



PC30 / PC40 / PC45 STANDARD / PREMIUM / SUPERIOR PREBATCHED CONCRETE

PRODUCT DESCRIPTION

OPTIMIX PC30/40/45 PREBATCHED CONCRETE is a high quality pre-blended cementitious concrete mix packed dry in a 40kg bag with graded coarse aggregates included.

With addition of water and basic mixing it becomes a ready-to-use concrete mixture with excellent consistency and all the benefits of small package factory production.

Available in **PC30 Standard** (Grade 30), **PC40 Premium** (Grade 40) and **PC45 Superior** (Grade 45) the products comply with Hong Kong Buildings Department Code of Practice for Structural Use of Concrete 2013. For compliance with other specific requirements, please check with our technical department.

Also optionally available as **Waterproof** grades **PC30W**, **PC40W** and **PC45W**.



TYPICAL USAGE

- All types of concrete work
- Ideal for small & medium pour sizes
- Ideal for locations with limited space, restricted access or at remote locations

FEATURES AND BENEFITS

- Minimizes Wastage
- Easy Handling, Storage & Delivery
- Factory Level Quality and Consistency
- Makes High Quality Concrete Available On Demand and On Location





TECHNICAL DATA

| Product Characteristics | OPTIMIX PC30/PC30W | OPTIMIX PC40/PC40W | OPTIMIX PC45/PC45W |
|--|---------------------------|---------------------------|---------------------------|
| Concrete Strength Grade | C30/10 | C40/10 | C45/10 |
| Characteristic Strength | 30 MPa | 40 MPa | 45 MPa |
| Compressive Strength at 28 days | 45 MPa | 55 MPa | 60 MPa |
| Designed Workability (Slump) | 75 mm | 75 mm | 75 mm |
| Setting Time | 4 - 6 hours | 4 - 6 hours | 4 - 6 hours |
| Maximum Aggregate Size | 10 mm | 10 mm | 10 mm |
| Cementitious Content | 430 kg/m ³ | 470 kg/m ³ | 547 kg/m ³ |
| Total Chloride Content (by weight of cement) | 0.02% | 0.02% | 0.02% |
| Reactive Alkaline Content | 2.67 kg/m ³ | 2.90 kg/m ³ | 2.99 kg/m ³ |
| Aggregates/Cementitious Ratio | 3.99 | 3.54 | 2.92 |

| Product Characteristics | OPTIMIX PC30W | OPTIMIX PC40W | OPTIMIX PC45W |
|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| ISAT at 28 days (60-minute) | ~ 0.01 ml/m ² -s | ~ 0.01 ml/m ² -s | ~ 0.01 ml/m ² -s |

| Mixing | OPTIMIX PC30/PC30W | OPTIMIX PC40/PC40W | OPTIMIX PC45/PC45W |
|------------------------|---------------------------|---------------------------|---------------------------|
| Water Demand (per bag) | 3.4 - 3.8 L | 3.6 - 4.0 L | 3.6 - 4.0 L |
| Water/Cement Ratio | 0.45 | 0.43 | 0.37 |
| Wet Density | 2,350 kg/m ³ | 2,350 kg/m ³ | 2,350 kg/m ³ |

| Environmental Data | |
|----------------------------------|---|
| Volatile Organic Compounds (VOC) | ≤ 10 g/L |
| Potential BEAM points | Product is manufactured within 800km of Hong Kong project sites |
| Packaging Composition | Paper bags incorporating 40% recycled paper |

| Packaging and Yield | OPTIMIX PC30 | OPTIMIX PC40 | OPTIMIX PC45 |
|---------------------|---------------------|---------------------|---------------------|
| Yield (per bag) | ~ 19 L | ~ 19 L | ~ 19 L |
| Packaging (per bag) | 40 kg | 40 kg | 40 kg |
| Shelf Life | 6 months | 6 months | 6 months |

Note: The above are typical laboratory test results and can vary slightly depending on the ambient and substrate conditions during application.

| Testing Methods | |
|----------------------|------------------------------|
| Compressive Strength | HK Construction Standard CS1 |
| Slump | |
| Flow and Density | |
| ISAT | BS1881: Pt 5 |
| VOC Content | USEPA Method 24 |

Note: The tests were performed according to the national standard or in-house modifications of the corresponding testing procedures.





INSTALLATION GUIDE

(Refer to Method Statement for more details)

SURFACE PREPARATION

If the **OPTIMIX PREBATCHED CONCRETE** is intended to be a floating slab then the substrate need only be reasonably dry and capable of supporting the wet mixed material. If the **OPTIMIX PREBATCHED CONCRETE** is required to bond monolithically to the substrate then the substrate must be clean, free from unsound material, oil, grease and other contaminants which might affect the bond. If required the substrate may be sealed with a coating of **Optimix SF80** alternatively the substrate and any steelwork can be primed with a layer of **Optimix Procrete Bond Coat**.

Any formwork should be sturdy enough to hold the full volume of concrete in place, sealed properly to prevent leakage and treated with a suitable mould release agent as required.

MIXING

Mechanical mixing with appropriate concrete drum mixers, pan mixer or free-fall mixer is recommended, however hand mixing using shovels can also be used if care is taken to ensure the material is fully combined.

For mechanical mixing the recommended minimum mixing time is 5 minutes. Hand mixing will take longer.

- Mix one bag of **OPTIMIX PC30/PC30W** dry ingredients with 3.4 – 3.8 L potable water;
- Mix one bag of **OPTIMIX PC40/PC40W** dry ingredients with 3.6 – 4.0L potable water;
- Mix one bag of **OPTIMIX PC45/PC45W** dry ingredients with 3.6 – 4.0L potable water.

APPLICATION

The mixed concrete mixture shall be poured into the formwork or placed over substrate within its working life. For best results the mixture should be compacted with suitable device such as poker vibrator to ensure that the formwork is completely filled and that any air pockets are removed.

CURING

Water spraying and covering the surface with polyethylene sheet for 3 days or application of curing membrane over the exposed surface are recommended to enhance the hydration and strength development process.

LIMITATIONS

OPTIMIX PREBATCHED CONCRETE is workable concrete mixes capable of being used for structural and non-structural applications. They should receive the same care and attention to water addition and workability (slump) as any concrete mix. Excessive water addition or mixing with other materials on site should be avoided unless explicitly approved by Optimix Technical Department.

HEALTH AND SAFETY

OPTIMIX PREBATCHED CONCRETE is alkaline in nature and can cause irritations to persons with sensitive skin. Avoid inhalation of dust and contact with skin and eyes. Wear suitable protective gloves and masks while handling the product. If contact with eyes, rinse immediately with plenty of clean water and seek medical advice. This product is non-toxic and is not flammable.

STORAGE

Store in the original unopened bags on pallets with plastic wrapping under dry conditions. Store out of direct sunlight, clear of ground on pallets protected from rainfall. Avoid excessive stacking of pallets. Failure to comply with the recommended storage conditions may result in premature deterioration of the product or packaging.



ALTERNATIVE PRODUCTS

Other products from the Optimix range which can be combined with coarse aggregates to achieve a concrete mix.

- **Procrete**
- **NS612** Non-Shrink Grout
- **RM780** Rapid Setting Repair Mortar



Important Note: The information contained herein is, the best of our knowledge, true and reliable and is supported by the present state of our knowledge. No warranty is given or implied in connection with any recommendations or suggestions made by us or our representatives as the conditions of use and any labour involved are beyond our control.



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