

TECHNICAL DATA SHEET

SHIMISPART™ RAPID REPAIR¹

Rapid-Cure Polyaspartic Mortar Repair Kit

High-strength structural polyaspartic repair mortar with Super Ceramic reinforcement Product code SP01

1. PRODUCT DESCRIPTION

SHIMISPART™ RAPID REPAIR is a high-strength, moisture-tolerant, structural polyaspartic mortar for fast, reliable patching and surface repair. It combines Rapid Cure Clear Polyaspartic resin (100 % solids) with Super Ceramic reinforcement filler to produce a paste of adjustable consistency, suitable for repairing concrete, metal, timber and plastic substrates.

The mortar hardens within approximately half an hour at 25 °C and is then ready for sanding, grinding and profiling to a seamless finish. Because it is 100 % solids it contains no solvent and does not shrink on cure.

2. TYPICAL USES

- Structural surface rebuilds and crack repair
- Filling and levelling spalled, pitted or damaged concrete
- Pre-treatment and making good before protective or decorative coatings
- Large-scale surface preparation and restoration projects
- Leak-stopping and gap filling in vertical and overhead positions at higher filler loadings

3. KEY FEATURES & BENEFITS

Rapid cure	Ready to grind, sand and profile approximately half an hour after application at 25 °C.
High strength	Compressive strength typically greater than 50 MPa when fully cured — stronger than standard concrete. Typical value; confirm against project specification where a certified figure is required.
Super Ceramic reinforcement	Improves rheology and workability, minimises sag and shrinkage and increases impact resistance. The filler is chemically inert and non-absorbent.
Moisture tolerant	Can be applied to damp concrete, provided there is no standing water and the dry test in Section 7 has been carried out.
Adjustable consistency	Filler loading from 20 % to 200 % by volume gives everything from a pourable slurry to a non-sag putty.
100 % solids	No solvent, no VOC and no shrinkage on cure.
Excellent adhesion	Bonds strongly to concrete, metal, timber and most plastics.
Thermal stability	Maintains performance in dry heat up to approximately 140 °C once fully cured.
Chemical and traffic resistance	Withstands a wide range of chemicals, heavy pedestrian use and vehicular traffic. See Section 6.

¹ SHIMICOAT Proprietary Coating System

Kit size	Total volume	Rapid Cure Clear Polyaspartic (Parts A + B)	Super Ceramic Filler (Part C)
Mini	2.25 L	1.25 L (0.75 L A + 0.5 L B)	1 L (0.2 kg)
Small	4.5 L	2.5 L (1.5 L A + 1 L B)	2 L (0.4 kg)
Medium	10 L	5 L (3 L A + 2 L B)	5 L (2 kg)
Large	17.5 L	7.5 L (4.5 L A + 3 L B)	10 L (4 kg)
X Large	32.5 L	12.5 L (7.5 L A + 5 L B)	20 L (8 kg)

5. TECHNICAL PROPERTIES

Property	Typical value
Composition	Two-component polyaspartic resin with ceramic reinforcement filler
Mix ratio (resin)	1.5 parts A : 1 part B, by volume or by weight
Filler loading	Nil to 200 % of the mixed resin volume — see Section 8
Solids content	100 % — solvent free
VOC content	Nil
Colour	Resin is ultra-clear and transparent. Blended with Super Ceramic the mortar is light grey.
Consistency	Adjustable from thin slurry to stiff putty according to filler loading
Pot life at 25 °C	5 minutes
Tack free at 25 °C	20 minutes
Ready to grind and profile	Approximately 30 minutes at 25 °C, depending on temperature and humidity
Recoat / overcoat	1 hour
Full cure	7 days — vehicle traffic
Compressive strength	> 50 MPa (typical, fully cured)
Maximum service temperature	140 °C (typical, dry heat, fully cured)
Application temperature	10 °C to 35 °C
Shelf life	24 months in sealed original containers, stored out of direct sunlight and heat

Values are typical for the product as supplied and are not a specification. Cure and pot life vary with temperature, humidity, film thickness and batch size.

6. CHEMICAL RESISTANCE

Media	Reagent	Rating
Acids	Hydrochloric acid	B
	Sulphuric acid	C
	Acetic acid	B
	Nitric acid (10 % max.)	C
	Phosphoric acid (25 % max.)	B
Alkalis	Sodium hydroxide	B
	Ammonium hydroxide	A
	Potassium hydroxide	B
	Sodium hypochlorite (bleach)	A
Solvents	Xylene	A
	Methyl ethyl ketone (MEK)	C
	Acetone	B
	Ethanol	A
Fuels	Diesel	A
	Petrol	A
	Kerosene	A
Foodstuffs	Wine and beer	A

Key to ratings

Code	Resistance	Description
A	Excellent	Suitable for long-term immersion
B	Good	Suitable for short-term immersion (3 days maximum)
C	Caution	Brief contact only — splash and spill
D	Not recommended	Do not expose

Indicative reference only, determined under laboratory conditions at 25 °C on a fully cured film. Carry out a site trial where chemical exposure is critical.

