SOLVENTLESS EPOXY FOR ROAD REPAIR

EPAR 121B & EPAR 121G

TECHNICAL DATA

1.0 DESCRIPTION

EPAR 121B (black) and EPAR 121G (grey) are solventless liquid epoxies which have very good mechanical strength, good chemical resistance and excellent flexibility.

EPAR 121B and EPAR 121G adhere very well to concrete, metal and asphalt.

2.0 PHYSICAL PROPERTIES:

2.1	Viscosity		low – easily poured liquid.	
2.2	Mix Ratio		1 : 1 by volume or 1.1 (resin) : 1.0 (hardener) by weight.	
2.3	Pot Life		25 minutes at 20°C for 100 g.	
2.4	Minimum Application Temp.		0°C.	
2.5	Shelf Life		1 year in original unopened containers.	
2.6	Cured Properties (7 days cure at 23°C unless stated otherwise)			
2.6.1	Colour		Black or Grey, respectively	
2.6.2	Specific Gravity		1.05	
2.6.3	Compressive Strength	1 day cure	N/A (no failure at 50% strain)	
2.6.4	Compressive Modulus	1 day cure, 50% strain	36 MPa	
2.6.5	Compression recovery	1 day cure, 7 day recovery	100%	
2.6.6	Compressive Strength	7 day cure	N/A (no failure at 50% strain)	
2.6.7	Compressive Modulus	7 day cure, 50% strain	39 MPa	
2.6.8	Compression recovery	7 day cure, 7 day recovery	100%	
2.6.9	Tensile Strength		7.6 MPa	
2.6.10	Maximum strain at tensile failure		> 200%	
2.6.11	Tensile Modulus at 100% strain		3.4 MPa	
2.6.12	Shore Hardness		90 (A)	35 (D)
2.6.13	Shore Hardness after 7 days water immersion		89 (A)	35 (D)
2.6.14	Weight increase, 7 days water immersion		0.6%	

3.0 USES

3.1 EPAR 121B and EPAR 121G have excellent compatibility with asphaltic surfaces. Grit or aggregate may be bonded to them to form a skid resistant wearing course.

EPAR 121B and EPAR 121G are also recommended for mixing with a silica aggregate to form a trowellable mortar. They are ideal as levelling materials for asphaltic surfaces.

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EPAR 121B & EPAR 121G

TECHNICAL DATA Continued

4.0 APPLICATION INSTRUCTIONS

4.1 EPAR 121B and EPAR 121G may be used as chemically resistant coatings for bitumen and concrete surfaces, against acids, oils, fats etc.

4.2 EPAR 121B and EPAR 121G are more heat resistant than asphalt. They will not melt or run in hot summer conditions.

4.3 The combination of flexibility and strength make EPAR 121B and EPAR 121G suitable as joint fillers where a small amount of movement is expected, e.g., expansion joints in concrete slabs. Mixed with silica aggregate or rubber crumb, they are excellent expansion joint nosing materials for bridges. EPAR 121B is available as EPAR 121BRC, packed with sufficient fine and coarse rubber crumb to mix into the epoxy, making it even more flexible (see separate data sheet).

4.4 **SURFACE PREPARATION**. Thoroughly clean the jointing surfaces of all extraneous matter, especially oil and grease. Laitance should be removed from concrete surfaces mechanically or by acid etching. For best results steel surfaces should be prepared by sand blasting or grinding.

4.5 **MIXING**. Accurately proportion required volume of resin and hardener ensuring this amount can be used within its pot life. Mix thoroughly, preferably using a paint stirrer fitted to a low speed electric drill. During the mixing process scrape the bottom and sides of the container at least once with a spatula or similar tool to ensure all components are incorporated. Mixing should continue for approximately 5 minutes. Take care to avoid air entrapment.

Mix a quantity that can be used within its pot life. Note that mixing larger amounts in hot weather will drastically reduce pot life.

When EPAR 121B or EPAR 121G are to be mixed with aggregate, resin and hardener should first be mixed as above. Aggregate to be added to the epoxy must be completely dry. Blend in sufficient aggregate to obtain the desired viscosity and mix until an even texture is obtained.

4.6 **APPLICATION**.

4.6.1 Non-Skid Surfacing. Apply EPAR 121B or EPAR 121G at a spreading rate of 2m^2 per litre, by brush, roller, broom or spray. If the non-skid aggregate is larger than 5mm a lower spreading rate (higher film build) may be required. Evenly broadcast the non-slip particles onto the surface and do not expose to traffic until epoxy has cured.

4.6.2 When EPAR 121B or EPAR 121G are mixed with more than 3 parts aggregate to 1 part epoxy, surfaces to which it is to bond should first be primed with unfilled epoxy. For best results, brush apply a thin coating of EPAR 121B or EPAR 121G unfilled epoxy, working it well into the substrate. Apply aggregate filled epoxy while the prime coat remains tacky.

4.6.3 When trowelling filled EPAR 121B and EPAR 121G a smooth finish may be obtained by keeping the face of the trowel wet with EPAR Epoxy Solvent.

