

# MasterTop<sup>®</sup> BC 920

High performance, odourless self-smoothing flooring system based on Xolutec technology

## DESCRIPTION

**MasterTop BC 920** is a four-component, odourless high performance & durable self-smoothing flooring system based on Xolutec technology. It provides a seamless surface resistant to abrasion & impact and easy to clean.

Being moisture tolerant **MasterTop BC 920** can be applied on 10-day old concrete floors. **MasterTop BC 920** is used as a scratch primer & body coat in **MasterTop XTC** system.

### Xolutec™

#### A new dimension in versatility & durability

**MasterTop BC 920** is powered by **Xolutec<sup>®</sup>** - our unique technology developed for improved durability, to solve the problems of demanding environment.

**Xolutec<sup>®</sup>** is the result of our development work on advancing PU and PUA materials. The goal is to solve the problems of concrete and steel in demanding environments.

**Xolutec<sup>®</sup>** - developed by Master Builders Solutions experts – uniquely combines complimentary chemistries. Optimization of the inter phase interactions between the highly crosslinked resin blocks and the separately cured inorganic elements, creates a high density organic-inorganic material with outstanding characteristics. This network allows the enhancement of various characteristics. **Xolutec<sup>®</sup>** enables a wide variety of solutions with enhanced durability.

## TYPICAL APPLICATIONS

**MasterTop BC 920** is recommended for new floors & floors needing refurbishment, where protection from mechanical abuse is required.

**MasterTop BC 920** is used to provide a hard wearing, abrasion resistant and easy to clean surface.

Application areas include:

- Automotive production and assembly lines
- Pharmaceutical plants
- Heavy engineering workshops

- Aircraft maintenance and assembly
- Industrial & warehousing floors
- Laboratories

## ADVANTAGES

- **Odourless** – Environment friendly & comfortable application
- **Scratch resistance** – Longer retention of surface appearance
- **Fast curing at low temperature** – Reduced waiting times even at low temperatures
- **Impact Resistance** – Longer life even under aggressive mechanical abuse
- **High Early Strength** – Fast return to service; open to light vehicular traffic in 24 hrs
- **Moisture Tolerant** – Faster application; can be applied on 10-day old concrete
- **Chemical resistance** – Unaffected by chemical spillages

## PACKAGING AND COLORS

**MasterTop BC 920** consists of four components.

Part A	3.5 kg
Part B	5.65 kg
Part C	5.0 kg
Part D	0.5 kg

**MasterTop BC 920** is supplied in seven standard colours.

Grey	Light Grey	Cream
Green	Light Green	Red
Yellow		

**MasterTop BC 920** is designed to withstand high mechanical loads even under aggressive conditions. As a direct result, some yellowing of the installed floor will occur in areas of direct UV exposure. This is most apparent in lighter colours. The intensity and rate of yellowing is difficult to predict and depends on ambient conditions. However, there would be zero impact on the performance parameters.

*For areas requiring better colour appearance or fully UV resistant systems, please contact the local sales representative.*

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## TYPICAL PROPERTIES\*

Mixed density @ 25°C	1.55 ~1.60 kg/L	
Pot life @ 25°C	Approx. 15 min	
Overcoating time @ 23°C	Min	8 h
	Max	48 h
Compressive Strength @ 1 day @ 7 days (BS 6319-2:1983)	30 MPa	
	45 MPa	
Flexural Strength @ 7 days (EN ISO 178)	15 MPa	
Tensile Strength @ 7 days (ASTM D638)	12 MPa	
Pull off Bond Strength @ 7 days (Concrete Failure) (ASTM D4541)	>1.5 MPa	
Shore D Hardness @ 1 day	70	
Abrasion Resistance (EN ISO 7784) 1 kg / 1000rev. / CS17	65 mg (Loss in Mass)	
Impact Resistance (EN ISO 7765)	30 Joules	
Hardness (EN ISO 15184)	4 h	
Time to Traffic Foot Traffic at 20°C Light Vehicular Traffic at 20°C	12 h	
	24 h	
Chemical Resistance*	<ul style="list-style-type: none"> <li>• Hydrochloric Acid, 20% Solution</li> <li>• Sulphuric Acid, 50% Solution</li> <li>• Acetic Acid, 36% Solution</li> <li>• Phosphoric Acid, 20% Solution</li> <li>• Sodium Hydroxide 50% Solution</li> <li>• Methyl Ethyl Ketone</li> <li>• Methanol</li> <li>• Xylene</li> </ul>	
* Higher concentration of mineral acids may cause matting of the surface and color changes.		

## APPLICATION GUIDELINES

### SURFACE PREPARATION

Substrate concrete must be sound, free of dust, dirt, grease, paint, plaster or other debris. Damaged areas must be repaired. Honeycombing or small cavities may be repaired using suitable cementitious repair mortars. The method of surface preparation will be dictated by the size of area to be treated, location and degree of contamination.

### New construction

Floors to be coated or overlaid should be at least 10 days old. The removal of laitance and contaminants is best achieved by mechanical means such as vacuum recovery shot blasting. Mechanical means of preparation are preferred followed by the removal of dust and other loose debris using an industrial vacuum.

### Substrate Moisture Tolerance

**MasterTop BC 920** is extremely tolerant to residual substrate moisture and can be installed directly onto 10-day old concrete, or onto old good quality concretes with high moisture contents without the use of special primers, provided there is a functioning DPM within the structure.

This enables rapid construction programs to be maintained and facilitates refurbishment work in wet process areas.

