



CONSTRUCTION CHEMISTRY

Expanchem Customer Services Department should be consulted for specific recommendations to meet varying operating conditions.

Instructions for use

Concrete surfaces

All surfaces must be smooth, sound and free from debris, loose or flaking material and areas of standing water. Surfaces must be free from contamination such as oil, grease, dust, loose particles and organic growth. Concrete surfaces must be fully cured, laitance free and free from any traces of shutter release oils and curing compounds.

All surfaces should then be grit blasted to remove any foreign matter, and provide a suitable key for Expancote* EP405. All blow holes and imperfections should be filled with Expanmortar* FC or Expanmortar* FC(B). Consult the local data sheet for pot life and overcoating time.

Steel surfaces

All surfaces should be grit blasted to meet the requirements of BS 4232, First Quality. The lining work should be programmed so that newly cleaned steel is coated as soon as possible before the formation of rust or scale.

Priming

Priming is not normally required provided the substrate is sound, untreated and good quality non porous concrete. If any doubts exist of the quality of the concrete, or if it is porous it should be primed with Expanprime* 25. Contact the local Expanchem office for advice.

Expanprime* 25 should be mixed in the proportions supplied. Add the entire contents of the hardener can into the base can. When thoroughly mixed, preferably using a slow speed drill and paddle, the primer should be applied in a thin continuous film, using rollers or stiff brushes. Work the primer well into the surface of the concrete taking care to avoid ponding or over application.

The primer should be left to achieve a tack-free condition before applying the top coat. A second coat of primer may be required if the substrate is excessively porous.

Mixing

The contents of the base can should be stirred thoroughly to disperse any settlement. The entire contents of the hardener can should be added to the base container and mixed thoroughly until a uniform consistency is obtained, taking particular care to scrape the sides and bottom of the

container. It is recommended that mechanical mixing be employed, using an Expanchem mixing paddle on a heavy duty, slow speed electric drill.

Application

Whilst Expancote* EP405 can be applied to damp surfaces; running water must be excluded from the work area during both application and curing of the product. Where excessive seepage or leaking occurs, consult the local Expanchem office for recommendations.

Hand application

This can be suitably achieved by brush or roller. The first coat should be firmly applied and scrubbed well into the surface, ensuring that a continuous film results of uniform thickness. The second coat will cover more readily than the first, and should be applied within the 'overcoating times' mentioned above. It is further recommended that a contrasting colour is chosen for the second coat, to ensure unbroken coverage.

Spray application

Faster rates of application are possible using airless spray equipment, but the local Expanchem office should be contacted prior to application for technical advice.

Cleaning

Tools and equipment should be cleaned with Expanchem Solvent 102* immediately after use.

Hot weather working practices

Whilst the performance properties of Expancote* EP405 at elevated temperatures are assured, application under such conditions can sometimes be difficult. It is therefore suggested that, for temperatures above 35°C, the following guidelines are adopted as a prudent working regime:

(i) Store unmixed materials in a cool (preferably temperature controlled) environment, avoiding exposure to direct sunlight.

(ii) Keep mixing and placing equipment cool, arranging shade protection if necessary. It is especially important to keep cool those surfaces of the equipment which will come into direct contact with the material itself.

(iii) Try to eliminate application in the middle of the day, and certainly avoid application in direct sunlight.



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(iv) For hand application, ensure that there are sufficient operatives available to complete application within the pot life of the material.

(v) Have a ready supply of Expanchem Solvent 102 available for immediate cleaning of tools after use.

Use of glass fiber reinforcement

Expancote* EP405 may be used in conjunction with glass fiber reinforcement to increase coating thickness, or where it is necessary to bridge static cracks in the substrate.

The fabric should be laid directly onto the first coat whilst it is still wet, and should be pressed in and smoothed out with a split washer roller or suitable alternative.

Second and subsequent coats may then be applied in accordance with the 'overcoating times' mentioned above.

Open weave glass cloth in the range of 100 to 300 gm/m² is considered most suitable for this application.

Repairing and overcoating

Any applications of Expancote* EP405 which have become damaged can be readily over coated.

The existing surface should well abraded, using a stiff wire brush, or similar, to ensure that a good mechanical bond will be achieved between the two layers.

Overcoating works can then proceed as for new work.

Limitations

A minimum application temperature of 5°C should be observed at all times.

Expancote* EP405 should not be applied on top of existing coatings, but can be applied on top of itself (see above).

In high temperature conditions, of above 35°C, hot weather working practices should be adopted (see above).

Estimating

Supply

Expancote* EP405 : 2.50 Kg. Packs

Expanchem Solvent 102 : 5 liter can

Coverage

Coverage figures quoted for Expancote* EP405 are theoretical, and based upon plain application (without glass fiber) to a properly prepared substrate of nominal C30 concrete.

Since application conditions vary greatly; due to substrate porosity, quality of surface preparation, application thickness and wastage factors, the on-site figures may vary from those shown below.

Expancote* EP405 : 3.50 m² / Kg. @ 200 microns wft/coat

Storage

When stored in dry air conditioned stores at temperatures between 5°C and 30°C in the original, unopened containers all products have a shelf life of 12 months.

If stored at high temperatures the shelf life will be reduced. Air conditioned storage at high ambient temperatures is recommended.

Precautions

Health and safety

Expancote* EP405, Expanprime* 25 and Expanchem Solvent 102 should not come in contact with the skin and eyes, or be swallowed. When using Expanchem Solvent 102 ensure adequate ventilation and avoid inhalation of vapour. Some people are sensitive to resins, hardeners and solvent.

Wear suitable protective clothing, gloves and eye protection. The use of barrier creams provides additional skin protection. In case of contact with the skin, rinse with plenty of clean water, then cleanse with soap and water. Do not use solvent.

In case of contact with eyes, rinse immediately with plenty of clean water and seek medical advice. If swallowed, seek medical attention immediately – do not induce vomiting.



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Fire

Expancote* EP405 is non-flammable.

Expanprime 25 and Expanchem Solvent 102 are flammable. Keep away from sources of ignition. No smoking. In the event of fire, extinguish with CO₂ or foam. Do not use a water jet.

Flash point

Expanchem Solvent 102 : 33°C

Expanprime* 25 : 57°C

For further information, refer to the Product Material Safety Data Sheet.

*Denotes the trademark registered.

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