

BETEC[®] 302

Fast setting levelling and finishing mortar, Class R2

Product Description

BETEC[®]302 is a fast setting, cement based, volume stable mortar, suitable for levelling and finishing of concrete surfaces in layer thicknesses of 2-5mm.

Advantages

- Polymer modified for an excellent adhesion to concrete for a maximum durability and long-term performance.
- Fast setting properties, suitable for applications at reduced temperature conditions and where fast initial strength development is required for minimal downtime and rapid completion.
- Soft plastic consistency for a fast, easy and cost effective application by manual application or spraying.
- Certified according CE performance declaration by EN 1504-3.

Field of Application

BETEC[®]302 is suitable for all levelling and thin layer non-structural concrete repair applications at reduced temperature conditions and where a fast initial strength development for minimal downtime and rapid completion are required:

- Surface levelling and finishing of vertical and horizontal concrete surfaces, such as: prefabricated concrete wall and floor panels, honeycombing, etc.
- Surface re-profiling applications of joints, edges and damaged precast elements and concrete structures.
- As a preparation layer for a protective and/or decorative coating such as AQUATEK[®] Elastic 2C or OMNITEK[®] Paint EC.

Certification

- CE performance declaration according to EN 1504-3.

Product Properties

Technical Data/Properties^(*)

BETEC® 302		
Properties	Unit	Value*
Grain size	[mm]	0-0.5
Layer thickness	[mm]	2-5
Consistency	[-]	Stiff-Plastic
Maximum water quantity	[l /20 kg]	5.2
Open time	[min]	≈ 30
Application temperature (Powder, water and environment)	[°C]	+5 to +30
Fresh mortar density	[kg/dm³]	≈ 1.8
Yield (20kg bags)	[dm³]	≈ 14
Compressive strength (**)		
- 24 h	[MPa]	≈ 15
- 7 days		≈ 30
- 28 days		≈ 40
Strength class	[-]	C 30/37
Exposure classes (***)	[-]	X0, XC1-XC4, XD1-XD2, XS1, XA1, XF1-XF3
Moisture classes (***)	[-]	WO, WF, WA
Shelf life	6 Months Stored under cover, clear of the ground, protected from all sources of moisture and frost.	
Packaging	Bags of 20 kg with plastic liner. 48 bags per pallet (960kg)	
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.

(***) 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 and have a cohesion of minimum 1.5 N/mm².
- Exposed or corroded reinforcement steel needs to be treated with OMNITEK® CPC.
- Damaged areas need to be repaired with a suitable OMNITEK® or BETEC® cement based repair mortar.

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.
- Add 4/5 of the required quantity of water into the mixer and mix for 2 minutes. Add the remaining quantity of water. The water content can be varied to obtain the desired consistency. Never use more than the maximum water quantity. Mix for an additional 2 minute until a lump-free, homogeneous mixture is obtained.
- The mixing time depends on the type of mixer. 4 minutes is the minimum.
- Once the mortar is ready mixed, apply immediately. Do not prepare more material than can be used within the open time of the material.
- When the mortar starts to set, remix but never add more water.

3. Application

- The mortar is applied manually using a trowel. Alternatively suitable spray equipment can be used.
- Press firmly into the application area to ensure proper adhesion and to compact the material.
- The material can be applied in several layers.
- Allow the material to set sufficiently before smoothing the surface using a trowel or sponge.
- Do not apply the material if the ambient temperature is below 5 °C or expected to fall below 5 °C within 24 hours.

4. Curing

- After treatment has to be according EN 13610 in combination with DIN EN 1045-3.
- In warm or windy conditions protect the applied material from dehydration by mist-spraying with clean water or protective tarpaulins until the initial set has taken place.
- In cold conditions cover with insulated tarpaulin, polystyrene or other insulating material. Protect surfaces against frost and rain until final set has taken place.
- In cold, humid or unventilated areas it can be necessary to allow for a longer curing period, or to introduce forced air movement to avoid condensation. Never use dehumidifiers during the curing period or within 28 days after application.
- The after-treatment should be at least 5 days.
- The after-treatment should take place as soon as possible, at the latest when the material surface starts to set.
- As an alternative to the conventional treatment methods, suitable curing agents can be used to prevent rapid water loss.

5. Cleaning and maintenance

- Mixing and application equipment should be cleaned immediately with clean water. Hardened material needs to be removed mechanically.

6. Special remarks

- Cementitious materials can lead to incompatibilities under certain conditions in combination with non-ferrous metals (such as aluminium, copper, zinc).
- Low temperatures delay the early strength development. High temperatures accelerate the strength development and decrease the open time of the material.
- Repaired areas can be coated after 7 days with protective or waterproofing coatings depending on the ambient conditions.

Health & Safety

BETEC®302 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.

CE Certificate

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Concrete repair mortar

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