FORSPEC PROTECTIVE COATINGS

ACTFLEX HBR.



Technical Data Sheet | **Two-Component Pre-Proportioned Structural Epoxy Bonding and Repair Mortar** | **Issue date: 12 November 2026**

Description

ACTFLEX HBR is a two-component, pre-proportioned, high-build structural epoxy bonding and repair mortar engineered for structural concrete repair, patching, rebuilding and anchoring where high compressive strength and high bond strength are required. Supplied as a pre-filled epoxy resin system with no site addition of sand or fillers, it mixes to a non-slump, trowelable mortar that places on horizontal, vertical and overhead surfaces, internally and externally, and cures to a dense, high-strength repair. Its moisture tolerance during application and cure allows placement on damp substrates, and its bond to concrete, stone, masonry and metal develops adhesion so tenacious that failure occurs in the parent concrete, not the bond line. ACTFLEX HBR restores structural sections, edges, nosings and stairs to full service quickly in industrial and infrastructure environments.

Advantages

- High compressive and bond strength for structural repairs.
- Excellent adhesion to concrete, stone, metal and masonry - bond failure occurs in the parent concrete.
- Pre-packed and pre-proportioned - no site measuring of fillers or sand.
- Non-slump - places on vertical and overhead surfaces without formwork.
- Moisture-tolerant during application and curing - accepts damp substrates.
- Fast curing for rapid return to service.
- Suited to industrial floors, plant rooms and workshop bays.

Uses and Approved Basis

- Repair of spalled or eroded concrete in industrial, commercial and infrastructure assets.
- Structural repair of concrete bays, plinths, kerbs and edge nosings.
- Rebuilding stairs, steps and loading dock edges.
- Epoxy patching of floor voids and damaged slabs prior to coating.
- Bonding agent for precast elements, concrete, masonry and stone.
- Repair of chemical plant floors, mechanical rooms and workshop bays.
- Anchoring of bolts and fixings - safety-critical anchoring applications require project-specific design and written FORSPEC confirmation.

Approved basis: manufacturer's research and development data and in-service performance history. Refer to Standards Compliance below for the current certification status.

System Components

ACTFLEX HBR is applied as part of a complete FORSPEC repair system. Approved system components:

- Priming - ACTFLEX EPOXY GROUT, where required by the approved specification.
- Crack rectification - PROBOND 1100, CRACK PRO 1200PS and CRACKLOCK E400L structural crack repair systems.
- Below-ground detailing - PREFLEX 3000 where the repair ties into below-ground waterproofing works.
- Concrete reinstatement over larger sections - FORSPEC concrete repair system such as FORBUILD 100 or FORCRETE 100.
- Clean-up - FORSPEC EPOXY CLEANER.

Use only the components above, applied per their current TDS, to maintain system performance and warranty eligibility.

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Standards Compliance

STANDARD	TITLE	RESULT	EVIDENCE
Governing product standard	Structural epoxy repair mortars	No Australian Standard currently governs this product class - stated plainly per FORSPEC policy	-
Technical data basis	Values in Technical Data	FORSPEC R&D typical values, each tested to the standard named in Technical Data	FORSPEC R&D*
Work Health and Safety Regulations (Hazardous Chemicals)	Safety Data Sheets	Current SDS issued for both components	Chemwatch 9041-10 (Part A); Chemwatch 9041-11 (Part B)
ADG Code	Transport of dangerous goods	Part A classified UN 3082, Class 9, PG III (environmentally hazardous substance); Part B not regulated	SDS Chemwatch 9041-10

Approved Substrates

SUBSTRATE	REQUIREMENT
Concrete	Cured minimum 28 days; minimum compressive strength 25 MPa; mechanically prepared, sound and clean
Masonry and stone	Sound, clean and free of friable material, dust, laitance, grease, oil and curing agents
Metal	Sound, clean and abraded; free of rust scale, oil and grease

Substrates may be damp at the time of application, but there must be no standing water or surface water film. Not approved: friable, unsound or contaminated surfaces.

Technical Data

PROPERTY	VALUE	TEST METHOD
Mix ratio (A:B)	2 : 1 by volume and by weight	-
Supply	5 kg and 30 kg pre-proportioned kits (30 kg kit: Part A 20 kg + Part B 10 kg)	-
Colour (mixed)	Grey	Visual
Mixed density	1.5 kg/L*	ASTM C905
Pot life (at 25°C, 50% RH)	40 minutes*	ASTM C881
Setting time (at 25°C, 50% RH)	150 minutes*	EN 13294
Initial set / touch dry (at 25°C, 50% RH)	10-12 hours*	ASTM D1640
Compressive strength (at 7 days, 25°C)	80 MPa*	ASTM C579
Tensile strength (at 7 days, 25°C)	35 MPa*	ASTM C307
Flexural strength (at 7 days, 25°C)	73 MPa*	ASTM C580
Slant shear bond strength	Greater than 11 MPa (concrete failure)*	ASTM C882
Bond strength (direct tensile)	Greater than 2.5 MPa (concrete failure)*	EN 1542
Application temperature	15-35°C	-
Full cure (at 25°C, 50% RH)	7 days*	ASTM C579

* Typical FORSPEC R&D characteristic values, tested to the method shown, not for engineering design without written FORSPEC confirmation.

