compressive Strength (28 days)	Unit	Thermal Conductivity	Unit
D400	1.0	MPa	0.10	W/mK
D500	1.4	MPa	0.12	W/mK
D600	3.5	MPa	0.14	W/mK
D700	5.0	MPa	0.18	W/mK
D800	7.0	MPa	0.21	W/mK
D1000	10.0	MPa	0.24	W/mK
D1100	14.0	MPa	0.34	W/mK
D1200	17.0	MPa	0.38	W/mK

Available density options.

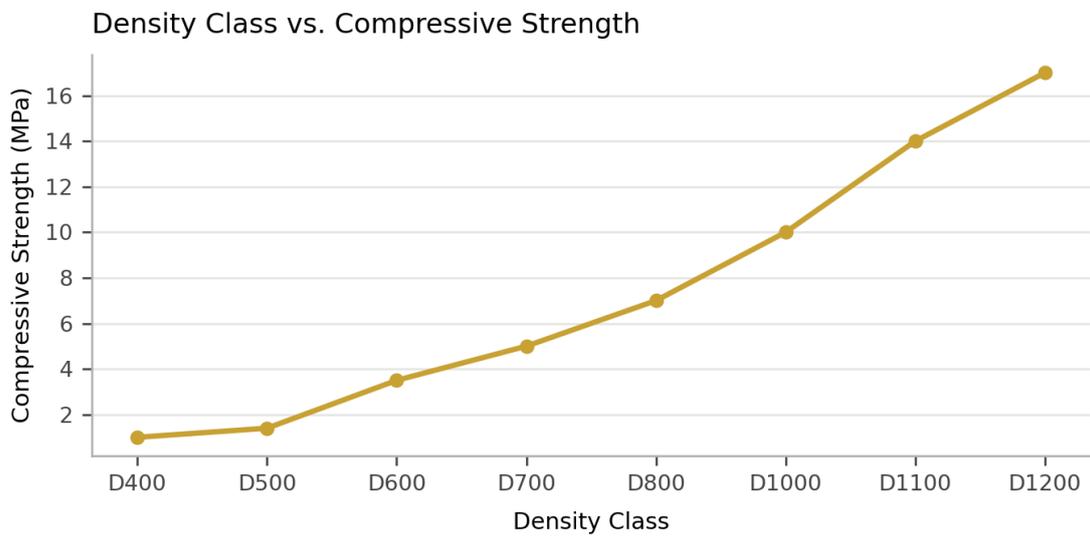


Figure 1. Density Class vs. Compressive Strength
 Source: Section 7.1 Density Class Performance

7.2 Execution and Delivery Capacity

Parameter	Value / Statement	Unit / Basis
Production Capacity	Up to 3000	m ² /day
Vertical Pumping Capacity	Up to 40	floors
Formwork Reduction Potential	Up to 100	%
Placement Equipment Logic	No heavy crane hoisting required for placement	Qualitative

7.3 Comparative Technical Reference

Feature	MASTER Foam Concrete	Conventional Concrete / Screed
Dead Weight	Reduced; starting at D400	High density (~2400 kg/m ³)
Execution Rate	Up to 3000 m ² /day	Slower, semi-manual application
Thermal Performance	0.10–0.38 W/mK	Minimal without additional insulation layers
Expansion Control	Jointless execution	Thermal expansion joints required
Formwork Requirement	Up to 100% reduction	High mold and labor dependency
Vertical Transport	Pumped to 40 floors	Crane / hoist dependent

Comparative technical reference.

7.4 Numeric Reference Summary

Parameter	Value	Unit	Reference Context
Technical Team Experience	6	years	Minimum stated experience baseline
Maximum Daily Output	3000	m ²	Production capacity
Maximum Pumping Height	40	floors	Vertical pumping limit
Strength Test Age	28	days	Compressive strength reference age
Formwork Reduction	100	%	Maximum stated reduction potential
Density Range	400–1200	D	Density class range
Strength Range	1–17	MPa	28-day compressive strength range
Conductivity Range	0.10–0.38	W/mK	Thermal conductivity range

Key numeric reference values.