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EPAR 121B & EPAR 121G

TECHNICAL DATA Continued

4.0 APPLICATION INSTRUCTIONS (continued)

4.7 **CLEAN-UP**. Tools and equipment may be cleaned before hardening commences by washing with EPAR EPOXY SOLVENT. Clean hands and exposed skin with soap and hot water.

4.8 Refer to product label for additional information.

5.0 PRECAUTIONS

Wear appropriate personal protective equipment when using this product. Avoid skin and eye contact.

Do not breathe vapours.

Read product labels before use.

Read Safety Data Sheet for complete handling and first aid details.

Mix whole pack (4L or 8L) only if it can be used comfortably within 30 minutes (20 minutes in warm weather).

6.0 PACKAGING

4 L pack (2 L resin, 2 L hardener)
8 L pack (4 L resin, 4 L hardener)
40 L pack (20 L resin, 20 L hardener).

High Strength
Liquid Construction Epoxy
EPAR 124

TECHNICAL DATA

1.0 DESCRIPTION

An unfilled, very fast curing, high strength, solventless liquid epoxy. EPAR 124 has good heat resistance, water and chemical resistance. EPAR 124 exhibits good curing in thin film at ambient substrate temperatures. EPAR 124 has good electrical properties.

2.0 PROPERTIES

2.2.	Viscosity	Low - medium and high also available.
2.3.	Mix Ratio	4 parts resin: 1 part hardener by volume
2.4.	Pot Life	12 - 15 minutes at 20°C for 150g.
2.5.	Minimum Application Temp.	10°C substrate temperature.
2.6.	Shelf Life	1 year in original unopened containers
2.7.	Cured Properties	(at 20°C for 24 hours, then elevated temperature for 2 hours under laboratory conditions)
2.7.1.	Colour	Dark amber
2.7.2.	Specific Gravity	1.12
2.7.3.	Compressive Strength	124 - 138 MPa
2.7.4.	Compressive Modulus	2.5 GPa
2.7.5.	Tensile Strength	86 MPa
2.7.6.	Flexural Strength	153 MPa
2.7.7.	Flexural Modulus	3075 MPa
2.7.8.	Heat Distortion Temperature	100°C
2.7.9.	Dielectric Strength S/T, V/M	440 - 465

3.0 USES

EPAR 124 is used as a general-purpose gap filling adhesive or filler, and for gel coats.

EPAR 124 may be mixed with silica sand to make an epoxy grout or mortar for floor toppings, terrazzo, repairs, etc.

EPAR 124 is recommended where fast curing of a thin epoxy film is required

4.0 APPLICATION

4.1. SURFACE PREPARATION. Thoroughly clean the jointing surfaces of all extraneous matter, especially oil and grease. Laitance should be removed from concrete surfaces mechanically or by acid etching. For best results, steel surfaces should be prepared by sand blasting or grinding. All surfaces should be dry.

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EPAR 124

TECHNICAL DATA Continued

4.2. MIXING. Wear full protective gear including chemically resistant gloves, protective clothing and eye protection when using this product. Use only in a well-ventilated area and do not breathe vapours. Accurately measure sufficient resin and hardener to be used within material's pot life. Mix thoroughly preferably using a paint stirrer fitted to a low speed electric drill. During the mixing process scrape the bottom and sides of the container at least once with a spatula or similar tool to ensure all components are incorporated. Mixing should continue for approximately 5 minutes. Take care to avoid air entrapment.

As EPAR 124 is very fast curing, avoid mixing large volumes of unfilled product. Mix only the amount of EPAR 124 that may be used within its pot life.

When EPAR 124 is to be mixed with aggregate, resin and hardener should first be mixed as above. Aggregate to be added to the epoxy must be completely dry. Blend in sufficient aggregate to obtain the desired viscosity and mix until an even texture is obtained.

4.3. PRIMING. When EPAR 124 is mixed with more than 3 parts aggregate to 1 part epoxy, surfaces to which it is to bond should first be primed with unfilled EPAR 124. For best results, brush apply a thin coating of EPAR 124, working it well into the substrate. Apply aggregate filled EPAR 124 while the prime coat remains tacky.

4.4. When trowelling filled EPAR 124 a smooth finish may be obtained by keeping the face of the trowel wet with water.

4.5. CLEAN UP. Hands and equipment should be washed with soap and water before curing is advanced.

4.6. Refer to product label for details. Refer to safety data sheet for first aid and handling information.

5.0 CHEMICAL RESISTANCE

The chemical resistance of EPAR 124 is shown by the percent absorption after 1 month immersion in:

- Acetone 3.3
- MEK 0.6
- Distilled Water 0.61
- 30% H_2SO_4 1.23
- 10% Caustic 0.54
- 20% Caustic 0.38
- 10% Acetic Acid 3.53
- 30% Acetic Acid 10.0
- Ethyl Alcohol 0.17
- Toluene 0.07

6.0 PACKAGING

1.25 litre and 5 litre packs.

