

MasterShield AC 160 (formerly MasterProtect 160)

Architectural anti-carbonation acrylic coating

Material Description

MasterShield AC 160 is a one component, water-based, high performance, acrylic based product for the protection of concrete, mortar, masonry, natural stone and wood against aggressive environmental attack. **MasterShield AC 160** also achieves high aesthetics and is available in a wide range of colours.

Areas of Application

MasterShield AC 160 is used for the protection of concrete facades, walls, bridge parapets, balconies, columns, beams etc against carbonation of concrete and ingress of water borne salts. **MasterShield AC 160** is used as part of the Master Builders Solutions concrete repair system. **MasterShield AC 160** is recommended where architectural or decorative finishes are required.

Characteristics and Benefits

- Long life - UV resistant
- Barrier to water ingress - waterproof and weatherproof
- Allows structure to breathe - permeable to water vapour
- Keeps appearance for many years - dirt repellant
- Available in many colours - decorative
- Anti-carbonation coating - high CO₂ – and SO₂ diffusion resistance which provides protection for the concrete substrate from carbonation of the concrete.
- Excellent wetting and penetrating properties – no need for separate primer adheres well on absorbent substrates.
- **MasterShield AC 160** is compatible with Hydrophobing materials - **MasterShield PEL 355** and **MasterShield PEL 1100** can be used as a hydrophobic priming and protection system.
- Approved to Australia Paint Approval Scheme Specification APAS 0117/3. Australian Standard AS4548.3



Specification Clause

Single pack, Water-based, weatherproof Acrylic coating for the protection of concrete facades, walls, bridge parapets, balconies, columns, beams etc against carbonation of concrete and ingress of water borne salts. The below Technical performances as minimum would be expected.

Properties

Supply form	Thixotropic paste
Colour	Various
Density (approx.)	1.38kg/litre
Solids Content	50% V/V (±0.5%)
Application Temperature	10°C - 35°C
Drying @ 25°C/50% RH	
Touch Dry	4hrs
Re-coat	6hrs
Serviceable	24hrs
Full Dry	7 days
Gloss level	Semi
Dirt Pick up (AS 1580 481.1.4 12 months)	1 (0-5 scale, 0: no dirt)
Water transmission rate (AS/NZS4548.5)	7.0 gm/24 hours/m ²
Water Permeability (AS 2904 Appendix G- 6m head of water)	Passed
Vapour Transmission (AS/NZS4548.5)	35.6 gm/m ² /24hrs, Sd 1.25m
Vapour permeability (DIN 52615)	12.6gm/m ² /24hours
Carbon dioxide diffusion (Engelfried method)	Rb 459.6m
Chloride Ion diffusion (Taywood Method)	1.3 10 ⁻⁹ cm ² sec ⁻¹
Elongation	524%

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Crack Bridging	3.65 (crack width bridged per unit dry film thickness)
Tensile strength (ASTM D-412)	36.4kg/cm ²
Abrasion Resistance (AS 1580 459.1)	5000 rubs, film integrity excellent
VOC	<65g/L

Application

Substrate Condition

Generally applied direct to off-form concrete without residual form oils. Non-absorbent substrates have to be sound, free of dust, oil, grease etc and should be dry. Absorbent substrates also must be sound and clean but must be dampened with clean water. Honeycombs and holes should be patched prior to the application with a **MasterCrete 5140**. The temperature of substrate, air and material should be at least 10°C.

Priming

The surface should be primed with **MasterShield PRI 155** applied by brush or roller at a rate of not less than 0.08L/m² or 12.5m²/L (refer to **MasterShield PRI P 155** Technical Data Sheet). Alternatively **MasterShield PEL 355** or **MasterShield PEL 1100** can be used.

Mixing

MasterShield AC I60 should be stirred before use. Depending on the absorbency of the substrate and type of application, the first coat of **MasterShield AC I60** may be pre-diluted with up to 10% of clean water. Mix the water in with a low speed electric drill fitted with a suitable paddle.

Method of Use

Normally, two coats of **MasterShield AC I60** are applied. The second layer is applied as soon as the previous one is touch-dry ie depending on temperature and humidity within 6 hours. **MasterShield AC I60** is applied by medium nap roller, brush or airless spray. The first coat of **MasterShield AC I60** should

not be applied to new concrete or freshly applied repair mortar until its moisture content is less than 12%. An alternative procedure is to apply a coat of **MasterShield PRI 155** primer to the freshly finished repair mortar to restrict evaporative water loss in very warm conditions with low humidity and to provide a primer for the **MasterShield AC I60**.

Application should not be carried out if the air temperature or the substrate temperature is below 10°C or above 35°C or when humidity is very high. The temperature must not fall below 10°C during the drying process.

In exterior application avoid painting when dew or rain is likely. Thining: not required but may be thinned with up to 10% water for cutting in and spray applications.

Drying

The drying time depends very much on the kind of substrate, temperature, air circulation, thickness of film and relative humidity. High temperature and/or low humidity accelerate the drying process. At 25°C and approximately 50% humidity, a normal coat of approximately 0.2 litres/m² dries within 2 hours. NOTE: Within the first 48 hours after being applied, the coating must be protected from rain and frost. Do not allow rain to puddle on the coating.

Estimating Data

Applied by a medium nap roller on a dense, low porosity substrate, the following consumption could be anticipated:

Application Rate per coat	Film Thickness in two coats (approximately)			
	Low profile (2.9m ² /L)		High profile (2m ² /L)	
	Wet	Dry	Wet	Dry
MasterShield PRI 155	80 microns	20 microns	80 microns	20 microns
MasterShield AC I60	335 microns	160 microns	500 microns	240 microns

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Cleaning

Since MasterShield AC I60 is an acrylic emulsion, tools and skin can be cleaned with water. Once set, remove MasterShield AC I60 mechanically.

Colours

MasterShield AC I60 is available in a broad range of colours.

Packaging

MasterShield AC I60 is available in 15 litre pails.

Storage & Shelf Life

MasterShield AC I60 has a shelf life of 24 months. Containers must not be exposed to excessive heat or cold. Storage must be under cover, away from direct heat, freezing and moisture, in well-sealed containers.

Precautions

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

Disclaimer

MasterShield-AC I60-ANZ-V1-I224

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MB Solutions Australia Pty Ltd

ABN 69 634 934 419
Suite 102, 2 Burbank Place
Norwest NSW 2153

Freecall: 1300 227 300

www.master-builders-solutions.com/en-au

MB Solutions New Zealand Ltd

45C William Pickering Drive
Albany, Auckland
New Zealand

Phone: +64 9 414 7233

Emergency Advice:

1300 954 583 within Australia (24hr)
0800 001 607 within New Zealand