General resistance summary

Heat	Up to 140 °C (typical, dry heat, fully cured)
Water	Excellent — resists continuous and long-term immersion in fresh and salt water
Salts and brines	Resists continuous and long-term immersion in all salt and brine systems
Alkalis	Resists short-term immersion in all alkalis
Acids	Resists splash and spill in all acids
Solvents	Resistant to most hydrocarbon solvents and alcohols
Abrasion	Excellent once fully cured (7 days)

7. SURFACE PREPARATION

1. Ensure the surface is clean, dry and free of dirt, grease, oil, paint, curing compounds, laitance and all other contaminants.
2. Remove oil contamination with a degreaser and an alkaline cleaner, then pressure wash.
3. Grind or sand the surface to a mechanical key. Grinding is recommended before applying any Shimicoat polyaspartic product, as it gives the best adhesion. Where grinding is not practicable, acid-etch to open the porosity, then wash, rinse and flush to neutralise.
4. Remove all loose material, then vacuum or blow the surface clean and mask off areas that are not to be coated.
5. Run a dry test before coating: tape a plastic sheet over a small area of the surface, leave it for one hour, then lift it. If there is no moisture on either face, the surface is dry enough to coat.

Important

New concrete must be allowed to cure fully — a minimum of 28 days — before application. Refer to the Shimicoat Surface Preparation guide for further detail.

8. MIXING

1. Measure the resin components by volume or by weight at 1.5 parts Part A to 1 part Part B.
2. Combine Part B (hardener) into Part A (resin) and mix for 2 to 3 minutes with a slow-speed drill mixer at no more than 750 rpm. Scrape the sides and base of the container so that no unmixed material remains, and continue until the blend is uniform and free of streaks.
3. Add the Super Ceramic filler (Part C) to the mixed resin and blend until smooth. Add the filler progressively until the consistency in Section 8 matches the repair you are making.
4. Where a slightly smoother paste is needed, EpoDil thinner and diluent may be added at up to 5 % of the mixed volume. The product does not otherwise require dilution.
5. Mix only the quantity that can be applied within the 5-minute pot life. Pot life shortens sharply as temperature rises and as batch size increases.

Consistency guide — Super Ceramic filler loading

Consistency	Filler (% of mixed resin volume)	Typical repair	Mobility
Thin slurry — syrup	20 %	Hairline cracks	Highly mobile — self-levelling
Slurry — honey	50 %	Small cracks	Mobile
Thick slurry — tomato sauce	75 %	Large surface fills	Slow flowing
Paste — mayonnaise	100 %	Filling and repairing larger cracks	Trowellable
Stiff paste — mashed potato	150 %	Rebuilds and deep fills	Low mobility
Putty — peanut butter	200 %	Leak stopping, vertical and overhead work	Zero mobility — non-sag

Filler loading is expressed as a percentage of the mixed resin volume. Add the filler progressively and stop when the paste holds the shape you need.

9. APPLICATION

1. Rout out and clean cracks, holes and damaged areas. Remove all loose material and vacuum the area.
2. For cracks and holes: press the mortar firmly into the void with a trowel, scraper or spatula, working it well into the base so no air is trapped. Strike off flush with the surrounding surface and remove excess with the scraper.
3. For larger surface fills: pour the mixed mortar onto the area and spread it out with a squeegee, then level with a trowel.
4. Work quickly and keep a wet edge. Do not attempt to re-work material that has begun to gel — it will tear rather than flow.
5. Allow the repair to harden, then sand or grind flush. Overcoat with the selected Shimicoat system once the surface has been profiled and vacuumed.

10. CURE SCHEDULE & RETURN TO SERVICE

Surface temperature	Pot life (min)	Surface dry (h)	Initial cure (h)	Recoat (h)	Full cure (days)
10 °C	10	1.5	2	2	7
20 °C	7	1	1.5	1.5	7
25 °C	5	0.5	1	1	7
30 °C	5	0.5	1	1	7

High temperatures, low humidity and windy conditions shorten these times. Keep foot traffic off for at least 16 hours and vehicles off for at least 7 days.

11. CLEANING

Clean tools and uncured spills with EpoDil thinner and diluent, or with xylene. Cured material can only be removed mechanically. Clean tools immediately after use — the pot life is short and hardened resin will not release from equipment.

12. STORAGE & SHELF LIFE

Shelf life	24 months from date of manufacture in sealed, unopened original containers.
Storage	Store between 10 °C and 30 °C, out of direct sunlight and away from heat. Keep containers tightly sealed when not in use. Protect Part B from moisture ingress.
Before use	Stir each component uniformly for 3 minutes before measuring and mixing.

13. HEALTH, SAFETY & HANDLING

- Do not apply if rain is expected within 24 hours of application.
- Not recommended for use below 10 °C or above 35 °C.
- Avoid application to hot surfaces or in direct sun. Never leave containers in direct sun during application — heat sharply shortens the pot life.
- Do not apply if the concrete has a patchy appearance, which suggests moisture is present. Carry out the dry test first and apply only when the surface is dry.
- New concrete must be allowed to cure fully, a minimum of 28 days, before application.
- Keep foot traffic off the repair for at least 16 hours and vehicles off for at least 7 days. Full hardness develops over 7 days.
- Heavy vehicles with hot tyres can damage a newly repaired surface. Place a mat under each tyre for the first few weeks where vehicles are parked in one position.
- All polyaspartic coatings may yellow slightly over time. Use SHIMISPART™ Topcoat UV Shield where long-term colour stability outdoors is required.
- Keep containers sealed when not in use.
- Wear appropriate personal protective equipment and ensure adequate ventilation. Part B contains an aliphatic polyisocyanate — read the Safety Data Sheet before use.

Safety Data Sheet

A Safety Data Sheet for each component of this product is available at www.shimi.com.au or on request from info@shimi.com.au. Read it before use.

14. CONTACT DETAILS & DISCLAIMER

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Safety Data Sheet	A Safety Data Sheet for each component of this product is available at www.shimi.com.au or on request from info@shimi.com.au . Read it before use.

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