TIE COAT, CONCRETE COATING & REPAIR EPOXY

EPAR 226

TECHNICAL DATA

1.0 DESCRIPTION

EPAR 226 is a low viscosity, unfilled epoxy with excellent mechanical properties. EPAR 226 may be used for a variety of applications as supplied or may be mixed with suitable aggregate to make epoxy mortars, grout or toppings.

EPAR 226 fully complies with the test requirements of AS/NZS 4020, Products for use in contact with Potable Water (standard hardener only).

2.0 PHYSICAL PROPERTIES:

2.1	Viscosity	Low (typical mixed viscosity at 20°C: 640 cP). An extra low viscosity version is available.
2.2	Mix Ratio	Three parts resin: 1 part hardener by volume.
2.3	Pot Life	20 – 30 minutes at 20°C.
2.4	Minimum Application Temp.	10°C.
2.5	Shelf Life	1 year in original unopened containers.
2.6	Cured Properties	(Unfilled at 20°C unless otherwise noted)
2.6.1	Colour	Transparent
2.6.2	Specific Gravity	1.1
2.6.3	Compressive Strength	55 MPa (2 days) 87 MPa (7 days)
2.6.4	Compressive Modulus	2 GPa
2.6.5	Tensile Strength	24 MPa (7 days)
2.6.6	Shore D hardness	88 (typical) at 25°C
2.6.7	Thermal Expansion	5 x 10^{-5}mm/mm/°C.
2.7	Cured Properties of Filled Systems (20°C, 7 days)	
2.7.1	Pourable Grout	1 part epoxy: 1.5 parts silica sand.
	Compressive Strength	65 MPa
	Tensile Strength	16 MPa
2.7.2	Trowellable Mortar	1 part epoxy: 3 parts silica sand.
	Compressive Strength	70 MPa
	Tensile Strength	20 MPa
2.8	Compliance	

2.8.1 EPAR 226 fully complies with the test requirements of AS/NZS 4020:2005 (contact with potable water) to cover a cold water application up to <40°C, at the recommended 'total immersion' exposure of ~30,000mm² per litre of water (standard hardener only). Compliance testing by AMS Laboratories Pty Ltd, NSW Australia. A copy of the compliance report is available on request.

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EPAR 226

TECHNICAL DATA Continued

3.0 USES

3.1 Grouting or bedding of machinery, base plates, crane rails, precast concrete units etc.

3.2 General patching and repair of concrete when mixed with aggregate to form a mortar. Repair of cracks in concrete by injection or gravity feed.Crack injection of structural concrete – refer to EPAR 226XLV data sheet.

3.3 Grout for fixing bars or bolts into concrete or steel ducts either unfilled or filled depending on dimensions and clearances.

3.4 New to old concrete tie coat.

3.5 Coating/sealer for concrete floors (you must read section 6 before using on concrete floors).

3.6 Coating the inside of water retaining tanks or pipelines in contact with drinking water (see also section 6: Additional Details).

4.0 APPLICATION INSTRUCTIONS

Read this data sheet in conjunction with the product labels. Wear appropriate personal protective equipment when mixing and using this product. Use in a well-ventilated area. Before use, read the EPAR 226 hardener and resin Material Safety Data Sheets.

4.1 **SURFACE PREPARATION:** Thoroughly clean the jointing surfaces of all extraneous matter, especially oil and grease. Laitance should be removed from concrete surfaces mechanically. For best results steel surfaces should be prepared by sand blasting or grinding. All surfaces should be dry. When used as a concrete tie coat, surfaces should be dry and completely free of dirt, rust, curing compounds, grease, oil, paint, waxes and other materials that would prevent a solid bond. For proper adhesion, DO NOT use a curing compound. Water cure where possible. Concrete should be cleaned by sandblasting or scabbling to a sound surface if required. Where concrete floors have been power-floated, remove the glaze by sandblasting or wire brushing. Vacuum or blow dust away with oil-free compressed air. Any laitance must be removed prior to application of the coating as the laitance will be weak and not provide sufficient strength for the coating. Acid etching of the concrete is not recommended unless conditions prohibit the use of alternative methods. All surfaces should be dry after preparation.

4.2 **MIXING:** Accurately proportion required volume of resin and hardener ensuring this amount can be used within its pot life. Mix thoroughly preferably using a paint stirrer fitted to a low speed electric drill. During the mixing process scrape the bottom and sides of the container at least once with a spatula or similar tool to ensure all components are incorporated. Mixing should continue for approximately 5 minutes. Take care to avoid air entrapment.

4.3 When applied as a coating, apply one or two coats as applicable using a nylon brush or roller or by spray. If a second coat is required, apply within 6 hours of the first coat. After 6 hours, the surface must be mechanically etched, cleaned and recoated with EPAR 226.

4.4 When EPAR 226 is to be mixed with aggregate, resin and hardener should first be mixed as above. Aggregate to be added to the epoxy must be completely dry. Blend in sufficient aggregate to obtain the desired viscosity and mix until an even texture is obtained.

