Technical Data Sheet

Hi-Flex Construction

MS Polymer Based Hybrid Sealant

Complies with ASTM C920-CLASS 50 & ASTM C1248

Adheseal
The Adhesive and Sealant Specialists

Description

Hi-Flex Construction is a high performance, single component elastomeric joint sealant based on Hybrid MS Polymer technology. It is a neutral cure, low modulus sealant with high movement capabilities and excellent UV and weathering resistance in all climates.

With its high elasticity, Hi-Flex Construction is able to accommodate movement up to 50% of the original joint width making it ideal for window fixing in fenestration details. It is particularly easy to apply and smooth, curing to form a permanently elastic and dustproof joint seal, between different elements in the construction, mechanical engineering, shipbuilding, vehicular, manufacturing, etc industries.

Uses

- Hi-Flex Construction is designed to seal mechanically fixed joints
- Perimeter sealing of windows.
- Curtain walls
- Expansion joints in precast / tilt up panels
- Sealing and finishing external wall & cladding joints such as modern facade panels
- Adhesive for light weight components
- General construction sealant
- Most common construction materials, metal, wood, concrete
- Acoustic ceiling tiles
- Seam sealing & Bolted lap joints
- Sealing of joints in prefabricated buildings or concrete panels
- Aluminium fabrication
- Sealing materials of different thermal exposure coefficients
- Fibreglass
- Display signs.
- Bonding and sealing automotive and marine manufacturing applications.

Benefits

- Outstanding primer-less adhesion on non-porous substrates
- · Movement capability up to +/- 50 %
- · Non-bleeding / non-staining
- · No isocyanates, solvents or acids
- Paintable with acrylic, oil, and rubber-based paints (confirm adhesion, non-flexible paint may crack)
- Excellent adhesion to most common building materials including powder coat (preliminary tests suggested)
- Excellent UV and weathering resistance
- User friendly Easy gunning and tooling
- Non-corrosive
- Proven long term durability and resilient.
- Ready to use – single pack.
- Non-toxic, low VOC meets “green star” environmental criteria.
- Inhibits mould and biological growth.
- Compatible and exceptional adhesion with all common building materials: cementitious, brick, ceramics, glass, metals, wood, epoxy, polyester and acrylic resin substrates
- High permanent flexibility
- Suitable for internal & external applications
- Resists mould & mildew in hot and humid environments
- Maintains a waterproof flexible joint.
- Low odour
- Noncorrosive to most surfaces including galvanized/zinc coated steel and concrete.

Brisbane North	26 Wolverhampton St, Stafford QLD 4053	PH (07) 3356 0000	Email sales@adheseal.com.au
Brisbane South	8 Moss St, Slacks Creek	PH (07) 3356 0000	Email slacks@adheseal.com.au
Sunshine Coast	18 Kessling Ave, Kunda Park QLD 4556	PH (07) 5447 0022	Email sc@adheseal.com.au
Gold Coast	12 Distribution AV Molendinar QLD 4214	PH (07) 5681 1111	Email gc@adheseal.com.au
Toowoomba	Mobile on the Darling Downs	PH 0427 006 548	Email darlingdowns@adheseal.com.au

web: www.adheseal.com.au

Technical Data Sheet

Physical Properties:

Hi-Flex Construction

MS Polymer Based Hybrid Sealant

Complies with ASTM C920-CLASS 50 & ASTM C1248

Acceptable Substrates

- Masonry, Concrete, Brick etc.
- Metal (except lead & copper)
- Timber
- Plastics
- Stone
- Painted surfaces
- Rubber
- Fibreglass
- Porcelain
- Aluminium
- Powder coat
- Waterproof membranes.

Before use a preliminary adhesion test is suggested.

For a more comprehensive list see Primer Selection Chart.

Limitations.

Adheseal Hi-Flex Construction is NOT suitable for use in the following applications:

- Long term water immersion.
- Not suitable for internal swimming pool applications. Avoid exposure to high levels of chlorine.
- Totally confined spaces; as the sealant requires atmospheric humidity to cure, it will not cure where it does not have access to atmospheric humidity.
- Aquariums
- Adhering mirrors (Hi-Power/MS609 can be used - test first)
- Structural glazing (N-80 or N-60 glazing silicone)
- All stone (we recommend the completion of a stain testing program before using any sealant on stone) - S100 is recommended for marble, granite (after stain test)
- Sealant may discolour copper & brass.
- Do not expose the sealant to materials containing, cleaning agents, solvents and alcohol that may affect or discolour the sealant, particularly during product curing.
- Not to be used on bituminous, natural rubber, EPDM rubber surfaces or in conjunction with any compound that might leach oils, plasticisers or solvents.
- Avoid applying when moisture-vapor-transmission is emanating from the substrate and if air-entrapment can occur as this may cause bubbling.