### Impact Resistance

With high mechanical strengths and a low elastic modulus, **MasterTop BC 920** is very resilient and able to withstand severe impact loads. While no material is indestructible and surface chipping may occur, brittle modes of failure resulting in cracking and debonding can be avoided.

## PRIMING

Prepared substrates shall be primed with a scratch coat of **MasterTop P 920**, three-component primer based on Xolotec technology at a consumption of 1.2 to 1.5 kg/m<sup>2</sup>. Please refer to the technical data sheet of **MasterTop P 920** for details.

Alternately, **MasterTop BC 920** can also be used for scratch coat applications at a consumption of 0.8 to 1.0 kg/m<sup>2</sup>. For Scratch coat applications add 2 packs of Part C to 1 pack of Parts A, B & D. It is important to note that all four components shall be used for scratch coat.

The scratch coat is applied to the prepared substrate using a steel trowel, pin rake trowel or squeegee. The scratch coat shall be allowed to dry completely to achieve a tack free surface before overcoating with **MasterTop BC 920**.

For better sealing properties on different types of substrates **MasterTop P 920** is recommended.

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Before progressing further, ensure that substrate is fully sealed with scratch coat. If required apply another layer of scratch coat to ensure complete sealing of the substrate. Sealed substrate is very important to ensure the smooth finish of **MasterTop XTC** as a system.

Please take note of the overcoating times for scratch coat before applying the body coat.

Scratch Coat	Overcoating Time @ 23°C	
	Min	Max
MasterTop BC 920	8 h	48 h
MasterTop P 920	4 h	48 h

## MIXING

### Bodycoat:

**MasterTop BC 920** is supplied in four components: Part A, Part B, Part C & Part D with Part D being colour component. The typical mixing steps are as follows:

1. Mix Part A with high speed electric drill for 1 to 2 minutes until material becomes fully homogeneous and lump free. Ensure no material is settled at the bottom of the pail.
2. Empty Part B in a separate clean mixing bucket. Whilst mixing with high speed electric drill add mixed Part A and Part D.
3. Mix for 1 minute making sure to reach the bottom and sides of the can. Continue mixing for 1 minute to produce a fully blended, uniform material without colour streaks.
4. Gradually add Part C whilst mixing continues; Mix until the filler is uniformly dispersed, and the mix is uniform, typically 1½ - 2 minutes.
5. It is important to maintain constant mixing times throughout to ensure consistent colour and to avoid introducing excessive air into the system.

## PLACING / APPLICATION

Spread the mixed material over the dry scratch coat at a consumption of 2.2 to 2.6 kg/m<sup>2</sup> using pin rake trowel or steel trowel. The pins of the pin rake adjusted to appropriate depth. Use steel trowel for edge work. Use a spiked roller to produce smooth even finish. The whole floor should spike rolled twice. On the first pass the spike roller should be pushed right through the material to substrate to assist the flow, remove pin rake marks and to

flatten the floor. Subsequent passes with the roller held lightly just upon the surface to bring the resin up to the surface and improve aesthetics.

### Temperature Requirements

- Substrate temperatures: 10°C – 30°C
- Material temperatures: 10°C – 25°C

Very low or very hot temperatures will make application more difficult and careful consideration should be given to storage of materials. In the cold weather conditions, pre-condition materials by keeping it in a heated room. In hot weather conditions, some form of air-conditioned storage is required. Pre-conditioned materials at 18-25°C will reduce the possibilities of flash/slow setting and other defects.

### Substrate Quality

Concrete substrates should be visibly dry and have a minimum tensile strength of 1.5 MPa. The minimum compressive strength of the concrete floor shall be 25 MPa at 28 days. All joints in the substrate concrete subject to movement should be reflected through the **MasterTop** floor and sealed with a suitable sealant.

*For information about application, please obtain a copy of the Master Builders Solutions Application Guide from your local representative.*

## COVERAGE / YIELD

Actual consumption depends on the surface absorption, texture, loss and wastage. The following minimum consumption rates shall be strictly adhered to achieve designed performance properties.

Layer	Product	Consumption (kg / m <sup>2</sup> )
Scratch Coat	MasterTop P 920	1.2 - 1.5
Body Coat	MasterTop BC 920	2.2 - 2.6

## STORAGE AND SHELF LIFE

**MasterTop BC 920** has a shelf life of 12 months. Store out of direct sunlight, clear of the ground on pallets protected from rainfall.

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## HEALTH AND SAFETY

For the full health and safety hazard information and how to safely handle and use this product, please make sure that you obtain a copy of the Master Builders Solutions Material Safety Data Sheet (MSDS) from our office or our website.

## QUALITY AND CARE

All products originating from Master Builders Solutions Dubai, UAE facility are manufactured under a management system independently certified to conform to the requirements of the quality, environmental and occupational Health & Safety standards ISO 9001 and ISO 14001.

\* Properties listed are based on laboratory controlled tests.

® = Registered trademark of the MBCC Group in many countries.

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### STATEMENT OF RESPONSIBILITY

The technical information and application advice given in this Master Builders Solutions publication are based on the present state of our best scientific and practical knowledge. As the information herein is of a general nature, no assumption can be made as to a product's suitability for a particular use or application and no warranty as to its accuracy, reliability or completeness either expressed or implied is given other than those required by law. The user is responsible for checking the suitability of products for their intended use.

### NOTE

Field service where provided does not constitute supervisory responsibility. Suggestions made by Master Builders Solutions either orally or in writing may be followed, modified or rejected by the owner, engineer or contractor since they, and not Master Builders Solutions, are responsible for carrying out procedures appropriate to a specific application.

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