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EPAR 226

TECHNICAL DATA Continued

4.5 **PRIMING:** When EPAR 226 is mixed with more than 3 parts aggregate to 1 part epoxy, surfaces to which it is to bond should first be primed with unfilled EPAR 226. For best results, brush apply a thin coating of EPAR 226, working it well into the substrate. Apply aggregate filled EPAR 226 while the prime coat remains tacky.

4.6 When trowelling filled EPAR 226, a smooth finish may be obtained by keeping the face of the trowel wet with EPAR Epoxy Solvent.

4.7 **CLEAN-UP:** Tools and equipment may be cleaned before hardening commences by washing with EPAR CLEAN UP SOLVENT. Clean hands and skin with soap and hot water.

5.0 CONCRETE TIE COAT

5.1 **SURFACE PREPARATION:** Refer section 4.1 above.

5.2 **MIXING:** Store epoxy components in a warm room prior to mixing. Refer to section 4.2 for mixing instructions.

5.3 **APPLICATION:**

5.3.1 New concrete surfaces should be cured for at least 8 - 10 days before application of EPAR 226.

5.3.2 Apply EPAR 226 undiluted at the rate of 4m² per litre using a roller (250µm layer). Work well over the area to be treated. Work to a zone where possible if application cannot be completed in one day. Avoid mixing large quantities of EPAR 226 that cannot be used within its pot life. Work life depends on temperature and mass of epoxy mixed.

5.3.3 All surfaces must be prepared as per Surface Preparation above. EPAR 226 can be applied to damp surfaces (free from any standing water), as long as the surfaces are correctly prepared (see section 5.3.4)

5.3.4 For damp surfaces, it is important to work the EPAR 226 well into the substrate. DO NOT apply to any surface with standing water on it. Remove all standing water from the surface – there must not be a damp sheen on the surface of the concrete. Work to a zone where possible if application cannot be completed in one day. Avoid mixing large quantities of EPAR 226 that cannot be used within its pot life. Work life depends on temperature and mass of epoxy mixed. Do not apply when substrate temperature is below 10°C.

5.3.5 Pour the fresh concrete while the EPAR 226 is still tacky. This is a maximum of 3 to 4 hours after application (at 17°C). Note that the time will extend at lower temperatures and reduce at higher temperatures and ambient conditions. Check for tackiness by testing with a dry finger – the epoxy should be tacky and not liquid (it must not come off the concrete onto the finger). Do not allow the EPAR 226 to cure before the fresh concrete is poured otherwise a bond will not occur. If cured, another coat of EPAR 226 must be applied within 6 hours. After 6 hours, the surface must be mechanically etched, cleaned and recoated with EPAR 226.

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EPAR 226

TECHNICAL DATA Continued

6.0 ADDITIONAL INFORMATION

EPAR 226 should only be applied to clean, sound concrete or steel. Do not apply over the top of existing coatings, curing compounds, etc. Minimum application temperature is 10°C.

EPAR 226 for application as a floor coating or sealer is for professional applicator use only i.e. those that are professionally trained flooring applicators and are approved by Stratmore. The applicator takes full and entire responsibility for determining suitability of the EPAR 226 in the intended application, application method and final results.

An Extended Pot Life Hardener is available for EPAR 226. This hardener provides a longer pot life and therefore a longer working time/application window. It is not certified for contact with potable water.

An extra low viscosity version of EPAR 226 is available. This extra low viscosity version is for concrete crack injection only. Please refer to the EPAR 226 XLV data sheet for details.

Potable water certification only applies to the standard EPAR 226 hardener and resin system. The tested total immersion exposure is ~30,000mm² per litre of water.

When applied to substrates in contact with potable water, the epoxy must be allowed to fully cure for 7 days before being exposed to water. After curing, thoroughly wash the entire coated substrate with clean water and then discard the water.

For any application not detailed or covered by this data sheet: please contact Stratmore to discuss suitability prior to specification or use.

7.0 PACKAGING

1 litre, 4 litre, 20 litre and 80 litre packs.

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Chemically Resistant Epoxy Coating

EPAR 733HV

TECHNICAL DATA

1.0 DESCRIPTION

EPAR 733HV is a high build, 100% solids, solvent-free epoxy system used to coat steel and concrete structures exposed to a wide range of chemicals. EPAR 733HV is applied in one to two coats to concrete and steel. It has excellent chemical resistance.

EPAR 733HV fully complies with the test requirements of AS/NZS 4020, Products for use in contact with Drinking Water (standard hardener only).

2.0 PHYSICAL PROPERTIES

2.1	Viscosity	Pourable, thixotropic.
2.2	Mix Ratio	Pre-packaged (3 parts resin to 1 part hardener by volume, 4.2:1 by weight)
2.3	Coverage	Coverage dependent on surface type, porosity and intended purpose. For optimum long-term performance, apply two coats at maximum 4m² per litre.
2.4	Pot Life	20 – 30 minutes at 20°C.
2.5	Minimum Application Temp.	10°C.
2.6	Shelf Life	1 year in original unopened containers.
2.7	Cured Properties	(Unfilled at 20°C)
2.7.1	Colour	Grey (other colours on request)
2.7.2	Specific Gravity	1.1
2.7.3	Compressive Strength	55 MPa 2 days, 87 MPa 7 days.
2.7.4	Compressive Modulus	2 GPa.
2.7.5	Tensile Strength	24 MPa.
2.7.6	Thermal Expansion	5 x 10^{-5}mm/mm/°C.