Application

Surface preparation:

All surfaces must be structurally sound stable, dry, clean, and free of dust, loose, flaking, friable material and free from oils, grease, form release agents, curing compounds, and any other surface contamination that may hinder adhesion. Substrate must be free from surface water and continual dampness. Concrete must be allowed to cure for at least 28 days. Failure to do so may result in poor adhesion and subsequent delamination. Use the two-wipe process for impervious substrates. Ensure the cloths are clean and changed frequently and use a suitable cleaner/solvent such as Xylene. To achieve a neater finish and to avoid getting sealant on the adjoining surfaces, mask joint edges with tape.

Priming:

Due to the high bond strength of Adheseal sealants adhesion is very often achieved without priming on most substrates. However, for optimal adhesion and critical high-performance applications, such as on multi-story buildings, highly stressed joints, extreme weather exposure or water immersion, the following priming/or surface preparation should be followed.

Non-porous substrates:

Aluminium, waterproof membranes, anodized aluminium, stainless steel, PVC, galvanized steel, powder coated metals or glazed tiles; slightly roughen surface with a fine abrasive pad. Clean and pre-treat using Adheseal 50A surface prep applied with a clean cloth. Once primed allow no less than 30 minutes and no longer than 2 hours before applying the sealant/adhesive. For metals, such as copper, brass and titanium -zinc and plastics such as PVC an adhesion test is advised.

Porous substrates:

Concrete, aerated concrete and cement-based renders, mortars and bricks: prime surface using Everflex Supaprime applied by brush. Once primed allow no less than 30 minutes and no longer than 2 hours before applying the sealant/ adhesive. For more detailed advice and instructions contact Adheseal Technical Services. Note: primers are adhesion promoters and not an alternative to improve poor preparation / cleaning of joint surfaces.

Primers also improve the long-term adhesion performance of the sealed joint. Avoid excessive application of primer as this

Technical Data Sheet

Hi-Flex Construction

MS Polymer Based Hybrid Sealant

Complies with ASTM C920-CLASS 50 & ASTM C1248

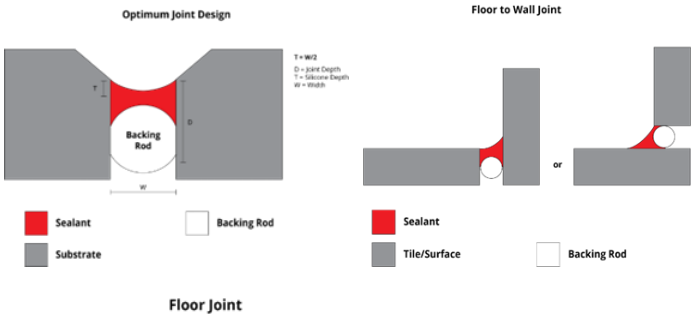
can cause puddles at the base of the joint.

Test for adhesion is always recommended, also refer to the Adheseal primer selection chart.

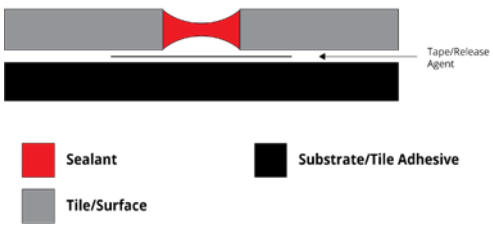
Sealant joint design

Where possible, the sealant should be at a 2:1 ratio (width:depth). For internal joints the width and the depth of the joint should be minimum 5mm, and for external joints 12mm. For joints greater than 10mm deep a backing rod should be used. Use an open cell foam-backing rod 25% larger than the joint width, to control the depth of the joint sealant. The sealant should only be fixed to two surfaces to allow movement. Hence on flat joints use a polyethylene tape or release agent to prevent 3-sided adhesion.

