



# OPUS LUBRICANTS PRODUCT DATA

## EASYPATCH WHITE & GRAY

### Description

**Easypatch** Cements are pre-packaged, specialised repair cements based on the latest polymer cement technology, they provide a simple, cost effective, rapid repair system for insitu and precast concrete, masonry, screeds, renders, brickwork and blockwork. **Easypatch** is a structural grade repair product highly suited for use on damaged, honeycombed or spalled concrete, particularly in new construction. They offer low slump, enabling high build in vertical, overhead and other difficult areas of repair without the use of primers or support, and cure to provide a dense waterproof finish. Colour and texture match is easily achieved by mixing shades of grey and white at different ratios using trial mixes. Coloured aggregates can be blended in as well as concrete pigments if necessary.

### Benefits

- Ready to use; simply add clean water.
- Supplied in Grey and White grades as standard but can be blended easily for perfect colour match.
- Complete compatibility with substrate concrete properties.
- Very low shrinkage, maintaining high bond strength to substrate ensuring excellent monolithic performance.
- Bond strength higher than tensile strength of standard concrete. No special primers necessary.
- Polymer modified to enhance adhesion giving protection from acid gasses, moisture ingress and chloride attack.
- Rapid strength development, over 10N/mm<sup>2</sup> in 2hours.
- Low alkali content ensures safe usage and minimises risk of alkali silica reaction.
- Waterproof when cured (ISAT).
- Ideal for use in cold and damp conditions.
- Excellent finishing and feather edging characteristics.
- A Water Regulations Advisory Scheme listed product (UK WRAS Certification)
- Complies with Clause 6, of DTp Standard BD 27/86 "Materials for the repair of Concrete Highway Structures".



## Technical Data

### Typical values

Compressive Strength to BS 4551		
Age 20°C	Compressive Strength (N/mm <sup>2</sup> )	
	Grey	White
2 hrs	13-16	7.5-10
4 hrs	17-20	11-13
24 hrs	19-23	19-24
7 days	28-30	35-39
28 days	39-42	45-50

Compressive Strength to BS 4551		
Age 7°C	Compressive Strength (N/mm <sup>2</sup> )	
	Grey	White
2 hrs	6-7	3.4-4.5
4 hrs	8.5-12	6.5-8
24 hrs	16-18	15.5-17
7 days	18.5-20	25-26.5
28 days	23.5-26	38.5-41

Cured at 20°C and 100% RH, Water/Cement ratio is 12% cured at 7°C and 100% RH, W/C ratio is 12%

Flexural Strength BS 4551 (28 days) @ 20°C	
Test Grade	Flexural Strength (N/mm <sup>2</sup> )
Grey	9-10
White	10-10.5

Bond Strength to Concrete BS 6319 Pt: 4 1984 28 days slant/shear method	
Test Grade	Bond Strength (N/mm <sup>2</sup> )
Grey	29-30
White	30-34

Water Permeability BS 1881 Pt.5: 1970 (ISAT). Initial Absorption (ml/m <sup>2</sup> /sec)			
Time	Grey	White	4:1 Mortar sand: cement
10 mins	Zero	Zero	1.130
2 hrs	zero	zero	0.595

### Coefficient of Thermal Expansion:

The coefficients for **Easypatch** are full compatible with typical concrete.

### Setting Times:

5-10 minutes dependent upon ambient temperature and water content.

NB. During a plastic state (just prior to initial set) Easypatch can be cut, shaped and smoothed, use a clean, dampened steel spatula or trowel.

### Temperature Limitations:

As with concretes, do not apply below 5°C, without protection system.

In hot climatic conditions use good curing practice and keep powder below 25°C.



## **Application**

### **Surface Preparation**

Ensure surface for repair is clean and free from any deleterious substances. Laitence should be removed by mechanical means and any oils or greases, etc. can be removed using Opus Degreasant.

Exposed reinforcement should be cleaned and dimensionally checked. With **Easypatch** there is no requirement for excessive mechanical keying or rebating of edges due to its superior bonding and feather edge capabilities.

NB. Do not attempt repairs at ambient temperatures below 5°C without protective measures.

### **Priming**

**Easypatch** cements do not use a separate primer system. The prepared surface should be thoroughly dampened with clean water, to reduce suction. Remove any excess surface water prior to filling or commencing the repair.

N.B. If concrete to be repaired is new (hours old) use warm water to prevent thermal shock.

### **Mixing**

Mix **Easypatch** cements with clean water 12% by weight or 5-6 parts to 1 part water by volume. Mix only enough **Easypatch** as can be used in a period of 5 minutes (dependent upon ambient temperature).

Always add powder to water to ensure ease and thoroughness of mixing without ingress of air.

For large quantity mixes (over 8Kg) at one time mix thoroughly by mechanical means (slow speed drill and paddle) to obtain a cohesive thixotropic material. DO NOT attempt to remix mortars by the addition of more water after initial mixing process is completed. Clean equipment and any spillage with water immediately after use.

## **Application**

- For SMALL REPAIRS and initial layer (25mm maximum depth) of deep repairs use unfilled EASYPATCH cements, this ensures maximum bond and protection. Trowel mix firmly into place on dampened surface.

Completely encapsulating any exposed steel surfaces

If necessary the repair should be profiled with a steel trowel, cleaned regularly with a damp cloth and allowed to stiffen; typically 4-5 minutes (dependent upon temperature and water content). The surface can then be worked with a clean trowel or polystyrene block to produce the desired finish and any detail introduced. Do not 'wet down' the patch during this period or the surface colour will be detrimentally affected.



- For DEEP REPAIRS (above 25mm) apply the material in 25 mm thick layers. This minimises the exothermic reaction and if necessary introduce additional aggregates. The surface of each layer should be well keyed and allowed to cure for 25-30 minutes before lightly damping down and applying subsequent layer. The addition of aggregate will give economy without detrimentally affecting the strength and monolithic state of the repair. Should temporary shuttering or other specialised application techniques be necessary, please contact our Technical Department for further advice.
- PLUGGING and JOINT SEALING applications. For filling of voids, tie holes, block outs or other applications where a waterproof, no shrink, high bond strength, fast setting, cementitious material is required use EASYPLUG. **Easypatch** cements can then be used to achieve a final surface cosmetic matched finish to the repair. See EASYPLUG information for details.

### **Cleaning**

Always keep equipment clean, washing off **Easypatch** mixes with water before they have set. If allowed to set, mechanical cleaning will be required.

### **Curing**

**Easypatch** cement used in small repairs does not normally require curing. However, for large repairs, or use in hot climatic conditions, normal concrete curing techniques are recommended, i.e. damp hessian or white polythene sheet.

### **Packaging**

Sealed polybags inside:

8Kg self seal poly tubs  
25Kg self seal poly tubs

### **Storage**

No precautionary label requirements. Store in dry conditions where possible and always reseal tubs after use. EASYPATCH is supplied with double protection consisting of polybags and sealed tubs, ideally suited for transportation and storage even in the most difficult climatic conditions.



## **Health & Safety**

The principle ingredient of **Easypatch** is modified Portland cement, non-toxic but alkaline;

- Irritating to eyes, respiratory system and skin.
- Risk of serious damage to eyes.
- Keep out of reach of children.
- In case of contact with eyes, rinse immediately with plenty of soap and water.
- Wear suitable protective clothing, gloves and eye/face protection.

Separate **Easypatch** Health & Safety Sheet is available on request.

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