2.8 Compliance

2.8.1 EPAR 733HV fully complies with the test requirements of AS/NZS 4020:2005 to cover a cold water application up to <40°C, at the recommended 'total immersion' exposure of ~30,000mm² per litre of water (using standard hardener only). Compliance testing by AMS Laboratories Pty Ltd, NSW Australia. A copy of the report is available on demand.

Chemical Resistance

Chemical	Rating
Acetic acid 5%	R
Lactic Acid 10%	R
Hydrochloric acid 33%	R
Sulphuric acid 5%	R
Sulphuric acid 70%	R
Nitric acid 5%	I
Nitric acid conc.	NR
Citric acid 5%	R
Phosphoric acid 35%	NR

Chemical	Rating
Sodium hydroxide 5%	R
Sodium hydroxide 50%	R
Sodium hydroxide 50% (50°C)	I
Cooking oils and fat	R
Mineral oils	R
Xylene / 25% IPA	R
Toluene	R
Petrol	R

Chemical	Rating
Diesel	R
Aluminium sulphate 5%	R
Hydrogen peroxide 10%	I
Ferrous sulphate 5%	R
Sodium Hypochlorite 30%	R
MEK	NR

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EPAR 733HV

TECHNICAL DATA Continued

Rating definition

R = full exposure (less than 0.1% weight gain after 7 days exposure)
I = intermittent exposure, 24 hours max NR = not suitable

Exposure to chemicals will vary dependant on temperature and concentration. In the case of intermittent exposure thorough cleaning is recommended after such exposure.

3.0 USES

Use EPAR 733HV to protect concrete and steel structures exposed to chemical immersion or contact, including concrete pipes and precast concrete used in sewerage systems. EPAR 733HV is also used to coat concrete or other surfaces for water retaining or reticulation in contact with drinking water.

4.0 APPLICATION INSTRUCTIONS

Read this data sheet in conjunction with the product labels. Wear appropriate personal protective equipment when mixing and using this product. Use in a well-ventilated area. Before use, read the EPAR 733HV hardener and resin Material Safety Data Sheets.

4.1 **SURFACE PREPARATION:** Thoroughly clean the jointing surfaces of all extraneous matter, especially oil and grease. Laitance should be removed from concrete surfaces mechanically. For best results steel surfaces should be prepared by sand blasting or grinding. All surfaces should be dry. For proper adhesion to concrete, DO NOT use a curing compound. Concrete should be cleaned by sandblasting or scabbling to a sound surface if required. Where concrete floors have been power-floated, remove the glaze by sandblasting or wire brushing. Vacuum or blow dust away with oil-free compressed air. Any laitance must be removed prior to application of the coating as the laitance will be weak and not provide sufficient strength for the coating. Acid etching of the concrete is not recommended unless conditions prohibit the use of alternative methods. All surfaces should be dry after preparation. For best results steel surfaces should be prepared by sand blasting or grinding, preferably to meet the requirements of BS 7079, Sa3. All surfaces should be dry.

4.2 **MIXING:** Accurately proportion required volume of resin and hardener ensuring this amount can be used within its pot life. Mix thoroughly preferably using a paint stirrer fitted to a low speed electric drill. During the mixing process scrape the bottom and sides of the container at least once with a spatula or similar tool to ensure all components are incorporated. Mixing should continue for approximately 5 minutes. Take care to avoid air entrapment.

Ideally, hardener and resin should be stored at above 15°C for 24 hours before use.

APPLICATION

4.3 **PRIMING:** All surfaces to be coated should preferably be primed with EPAR 226 at 4m² per litre. For best results, brush apply a thin coating of EPAR 226, working it well into the substrate. Apply EPAR 733HV while the prime coat remains tacky.

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EPAR 733HV

TECHNICAL DATA Continued

4.0 APPLICATION INSTRUCTIONS (continued)

4.4 Apply one or two coats as applicable using a nylon brush or roller. If a second coat is required, apply within 6 hours of the first coat. After 6 hours, the surface must be mechanically etched, cleaned and recoated with EPAR 733HV.

4.5 Allow EPAR 733HV to cure for 24 hours at 20°C before exposing to traffic (lower temperatures will require longer curing before opening to traffic). EPAR 733HV will fully cure in 7 days at 20°C.

4.6 Where EPAR 733HV is in contact with potable water, after fully curing for 7 days, thoroughly wash the entire coated substrate with clean water and then discard the water.

4.7 **CLEAN-UP:** Tools and equipment may be cleaned before hardening commences by washing with EPAR CLEAN UP SOLVENT. Clean hands and skin with soap and hot water.