8. Application Areas

Application Area	Use
Roofing and Flooring	Thermal and acoustic screeds; floor leveling
Structural Steel	Moisture, thermal, and acoustic encasement
Geotechnical / Soil Injection	Foundation stabilization, pore pressure mitigation, soil cohesion enhancement
Industrial	Insulation for pipelines and storage tanks
Vertical Divisions	Internal and external lightweight wall partitions
Specialized Application	Shotcrete application with low permeability and high substrate bonding

9. Application Method / Usage Guidance

Topic	Guidance
Production System	Automated inline mixing
Placement Method	Pumped application
Placement Logic	Continuous production and pumping
Functional Use Condition	Applications requiring reduced dead load, thermal insulation, and acoustic attenuation
System Role	Injected monolithic insulating core in composite wall systems

9.1 MASTER CTS System Integration

Integration Topic	Statement
Integration Use	MASTER Green Building wall assemblies
Core Function	Injected monolithic insulating core
Structural Frame	Light Gauge Steel (LSF)
Enclosure Layer	Double-sided MASTER Board stay-in-place panels
Assembly Output	High strength-to-weight wall assembly with fire and thermal resistance

Composite wall system integration reference.

Composite Wall System Integration

MASTER Foam Concrete shown as the injected monolithic insulating core
 Injected core zone

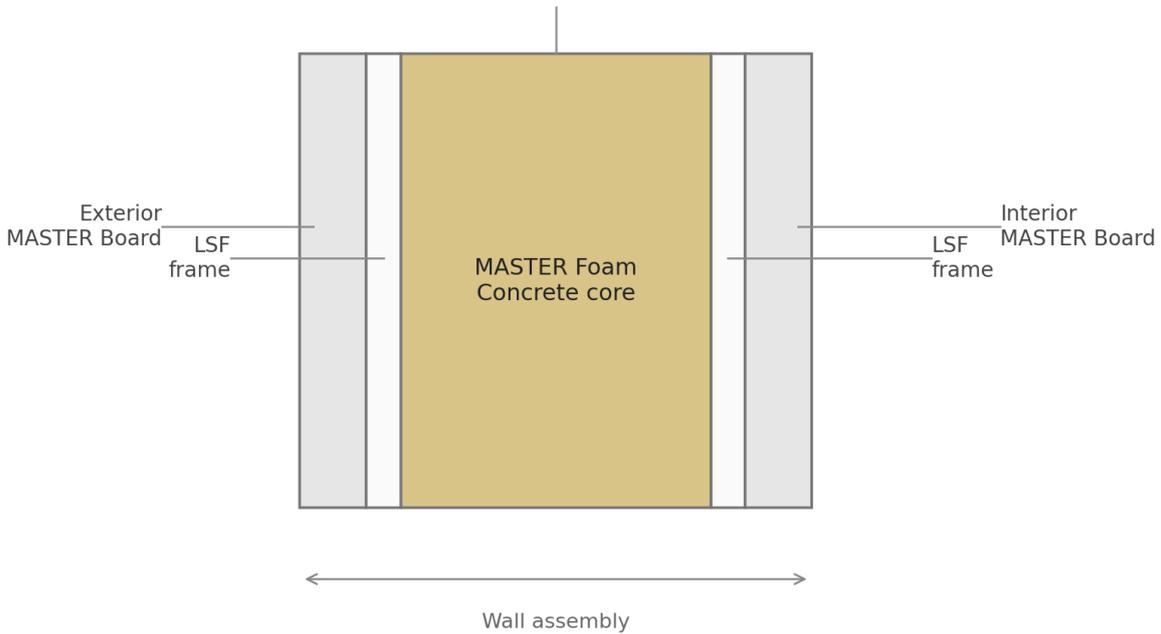


Figure 2. Composite Wall System Integration

MASTER CTS

Construction Technology Systems

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