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Limitations

- Apply only between 15°C and 35°C, with relative humidity below 80%.
- Substrates may be damp, but do not apply over standing water or a surface water film, and protect the repair from standing water until fully cured.
- Concrete must be cured a minimum of 28 days with a compressive strength of at least 25 MPa.
- Maximum 20-25 mm thickness per pass on vertical and overhead surfaces; build greater depths in successive passes.
- Not a waterproofing membrane. For waterproofing, use the FORSPEC liquid membrane range or FORSPEC sheet membrane range.
- Safety-critical anchoring applications require project-specific design and written FORSPEC confirmation.
- Do not re-temper the mix or add solvents. Dilution is not permitted unless approved in writing by an authorised FORSPEC representative.
- Mix full kits only. Do not split kits or alter the mix ratio.
- Always complete a test area before full application.

Surface Preparation

The substrate must be structurally sound, clean and free of dust, laitance, grease, oil, curing agents and all bond-inhibiting contaminants. Prepare mechanically by grinding, shot-blasting or scarifying to expose a sound, open-textured surface, and remove all loose and friable material. Vacuum-clean thoroughly. The substrate may be damp at the time of application, but remove all standing water and any surface water film before placement. Reinstate large-section damage with the FORSPEC concrete repair system, such as FORBUILD 100 or FORCRETE 100, where the repair geometry exceeds the scope of a trowel-applied mortar.

Crack Treatment

Structural and live cracks indicate substrate movement or distress and must be rectified before the repair proceeds. Select the rectification system to suit the crack: PROBOND 1100 - two-part epoxy paste for high-strength structural filling and bonding; CRACK PRO 1200PS - sealing and bonding of structural cracks and rapid spall repair; CRACKLOCK E400L - fine structural cracks 0.05-3 mm requiring deep penetration, pressure-injected or gravity-fed. Apply each system strictly in accordance with its TDS, available at www.forspec.com.au.

Priming

Where required by the approved specification, prime the prepared substrate using ACTFLEX EPOXY GROUT and allow the primer to become tacky before placing ACTFLEX HBR. Apply the mortar while the primer remains tacky; if the primer cures hard, abrade and re-prime before proceeding.

Mixing

ACTFLEX HBR is supplied in pre-proportioned kits at 2 parts Part A (filled epoxy resin, grey) to 1 part Part B (hardener, amber). Mix full kits only. Combine the full contents of both containers and mix with a slow-speed mixer (300-400 RPM) fitted with a helical or paddle blade for 2-3 minutes until a uniform, streak-free grey is achieved, scraping the sides and base of the container during mixing. Avoid whipping air into the mix. Do not re-temper the mix and do not add solvents, fillers or sand. Use the mixed material within its pot life of 40 minutes at 25°C and 50% RH.

Application and Film Build

- **Patch and structural repair**
  Apply the mixed mortar by steel trowel or spatula, pressing firmly into the prepared substrate to wet out the surface and eliminate voids. Compact and shape to the required profile. Finish smooth with a steel trowel, or produce a stippled key with a sponge trowel where a coating or render will follow.
- **Vertical and overhead work**
  Place in layers up to 20-25 mm per pass without formwork. Allow each pass to stiffen before placing the next, and key the surface of each pass while workable.

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Application and Film Build (continued)

- **Bonding**
  Apply a thin, continuous layer of mixed material to both faces to be bonded and join the elements while both layers are wet. Support the assembly until initial set.

APPLICATION	THICKNESS PER APPLICATION	MAXIMUM PER PASS
Patch and structural repair	As required by the repair profile	25 mm
Vertical and overhead work	Built in successive passes	20-25 mm
Bonding layer	Thin continuous layer, both faces	-

Coverage and Yield

MEASURE	VALUE	BASIS
Consumption	1.5 kg/m² per 1.0 mm thickness	Mixed density 1.5 kg/L
5 kg kit at 3 mm	1.11 m²	3.33 L mixed volume - theoretical
5 kg kit at 5 / 10 / 20 / 25 mm	0.67 / 0.33 / 0.17 / 0.13 m²	Theoretical, before wastage
30 kg kit at 3 mm	6.67 m²	20.0 L mixed volume - theoretical
30 kg kit at 5 / 10 / 20 / 25 mm	4.00 / 2.00 / 1.00 / 0.80 m²	Theoretical, before wastage

Coverage varies with substrate profile, repair geometry and wastage. Textured and open profiles increase consumption.