5.0 ADDITIONAL INFORMATION

EPAR 733HV should only be applied to clean, sound concrete or steel. Do not apply over the top of existing coatings, curing compounds, etc. Minimum application temperature is 10°C.

An Extended Pot Life hardener is available for EPAR 733HV. This hardener provides a longer pot life and therefore a longer working time/application window.

Potable water certification only applies to the standard EPAR 733HV hardener and resin system.

If EPAR 733HV is to be used as a floor coating, sealer, floor levelling and repair, etc it must be applied by a professional applicator only i.e. those that are professionally trained flooring applicators and are approved by Stratmore. The applicator takes full and entire responsibility for determining suitability of the EPAR 733HV in the intended application, application method and final results.

If the substrate coated with EPAR 733HV is exposed to chemicals listed as “Not Suitable” or “Suitable for Intermittent Contact only” according to the chemical resistance chart on page one of this data sheet (or if the chemical is not listed), then the coating must be inspected for signs of damage due to chemical action. If any part of the coating shows sign of chemical damage, it should be removed by mechanical means, then a new application of EPAR 733HV applied.

6.0 PACKAGING

4, 8 and 16-litre packs.

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HIGH PERFORMANCE COAL TAR ALTERNATIVE SOLVENTLESS EPOXY

EPAR CTA

TECHNICAL DATA

1.0 DESCRIPTION

EPAR CTA is a high build solventless liquid epoxy coating with very good mechanical strength and flexibility.

EPAR CTA has excellent chemical resistance and adhesion to concrete, metal and asphalt.

EPAR CTA is non-flammable, non-sag and has an excellent cure response down to 0 °C.

EPAR CTA is zero VOC and does not contain coal tar pitch or other associated hazardous benzene derivatives.

2.0 PHYSICAL PROPERTIES:

2.1	Viscosity	Thixotropic – easily mixed and brushed but resistant to sagging after application to vertical surfaces.
2.2	Mix Ratio	1 : 1 by volume or weight.
2.3	Pot Life	30 minutes at 18 °C for 100 g.
2.4	Thin film cure time	7 hours at 18 °C or 24 hours at 0 °C.
2.5	Minimum Application Temp.	0 °C.
2.6	Shelf Life	1 year in original unopened containers.
2.7	Properties	

2.7.1	Colour and finish	Black, gloss.
2.7.2	Specific Gravity	1.24
2.7.3	Solids	100%
2.7.4	Sag resistance	No sag at 500 µm film build (2 m² / L)
2.7.5	Hardness	66 Shore D after 7 days cure.
2.7.6	Compressive Strength (MPa) 1 day	32*
2.7.7	Compressive Modulus (MPa)	64
2.7.8	Compression recovery (%) after 24 hours	94
2.7.9	Compressive Strength * (MPa) 7 days	57
2.7.10	Compressive Modulus (MPa)	114
2.7.11	Compression recovery (%) after 24 hours	93
2.7.12	Tensile Strength (MPa)	16
2.7.13	Flexural Strength (MPa)	24
2.7.14	Flexural Modulus (MPa)	34**

* Compressive Strength: Ductile failure because of flexibility of material. Quoted compressive strength is pressure required to achieve approximately 50% compression. Compressive Modulus is also at 50% compression and compression recovery is % of initial length achieved after 50% compression and 24 hours recovery at ambient temperature.

** Modulus at failure, approx 7.5 mm deflection for 25 mm thick and 40 mm long test pieces.

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EPAR CTA

TECHNICAL DATA Continued

3.0 USES

3.1 EPAR CTA may be used in all applications where traditional coal tar epoxies are used, on both horizontal and vertical surfaces. It has excellent resistance to water and chemicals. It may be used over many surfaces, including concrete, steel, asphalt and wood.

3.2 EPAR CTA may be used as a chemically resistant coating for bitumen, steel, concrete and wooden surfaces, against acids, oils, fats etc.

3.3 The combination of flexibility and hardness make EPAR CTA suitable as a joint filler where a small amount of movement is expected, e.g., expansion joints in concrete slabs.

3.4 EPAR CTA is 100% solids and contains no volatile or flammable solvents.

3.5 Like most epoxy coatings, EPAR CTA may lose its gloss and change colour slightly upon outdoor weathering but its protective properties will not be compromised by these changes.

4.0 APPLICATION INSTRUCTIONS

4.1 **SURFACE PREPARATION**. Thoroughly clean the surface of all extraneous matter, especially oil and grease. Concrete surfaces should be free of laitance, efflorescence, form oils and curing agents. These should be removed mechanically or by acid etching. Smooth concrete surfaces must be acid etched, then rinsed thoroughly and dried. Steel surfaces should be prepared by abrasive blasting or power tool grinding.

4.2 **MIXING**. Avoid air entrapment during mixing. Accurately proportion required volume of resin and hardener ensuring this amount can be used within its pot life. Mix thoroughly, preferably using a paint stirrer fitted to a low speed electric drill or a flat bladed spatula for smaller volumes. During the mixing process scrape the bottom and sides of the container at least once with a spatula or similar tool to ensure all components are incorporated. Mixing should continue for approximately 5 minutes.

