



# Technical Data Sheet

## BC FOAM CONCRETE

### Lightweight Engineered Cellular Concrete Fill Material

#### 1. Product Description

BC Foam Concrete is a lightweight, cementitious, foam-filled material designed to solve a wide variety of challenges in geotechnical, civil, and mining applications. It is produced by blending a cement slurry with a stable preformed foam, generating uniformly distributed air voids within the mix.

The result is a highly flowable, self-levelling, load-reducing engineered fill that provides exceptional performance where traditional granular or lightweight aggregate fills are unsuitable due to weight, site access, or schedule constraints.

#### 2. Features & Benefits

- Lightweight material reduces dead load and improves structural efficiency
- Excellent thermal and sound insulation properties
- High slump and self-levelling — easy to pump or gravity-place
- Fast placement and installation, ideal for large volume filling
- Low permeability and minimal shrinkage (<0.3%)
- Absorbs shock and vibration, ideal for backfill and stabilization
- Reduces hydrostatic pressure on retaining walls and structures
- Environmentally friendly, non-toxic, and sustainable

#### 3. Recommended Uses / Applications

BC Foam Concrete is suitable for a broad range of geotechnical and structural applications, including:

- Soil stabilization and ground improvement
- Backfilling behind retaining walls and abutments
- Bridge approach slabs and embankment repairs
- Tunnel and shaft backfill
- Pipeline and utility trench filling
- Roadway and bridge deck approaches
- Lightweight fill for foundations and podium slabs



## 4. Technical Data

Property	Unit	Typical Value / Range	Test Method
Wet Density	kg/m <sup>3</sup>	320 – 1920 (20 – 120 pcf)	ASTM C495
Compressive Strength	MPa	0.14 – 4.8 (20 – 700 psi)	ASTM C495
Flowability / Slump	mm	Self-levelling	ASTM C143
Water Absorption	%	<10	ASTM C642
Shrinkage	%	<0.3	ASTM C157
Thermal Conductivity	W/m ·K	0.10 – 0.25	ASTM C518
Fire Resistance	—	Non-combustible	ASTM E136
Air Content	%	20 – 70	—
Modulus of Elasticity	MPa	400 – 8000	ASTM C469

The above data are typical values and may vary depending on mix design, density, and site conditions.

## 5. Application Method

### Surface Preparation

- Ensure that the placement area is stable, free from standing water, and properly confined to prevent lateral flow.
- All debris, loose soil, and foreign matter must be removed prior to pouring.

### Mixing

- BC Foam Concrete is produced by combining cement slurry (Portland cement + water + optional admixtures) with a preformed stable foam generated from BC Foam Agent.
- Mix until uniform consistency is achieved.

### Placement

- Pump or gravity discharge into the required area.
- Material will self-level and flow around obstructions, completely filling voids and annular spaces.



## Curing

- Allow to cure under ambient conditions.
- Protect from rapid drying or freezing during the first 24 hours.

## 6. Coverage

Coverage depends on density and project design.

As a general guideline:

1 m<sup>3</sup> of BC Foam Concrete = approximately 1000 litres of mixed material (density-dependent).

## 7. Packaging

- Delivered as a site-mixed system using BC Foam Agent and cement slurry.
- Available in bulk foam concentrate form (typically 20 L / 200 L drums).
- Cement and water supplied locally.

## 8. SHELF LIFE

- 12 months from the date of manufacture when stored in original, unopened containers under cool and dry conditions (5°C – 30°C).
- Protect from frost and direct sunlight.

## 9. HEALTH & SAFETY

- Avoid contact with skin and eyes.
- Use gloves, goggles, and appropriate protective clothing.
- Ensure adequate ventilation during application.
- In case of contact, rinse immediately with plenty of water.
- Refer to the BC Foam Concrete Safety Data Sheet (SDS) for detailed handling instructions.

### DISCLAIMER

The data presented in this sheet are based on laboratory testing and practical experience. Variations in substrate, application method, and environmental conditions may impact performance. Users are advised to carry out tests under their own conditions. Building Chemistry Industry's responsibility is limited to the product replacement in cases of proven manufacturing defect.