Drying, Curing and Testing Times

STAGE (AT 25°C, 50% RH)	TIME
Pot life	40 minutes
Setting time	150 minutes
Initial set / touch dry	10-12 hours
Overcoat / recoat	After initial set (10-12 hours)
Full mechanical and chemical cure	7 days

Low temperature extends all times. Protect the repair from standing water until fully cured. No stage may commence before the preceding stage is complete.

Protection and Finishes

Protect fresh repairs from rain, standing water, foot traffic and mechanical load until initial set, and from immersion or chemical exposure until full cure at 7 days. Coatings, renders and toppings may be applied after the overcoat time above; where a coating system follows, finish the repair with a stippled key and confirm compatibility with the coating manufacturer's requirements.

Clean Up

Clean tools and equipment immediately after use, while the product is still wet, using FORSPEC EPOXY CLEANER, handled in accordance with the Work Health and Safety Regulations and the product SDS. Do not allow mixed material to cure on tools - cured material can only be removed mechanically. Product residue and wash water must not be discharged to sewers, stormwater systems or waterways; manage and dispose of all washings in accordance with the relevant State or Territory environment protection legislation and local council requirements.

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Container and Waste Disposal

Dispose of product and containers in accordance with the WHS Regulations, the relevant State or Territory EPA requirements and local council regulations. Part A is classified as an environmentally hazardous substance (UN 3082, Class 9, Packing Group III) - prevent release to the environment and transport in accordance with the ADG Code. Uncured (liquid) product is classified waste - do not dispose of to landfill, sewers, stormwater or waterways; deliver to an authorised hazardous or special waste collection point in accordance with local regulation. Small quantities of residual mixed product may be cured in an open container in a ventilated area and, once fully cured, disposed of as solid waste where permitted by local regulation. Fully drained, dry, empty containers may be recycled through approved container recycling programs - do not reuse containers, and do not burn containers or residue. Refer to Section 13 of each SDS for detailed disposal requirements.

Quality Records

Record the batch numbers of all FORSPEC products used, together with application dates, ambient and substrate conditions, mix quantities, placement thicknesses and test-area results, as part of the project quality assurance records. Batch numbers are printed on the container and provide full manufacturing traceability.

Storage

Store in original, unopened containers in a cool, dry, well-ventilated area at 5-35°C, protected from direct sunlight, frost and moisture. Store the two components so that cross-contamination is impossible. Do not stack pallets more than two high. Shelf life is 24 months from the date of manufacture when stored as above, unopened. Reseal partially used containers immediately and use them as soon as possible. Never return mixed material to the original containers.

Safety Precautions and First Aid

ACTFLEX HBR is a two-component hazardous chemical system - read both Safety Data Sheets before use, available at www.forspec.com.au. Part A (Chemwatch SDS 9041-10) - DANGER: causes serious eye damage, causes skin irritation, may cause an allergic skin reaction, may cause respiratory irritation, suspected of causing genetic defects, may cause damage to organs through prolonged or repeated exposure, toxic to aquatic life with long-lasting effects; classified dangerous goods UN 3082, Class 9, Packing Group III; Poisons Schedule S5. Part B (Chemwatch SDS 9041-11) - DANGER: causes serious eye damage, causes skin irritation, may cause an allergic skin reaction, harmful if inhaled, and may cause allergy or asthma symptoms or breathing difficulties if inhaled; Poisons Schedule S5.

Use only in well-ventilated areas. Wear chemical splash goggles or safety glasses with side shields (AS/NZS 1337.1) and chemical-resistant protective gloves - both components are skin sensitisers. Wear protective overalls, a PVC apron and safety footwear. Where ventilation is insufficient, use a Type A-P filter respirator for Part A and a Type AK-P filter respirator for Part B (AS/NZS 1716); persons with respiratory sensitisation must not be exposed to Part B vapours. Ensure an eyewash unit is accessible before work commences. Change contaminated clothing immediately and wash thoroughly before breaks and after finishing work.

First aid - Eyes: hold eyelids apart and flush continuously with running water for at least 15 minutes; transport to hospital or doctor without delay; contact lenses to be removed only by skilled personnel. Skin: remove all contaminated clothing including footwear and wash affected areas with soap and running water; seek medical attention if irritation persists. Inhalation: move the affected person to fresh air, keep warm and rested, and seek medical attention if breathing difficulty occurs. Swallowed: do NOT induce vomiting; rinse the mouth, give water to drink, and seek medical advice. In an emergency, dial 000.