Width	Depth
5-10mm	As width min 5mm
10mm	5-8mm
15mm	7-10mm
20mm	10mm
25mm	12mm



Floor Joint



Hi-Flex Construction Installation:

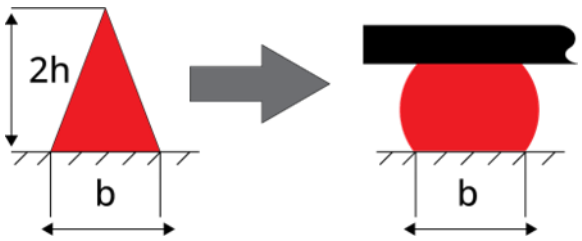
Fill the prepared joint completely taking care not to entrap air (entrapped air may cause bubbles in the sealant). Dry tool immediately before the sealant skins. Tooling time is a minimum of 10 minutes depending on temperature and humidity.

Where required use Adhefoam open cell backer rod. Closed cell backer rod is also suitable but care must be taken not to damage the outer skin of the rod as this can cause gassing (bubbles) in the sealant. When the depth of the joint does not allow for backer rod a bond breaker tape is required to prevent three-sided adhesion.

Apply at temperature between 5°C to 40°C.

To apply Hi-Flex Construction as a sealant: cut nozzle at 45º angle to desired thickness. Cut opening in sausage. Insert sausage and nozzle into sausage gun. Hold gun at 45º angle with nozzle in contact with both sides of joint. Apply by pushing sealant ahead of nozzle, thus ensuring sealant is pushed firmly into place, in a steady continuous bead ensuring good contact with both sides of the joint to achieve the required adhesion. Fill the prepared joint completely taking care not to entrap air (entrapped air may cause bubbles in the sealant).

To apply Hi-Flex Construction as an adhesive: cut nozzle at 90º angle to the width of the desired bead, then cut a wedge in the nozzle twice the height as the width of the bead. Cut opening in sausage. Insert sausage and nozzle into sausage gun. Hold gun at a 90º angle with nozzle flat on the surface. Dispense the sealant following the nozzle, thus ensuring sealant is standing in place, in a steady continuous triangular bead. Bring the two surfaces together compressing the triangular bead to no less than 2mm ensuring good contact with both sides of the joint to achieve the required adhesion. See drawing G.



Tool off with a moistened spatula to finish the joint smoothly before the skin forms, approximately 5 minutes. While the sealant is still wet, clean off any excess. If joint edges have

Technical Data Sheet

Hi-Flex Construction

MS Polymer Based Hybrid Sealant

Complies with ASTM C920-CLASS 50 & ASTM C1248

been masked, remove tape whilst the sealant is still wet.

If the sealant has dried on the surface, clean with solvent to soften then scrape off with a blade.

The incompatibility of some substrates may cause discolouration of sealant, poor sealant adhesion or long-term degradation of the sealant. Always carry out compatibility tests where contact with potentially incompatible materials occurs.

Masking: It is recommended to use masking tape where neat or exact joint lines are required. Remove the tape within the skin time after finishing.

Coverage

Coverage will vary according to joint width and depth, as well as the type and method of application. The figures below can be used as a guide for:

Adheseal Sealant Calculator			
Joint Size mmXmm	M per ctg	M Per ssg	M per Lt
6 X 6	8.3	16.7	27.78
10 X 6	5.0	10.0	16.67
10 X 10	3.0	6.0	10.00
12 X 12	2.1	4.2	6.94
15 X 8	2.5	5.0	8.33
15 X 15	1.3	2.7	4.44
20 X 10	1.5	3.0	5.00
20 X 20	0.8	1.5	2.50
25 X 12	1.0	2.0	3.33

Adheseal Triangular Sealant Calculator			
Joint Size mmXmm	M per ctg	M Per ssg	M per Lt
5 X 5	24.0	48.0	80.00
10 X 6	10.0	20.0	33.33
10 X 12	5.0	10.0	16.67
10 X 20	3.0	6.0	10.00
10 X 30	2.0	4.0	6.67
10 X 38	1.6	3.2	5.26

Cure Time.

Allow approximately 10 minutes skin time, cure time 3mm per 24 hours from surfaces exposed to atmosphere @25dg & 50% humidity. Please note all cure times vary depending on atmospheric conditions and porosity of the substrate.