4.3 **APPLICATION**.

4.3.1 Do not thin EPAR CTA. Application can commence immediately after mixing – there is no need for any induction time. To lengthen the pot life, pour mixed epoxy into smaller cans or paint trays immediately to help dissipate any heat generated. Apply at a spreading rate of 2-4 m^2 per litre, by brush or roller, working well into the surface. Brush or roll in at least two directions, then finish off in the normal manner.

4.3.2 Once the EPAR CTA has been applied, it should not be disturbed again. It will level to a reasonably smooth surface but will not sag. Avoid bumping or moving the applied coating until cured, as movement will promote sagging on vertical surfaces. Do not apply at a lower spreading rate than 2 m^2 / L or a film build of greater than 500 µm (0.5 mm) per coat.

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EPAR CTA

TECHNICAL DATA Continued

4.0 APPLICATION INSTRUCTIONS (continued)

4.3.3 One coat of EPAR CTA is sufficient for most purposes. However, if considered necessary, it may be recoated at any time.

4.4 **CLEAN-UP**. Tools and equipment may be cleaned before hardening commences by washing with EPAR CLEAN UP SOLVENT. Clean hands and skin with soap and hot water. Cured epoxy can only be removed by scraping or abrasion.

5.0 PRECAUTIONS

Wear appropriate personal protective equipment when using this product. Avoid skin and eye contact. Do not breathe vapours. Read product labels before use. Refer to Safety Data Sheet for complete handling and first aid details. Mix whole pack only if it can be used comfortably within 30 minutes.

6.0 PACKAGING

8 L pack (4 L hardener in 4 L metal tin, 4 L resin in 10 L plastic pail) with sufficient ullage to allow good mixing.

TWO-PART, FAST-SETTING LIQUID EPOXY

PLASTICAST 300

TECHNICAL DATA

1.0 DESCRIPTION

PLASTICAST 300 is a very-fast setting, clear, two-part liquid epoxy for bonding timber, glass, ceramics and some other materials. It may be used as supplied, or mixed with fillers to create a flowable grout.

2.0 PHYSICAL PROPERTIES:

2.1	Viscosity	Low.
2.2	Mix Ratio	1 : 1 by volume.
2.3	Pot Life	maximum 5 minutes at 25°C.
2.4	Minimum Application Temp.	0°C.
2.5	Maximum Casting Thickness	10 mm (dependent on surrounding substrate as exotherm for large castings is above 140°C)
2.6	Shelf Life	1 year in original unopened containers.
2.7	Cured Properties (24°C for 7 days)	
2.7.1	Colour	Transparent.
2.7.2	Specific Gravity	1.14
2.7.3	Hardness, shore D	1 hour: 72, 4 hours: 77, 1 day: 79
2.7.4	Water absorption	0.4% weight increase for 1 day immersion at 24°C.
2.7.5	Tensile lap shear	2845 psi cured 4 hours at 24°C (aluminium to aluminium)

3.0 USES

PLASTICAST 300 may be used in applications where a fast-setting, high strength liquid epoxy is required. Uses include bonding timber to timber, metal to metal, glass to glass, model making, etc. PLASTICAST 300 may also be used as on its own to seal cracks and gaps at low temperatures and can be mixed with cement and/or dry silica sand to create a flowable grout.

4.0 APPLICATION INSTRUCTIONS

4.1 MIXING. Accurately measure required volume of Resin and Hardener, mix THOROUGHLY. Hand mixing is adequate for small volumes. A paint stirrer fitted to a low speed electric drill may be used for larger volumes but care must be taken to avoid air entrapment. During the mixing process scrape the bottom and sides of the container to ensure all components are incorporated.

4.2 Do not mix more PLASTICAST 300 than can be used within 5 minutes. Pot life will be reduced for larger volumes. Ensure mixing container can withstand expected exothermic heat (above 140°C).

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PLASTICAST 300

TECHNICAL DATA Continued

4.0 APPLICATION INSTRUCTIONS (continued)

4.3 When PLASTICAST 300 is to be mixed with silica sand/cement, resin and hardener should first be mixed as above. Sand/cement to be added to the epoxy must be completely dry. Blend in sufficient sand/cement to obtain the desired viscosity and mix until an even texture is obtained. Do not add more than 2 parts aggregate to 1 part epoxy. Place immediately.

4.4 When bonding, apply PLASTICAST 300 to one surface only and press the other surface to be bonded together. Support both surfaces until PLASTICAST 300 has initially cured (5 minutes). Full strength will be attained after 1 – 4 days. PLASTICAST 300 is not suitable for continual immersion underwater.

5.0 PACKAGING

PLASTICAST 300 is available in 500ml, 1, 2, 4 and 20-litre packs.

