



## Technical Data Sheet

### BC 718 Spray Foam

#### BC 718 (Polyol) & BC 768 (Isocyanate)

#### 1. Product Description

BC 718 Spray Polyol (component A) and BC 768 Isocyanate (component B) form a two-component spray polyurethane system for producing rigid sprayed foam used for cavity filling, backfill, void filling, thermal insulation and geotechnical/lightweight fill applications. Designed for sprayed applications with applied density ~45 kg/m<sup>3</sup>. Suitable for high- and low-pressure spray equipment.

#### 2. Typical Uses

- Cavity & void filling
- Tunnel/backfill grout-type foaming applications
- Lightweight engineered fill and insulation infill
- Annular grouting, pipeline bedding, compaction reduction fill
- Thermal insulation where low density foam is acceptable

#### 3. System Benefits

- Easy to spray (low & high-pressure machines)
- Good mechanical properties and dimensional stability
- High closed-cell content → good water resistance
- Good adhesion to typical substrates when prepared

#### 4. Component Information & Packaging

##### BC 718 Spray (Polyol) — Component A

- Appearance: liquid
- Viscosity (at 20–25°C): ~250 mPa·s
- Specific gravity (20°C): ~1.105
- Hydroxyl number: ~320 mg KOH/g
- Packing: 220 kg drum

##### BC 768 Isocyanate — Component B

- Appearance: liquid
- Viscosity (25°C): ~210 mPa·s
- Specific gravity (25°C): ~1.24
- NCO content: ~31%
- Packing: 250 kg drum



## 5. Recommended Mixing / Processing

- Recommended mix ratio (phr / pbw): 100: 100 (Polyol: Isocyanate) — by weight (1:1).
- Use suitable two-component spray equipment with heated hoses and static mixing head/nozzle.
- Substrate temperature recommended  $\geq 25^{\circ}\text{C}$  for best reactivity (if lower, expect longer cream/gel times).

## 6. Typical Reaction Profile (Hand-mix / Typical machine-adjusted)

Parameter	Typical
Cream time	3 – 4 s
Gel time	7 – 8 s
Tack-free time	11 – 13 s
Free-rise density (unconfined)	$\sim 34 \text{ kg/m}^3$ (free-rise)
Target applied density (spray, confined)	45 – 48 $\text{kg/m}^3$

Note: Reaction times shorten at higher temperature and with catalysts/accelerators. Always verify on-site.

## 7. Typical Foam Properties (after full cure)

Property	Value	Test / Notes
Applied density (system)	45–48 $\text{kg/m}^3$	BCI method / ASTM D1622
Closed cell content	> 90 %	ASTM D6226 / internal
Initial thermal conductivity	$\sim 22 \text{ mW/m}\cdot\text{K}$ (0.022 $\text{W/m}\cdot\text{K}$ )	EN / UNI method
Compressive strength (thickness direction)	$\sim 200 \text{ kPa}$	UNI/ASTM D1621
Tensile strength	$\geq 300 \text{ kPa}$	ASTM D1623



Dimensional stability (linear)	≤ 1% (-25°C, +70°C / 48 h)	UNI 8069 / internal
Water vapor permeability	~3.0 perm-inch	ASTM E96
Water absorption (immersion)	≤ 5.0 % vol	ASTM D2842
Fire classification (rigid foam)	B2 (DIN 4102) or local equivalent	per raw materials & foam formulation

## 8. Process & Equipment Guidance

- Pre-heat components to recommended machine inlet temps (per machine/manufacturer). Typical polyol/isocyanate temperatures: 30–40°C (adjust per equipment).
- Maintain hose temperature and pressure as per spray rig / nozzle manufacturer.
- Use static mixing tips suitable for ratio and throughput.
- Adjust machine settings to achieve target density (change flow rates, ratio fine tuning, and foaming agent settings).
- For best adhesion, substrate must be clean, dry and free of oils, loose materials. Rough/porous substrates may require a test patch.
- For confined injection/void filling, monitor exotherm — do not overfill thin sections without venting.

## 9. Handling, Storage & Shelf Life

**Storage conditions:** Store sealed drums in a cool, dry place; avoid moisture. Keep original lids sealed. Recommended storage temperature 15–25°C. Protect from direct sunlight and frost.

**Shelf life (unopened):**

- BC 718 Polyol: 6 months from production (stored 15–25°C)
- BC 768 Isocyanate: 6 months from production (stored 15–25°C)

Note: Shelf life depends on storage conditions — elevated temp or moisture shortens life. Verify before use.





## 10. Packaging

- BC 718 Spray Polyol (A): 220 kg drum
- BC 768 Isocyanate (B): 250 kg drum

## 11. Health & Safety

- Isocyanates are hazardous: avoid inhalation and skin contact. Use full PPE: respirator (properly selected for isocyanates/organic vapors), chemical-resistant gloves, goggles, coveralls.
- Polyol may be irritating — use gloves/eye protection.
- Ensure good ventilation or use supplied-air for spraying in confined areas.
- Refer to respective SDS for BC 718 and BC 768 for full hazard, first-aid, firefighting and spill procedures.
- Keep away from moisture — isocyanate reacts with water.

### 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.