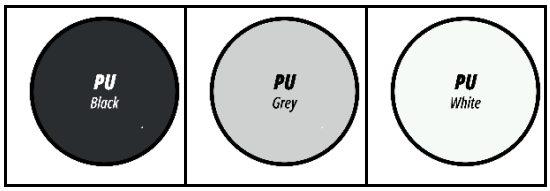
Clean Up.

While the product is still wet, tools and spills can be cleaned with Xylene. Cured product can be removed by mechanical means.

For cleaning skin use Adheseal Hand Wipes.

Colours

White (9003) HIFLEX60WH/SSG
Grey (7047) HIFLEXCONGR/SSG
Black (9011) HIFLEXCONBL/SSG
Number in brackets indicates closest RAL colour.



Packaging

600ml Sausage

Note:

Before application, refer to all relevant TDS's and SDS's detailed product specifications & application instructions.

Adheseal B.A.T. Program (Bond Adhesion Testing) Program.

For over 15 years Adheseal has offered a service in which a program has been established to help eliminate potential site problems by pre-testing Adheseal sealants and adhesives with most building materials to which our Sealants and adhesives are applied.

This service is available for projects where pre-installation testing of our products will aid in determining the best application methodology achieve optimum adhesion. Contact your Adheseal representative for further information.

Technical Data Sheet

Hi-Flex Construction

MS Polymer Based Hybrid Sealant

Complies with ASTM C920-CLASS 50 & ASTM C1248

Physical Properties

Type of product	MS Polymer
Curing system	Neutral
Density (specific gravity)	1.45 +/- 0.05 ASTM D1475
Consistency	Non Sagging Paste
Elongation at break	1100% approx. ASTM D412
Application temperature	5°c to 40°c
Service temperature	-40°c to 100°c
Movement Capability	+/— 50% ASTM C719
Hardness Shore A	25 approx. ASTM D2240
VOC	1.10% (USEPA)
Shelf life	12 months
Clean up	Xylene, Skin Adheseal citrus wipes
Colours	Matt Grey, Matt Black, White
Staining	non staining as per - ASTM C510 & ASTM C1248

Specification:

The information contained in this TDS is typical but does not constitute a full specification as conditions and specific requirements may vary from project to project. The instructions should be considered as a minimum requirement. The applicator or contractor must use their skill, knowledge, and experience to carry out additional works as may be necessary to meet the requirements of the project. Specification for specific projects should be sought from the company in writing.

Conditions Of Use and Disclaimer:

The information contained in this TDS is given in good faith based upon our current knowledge and does not imply warranty, express or implied. The information is provided, and the product is sold on the basis that the product is used for its intended purpose and is used in a proper workman like manner in accordance with the instructions of the TDS in suitable and safe working conditions. Under no circumstances will the Company be liable for loss, consequential or otherwise, arising from the use of the product.

Health and Safety

If poisoning occurs, contact a doctor or Poisons Information Centre (Phone Australia 131 126, New Zealand 0800 764 766).
Inhalation: Remove to fresh air. Get medical attention if symptoms persist
Skin Contact: wash with water and soap and rinse thoroughly.
Eye contact: Hold eyes open, flood with water for at least 15 minutes. Seek medical advice.
Ingestion: If swallowed , do not induce vomiting . Seek medical advice. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately.
PPE for First Aiders: Wear gloves, safety glasses. Available information suggests that gloves made from should be suitable for intermittent contact. However, due to variations in glove construction and local conditions, the user should make a final assessment. Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storing or re-using.
Notes to physician: Treat symptomatically.

Brisbane North	**26 Wolverhampton St, Stafford QLD 4053**	**PH (07) 3356 0000**	**Email sales@adheseal.com.au**
Brisbane South	**8 Moss St, Slacks Creek**	**PH (07) 3356 0000**	**Email slacks@adheseal.com.au**
Sunshine Coast	**18 Kessling Ave, Kunda Park QLD 4556**	**PH (07) 5447 0022**	**Email sc@adheseal.com.au**
Gold Coast	**12 Distribution AV Molendinar QLD 4214**	**PH (07) 5681 1111**	**Email gc@adheseal.com.au**
Toowoomba	**Mobile on the Darling Downs**	**PH 0427 006 548**	**Email darlingdowns@adheseal.com.au**

web: www.adheseal.com.au