POISONS INFORMATION CENTRE: 13 11 26 (Australia-wide, 24 hours)

KEEP OUT OF REACH OF CHILDREN

Warranty

Standard Product and Performance Warranty: Forspec Protective Coatings Pty Ltd as Trustee for Forspec Protective Coatings (ABN 11 204 033 631) warrants that ACTFLEX HBR will be free from manufacturing defects and will not fail under normal usage for a period of ten (10) years from the date of purchase, when installed and used strictly in accordance with this Technical Data Sheet and Forspec's written instructions. This warranty covers the supply of the product only; it does not cover installation, application or workmanship. Remedies are limited, at Forspec's discretion, to replacement of the defective product (or defective portion) or a refund of the purchase price. The full terms, conditions and exclusions are set out in the Forspec Standard Product and Performance Warranty, available at

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Warranty (continued)

www.forspec.com.au - key conditions include application by a suitably qualified and, where required by law, licensed applicator; use within shelf life; and installation as part of a Forspec approved system without non-approved third-party products.

Project and system warranties: extended project-specific warranties are available at the request of the applicator and must be applied for using the Forspec Warranty Request Form prior to commencement of works. Issue is subject to Forspec approval and is conditional on the use of the complete specified FORSPEC system, application in strict accordance with the current TDS by suitably qualified applicators, and completion of the project quality records described above. The warranty period and terms are as stated in the issued warranty certificate.

Claims: notify Forspec in writing within thirty (30) days of discovery of the alleged defect and within the warranty period, by post to 22/872 Canterbury Road, Roselands NSW 2196 or by email to info@forspec.com.au, including proof of purchase, installation details (date, location, installer), a description of the defect with supporting evidence, and your contact details. Forspec may inspect the site, perform testing and collect samples before determining a claim.

Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

Data Sheet Currency

This Technical Data Sheet (TDS) and the corresponding Safety Data Sheet (SDS) are subject to revision as necessary to ensure compliance with relevant Australian Standards and to incorporate technological advancement. Read the most current versions before use, as application and performance data may be updated. For the latest technical information, contact Forspec Protective Coatings on (02) 8021 3517 or info@forspec.com.au. The information provided is representative and does not serve as a comprehensive specification. For specific projects, consult directly with Forspec Protective Coatings for tailored specifications. This data sheet was issued on 12/11/2026 and is valid for three years from the date of issue unless superseded by a later revision - always confirm the current version at www.forspec.com.au before use.

Conditions of Use, Product Disclaimer, and Statement of Responsibility

1. Accuracy of information. The information in this document is provided in good faith by Forspec Protective Coatings Pty Ltd as Trustee for Forspec Protective Coatings (ABN 11 204 033 631) ('Forspec Protective Coatings') and is, to the best of its knowledge, true and accurate at the date of issue. Forspec Protective Coatings reserves the right to amend this document without notice as part of its continuous product development.

2. Suitability and user responsibility. Substrates, site conditions, workmanship and conditions of use are beyond Forspec Protective Coatings' control. No representation or warranty is made as to the suitability of the product for any particular application. The user must determine the suitability of the product for the intended use by their own assessment and, where appropriate, testing prior to application.

3. Currency of document. It is the responsibility of the customer and the applicator to confirm that this document and the corresponding Safety Data Sheet are the current versions, available at www.forspec.com.au. This document supersedes all previous versions.

4. Compliant use and application. The product must be used strictly in accordance with this document, the relevant Australian Standards, the National Construction Code and all applicable laws and regulations, and must be applied by suitably qualified personnel.

5. Statutory guarantees. Nothing in this document excludes, restricts or modifies any consumer guarantee, right or remedy conferred by the Australian Consumer Law (Schedule 2 of the Competition and Consumer Act 2010 (Cth), ss 64 and 64A) or any other statutory right that cannot lawfully be excluded.

6. Limitation of liability. To the fullest extent permitted by law: (a) all other warranties, conditions and representations, express or implied, are excluded; (b) the total liability of Forspec Protective Coatings for any claim arising out of or in connection with the supply or use of the product is limited, at its election, to the replacement of the product, the supply of an equivalent product, or the refund of the purchase price paid; and (c) Forspec Protective Coatings will not be liable for any indirect, special or consequential loss, including loss of profits, arising from the use of, or inability to use, the product.

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7. Advice and recommendations. Any advice, recommendation, information or assistance provided by Forspec Protective Coatings, whether verbal or written, is given in good faith but without liability beyond that stated in clause 6.

8. Governing law. This document, and any claim arising out of or in connection with the supply or use of the product, is governed by and interpreted in accordance with the laws of New South Wales, Australia. Any disputes arising from or relating to this document or the product are subject to the exclusive jurisdiction of the Courts of New South Wales, consistent with the Forspec Standard Product and Performance Warranty.



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