

## BluCem UW50

### Underwater Cementitious Grout

#### Description

**BluCem UW50** is a one component cementitious powder blend which requires only the addition of water to form an underwater repair grout.

#### Uses

**BluCem UW50** is used for filling voids and general grouting in an underwater environment. Uses include piles, dams, slipways, pillars and other applications where a grout is needed for saline and sulphate conditions. **BluCem UW50** has high density and anti wash-out properties allowing it to be placed through water in most applications.

#### Advantages

- Non corrosive to steel or iron
- Unique expansion system making it a non shrink grout
- High early strength and low permeability ensure the durability of the hardened grout
- Anti wash-out properties, effectively displaces water

#### Concrete Preparation

All defective host substrate must be removed prior to application. Defective material includes cracked or structurally weakened surfaces and also chloride contaminated and carbonated concrete. A concrete corrosion expert must be consulted for critical projects or structural applications. Host concrete must be roughened and aggregate exposed to ensure good bond. High pressure water blasting or mechanical chipping of the surface is recommended for this purpose. All surfaces must be free of dust, oils and surface contaminants. This may require steam cleaning or high pressure water blasting if site conditions permit. A perimeter edge of at least 10mm depth must be provided around the area for application.

#### Mixing

Measure and place 80% of the specified volume of potable water to the high shear mixing vessel. Start mixer and slowly add **BluCem UW50** powder. If powder addition is too fast then large lumps will form and final mix will be slow reaching uniform consistency. Following addition of all powder, mix for 1 - 2 minutes or until uniform consistency then add final 20% of potable water. More or less water may be added within the ratio limits specified on this data sheet. Do not mix more material than can be placed in 10 minutes.

#### Application

**BluCem UW50** may be poured or pumped into place. Check formwork for leaks prior to mixing and application of grout. Do not exceed the maximum application thicknesses specified in this data sheet for any wet layer. Consult Bluey for further information about aggregate addition for large volume pours.

#### Curing

Curing techniques are not required if **BluCem UW50** is being placed underwater. If the application includes some above water level work then application of curing compounds or maintaining wet for 24 hours is recommended.

#### Clean-up

Clean tools and surfaces using water prior to curing.



## Product Data

Packaging:	20kg bags
Ratio:	3.6 - 4.0 litres of water per 20kg bag of <b>BluCem UW50</b>
Yield:	~ 11 litres per 20kg bag
Pump life:	~ 2 hours @ 20°C
Set times:	Initial set time is 5 hrs 30 minutes @ 20°C Final set time is 6 hrs 15 minutes @ 20°C
Build scope:	<b>BluCem UW50</b> can be placed in thicknesses up to 50mm above water and 100mm underwater. If exceeding these measurements, do so in stages or add stone aggregate (2mm - 10mm) to reduce the exothermic heat.
Density:	~ 2200kg/m <sup>3</sup>
Tensile strength:	2.2MPa bond strength to submerged concrete
Compressive strength:	24 hours - 25MPa 3 days - 40MPa 7 days - 44MPa 28 days - 53MPa
Storage:	Store in dry cool conditions Shelf life is 12 months

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**Bluey Technologies Pty Ltd**  
PO Box 240 Rozelle NSW 2039  
T +61 2 9818 1844 F +61 2 9818 1866  
[www.bluey.com.au](http://www.bluey.com.au)

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