

BETEC[®] Lining Grout

Cement based long distance lining grout

Product Description

BETEC[®]Lining Grout is a custom engineered cement based injection grout with ultra-high flowability and long open time for sealing and grouting annular joints over long distance (>50m) in tunneling and sewer rehabilitation.

Advantages

- High performance grout with ultra-high flowability and extended open times.
- Pumpable and flowing over long-distances.
- Chloride-free.
- Very high initial and final strength development to strength class C55/67.
- Self-compacting and volume stable for a complete and durable filling of cavities.

Field of Application

BETEC[®]Lining Grout is specifically engineered for:

- Sealing and filling of annular joints over long distances in tunneling and sewer rehabilitation.
- Filling of liners.

Product Properties

Technical Data/Properties^(*)

BETEC® 200		
Properties	Unit	Value*
Grain size	[mm]	≤ 0,2
Application thickness (depending on system and application)	[mm]	≤ 50
Consistency	[-]	Very high flowing
Efflux Time (DIN EN 445) Marsh Funnel 8 mm	[sec]	
- After 5 minutes		≤ 30 sec
- After 30 minutes		≤ 50 sec
Maximum water quantity	[l/20 kg]	7
Open time	[min]	≥ 90
Application temperature (Powder, water and environment)	[°C]	+5 to +30
Expansion	[Vol-%]	≥ 0.5
Suspension density	[kg/dm³]	1.95 – 2.10
Calculation quantity	[kg/m³]	1460
Strength development	[-]	Fast
Early strength class after 24h	[-] [MPa]	A ≥ 40
Compressive strength (**)		
- 24 hours	[N/mm²]	≈ 40
- 28 days		≈ 80
Flexural strength (**)		
- 24 hours	[N/mm²]	≈ 6
- 28 days		≈ 10
Strength class	[-]	C 55/67
Exposure classes (***)	[-]	X0, XC1-XC4, XD1-XD3, XS1-XS3, XA1-XA2, XF1-XF3
Moisture classes (***)	[-]	WO, WF, WA
Shelf life	12 Months Stored under cover, clear of the ground, protected from all sources of moisture and frost.	
Packaging	Bags of 20 kg with plastic liner. 40 bags per pallet (800kg) 1000 kg Big Bags	
Appearance	Grey	

(*)Typical values in production control. All tests were executed under a conditioned temperature of 21 °C and 65% RH.

(**) Compressive strengths measurements based on prisms of 4x4x16cm.

(***) According to EN 206-1:2001 in combination with DIN 1045-2.

Application

1. Preparation of Substrate

- Substrate preparation has to be according EN 1504-10 part 7.
- The substrate has to be free from dirt, grease, laitance, loose concrete, loose particles or layers which could adversely affect adhesion.
- Remove all damaged concrete and prepare substrate by sand or grid blasting, high pressure water jetting, or other methods until base concrete is exposed, offering sufficient roughness (bond) and open pores.
- The substrate must be pre-wetted with clean water until saturated. The substrate should be damp, but without free standing water.
- The substrate must be frost-free.

2. Mixing

- The product has to be mixed using a suitable forced action mixer (400–600rpm). The mixing head must be completely immersed in the powder. Specially designed mixing units for lining grouts can also be used.
- Add the required quantity of water into the mixer and mix until a lump-free, homogeneous mixture is obtained. Never use more than the maximum water quantity.
- The mixing time depends on the type of mixer.
- Once the grout is ready mixed, apply immediately. Do not prepare more material than can be used within the open time of the material.
- Keep the material in motion during application with a low speed mixer to prevent segregation and maintain open time.

3. Application

- The grout is injected in one continuous application using a pump or injection equipment suitable for lining grouts.
- If necessary, a dense and non-absorbent formwork is to be used.
- Do not vibrate.

Health & Safety

BETEC® Lining Grout is a product based on cement and can therefore cause burns to skin and eyes, which should be protected during use. Wear gloves and protective eye shields. Wearing a dust mask is advised. Treat splashes to eyes and skin immediately with clean water. Consult a doctor when irritation continues. If accidentally ingested, drink water and consult a doctor. Users must comply with all risk and safety phrases. MSDS's can be obtained from GCP Applied Technologies or from our website. GISCODE ZP1.

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Last Updated: 2025-05-13

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