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ELECTRICAL
CABLE JOINT SEALER EPOXY
PLASTICAST E & L

TECHNICAL DATA

1.0 DESCRIPTION

PLASTICAST is a two-part epoxy compound formulated specifically for encapsulating electric cable joints. PLASTICAST forms a strong, waterproof joint, with excellent mechanical and electrical properties, good dimensional stability and inertness to soil and ground water conditions.

PLASTICAST, being slightly flexible and non-brittle will not crack when used for buried joints subject to ground movement.

PLASTICAST is available in two grades:

PLASTICAST E for general work up to 1 litre in volume

PLASTICAST L a low exotherm grade for large joints over 1.5 litres in volume

2.0 PHYSICAL PROPERTIES

Brackets indicate whether Plasticast E or L or both

2.1	Viscosity	Low (both)
2.2	Mix Ratio	1 : 1 by volume (both)
2.3	Pot Life	25 minutes at 20 °C (E) 2 hours at 20 °C (L)
2.4	Minimum Application Temp.	10 °C (both)
2.5	Maximum Casting Thickness	40 mm (E) Practically unlimited (L)
2.6	Shelf Life	2 years in original unopened containers (both)
2.7	Cured Properties (7 day cure, 20 °C)	
2.7.1	Colour	Transparent Amber (both)
2.7.2	Specific Gravity	1.05 – 1.10 (both)
2.7.3	Hardness	90 Shore A, 43 Shore D (E) 76 Shore A (L)
2.7.4	Compressive Strength	18 MPa @ 25% compression – flexible, no failure (E) 10 MPa – flexible, fails at ~50% compression (L)
2.7.5	Tensile Strength	8 MPa (E) 1.7 MPa (L)
2.7.6	Water Absorption (tap water)	2.1 mg/cm3 (24 hrs @ 20°C) – Plasticast E 0.7 mg/cm3 (24 hrs @ 20°C) – Plasticast L Hardness change after water immersion (both): NIL
2.7.7	Oil Absorption (transformer oil)	0.2 mg/cm3 (24 hrs @ 20°C) – Plasticast E 0.8 mg/cm3 (24 hrs @ 20°C) – Plasticast L Hardness change after oil immersion (both): NIL
2.7.8	Operating Temp. Range	-10°C to 100°C (both)

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PLASTICAST E & L

TECHNICAL DATA Continued

2.0 PHYSICAL PROPERTIES (continued)

2.8 ELECTRICAL PROPERTIES

2.8.1	Volume Resistivity @ 20°C	2.4 x 10^{11} ohm.cm (E)	1.8 x 10^{11} ohm.cm (L)
2.8.2	Dielectric Strength @ 50Hz	120 kV.cm $^{-1}$ (E)	130 kV.cm $^{-1}$ (L)
2.8.3	Permittivity at 20°C, 50Hz	2.4 (E)	2.6 (L)
2.8.4	Power Factor at 20°C, 50Hz	0.18 (E)	0.35 (L)

3.0 USES

As well as encapsulating electrical cable joints, PLASTICAST E is also suitable for impregnation of armatures and stators, as well as general electrical encapsulation work.

Plasticast E is an excellent gas dam compound for pressurised telephone cables.

4.0 APPLICATION INSTRUCTIONS

4.1 MIXING. Wear protective gloves and eye protection during mixing and application. Refer to product label and material safety data sheet for complete handling instructions.

Accurately measure required volume of Resin and Hardener, mix THOROUGHLY. Hand mixing is adequate for small volumes. A paint stirrer fitted to a low speed electric drill may be used for larger volumes but care must be taken to avoid air entrapment. During the mixing process scrape the bottom and sides of the container to ensure all components are incorporated.

4.2 CABLE JOINTS. Moulds may either be purpose built or made from any convenient material. Standard junction boxes make ideal moulds for small sized cables. As PLASTICAST is very fluid ensure the mould is sealed against leaks, particularly about the cable entries. Pour mixed PLASTICAST slowly into one end of the mould until required level is obtained.

Do not disturb joint until PLASTICAST has set, normally between 2 and 4 hours for Plasticast E, overnight for Plasticast L.

Setting time will be slower if ambient temperature is low. The setting time is also affected by the nature of the joint and size of mould used. These factors will govern how readily the heat generated during curing is conducted away. Heat will be lost more readily from small moulds resulting in slower set times.

4.3 ELECTRIC MOTORS. Armatures, rotors and stators are easily impregnated with PLASTICAST E providing outstanding electrical performance and durability. The item should be preheated to 50° C and preferably rotated about an inclined axis. The mixed PLATICAST E should be slowly trickled in at the high end to fill all voids. Rotation continues until the PLASTICAST E gels due to the heat of the item.

PLASTICAST E & L

TECHNICAL DATA Continued

4.0 APPLICATION INSTRUCTIONS (continued)

4.4 CLEAN UP. Tools and equipment may be cleaned before hardening commences by washing with water. Clean hands and skin with soap and hot water.

5.0 PACKAGING

PLASTICAST E 400 mL, 1 litre, 2 litre and 4 litre twin packs.

PLASTICAST L 4 litre twin packs.

Each pack contains equal quantities of hardener and resin in separate containers.