

**“ partners in progress
producing customised solutions for the
bus, truck & rail industries “**

Dow Automotive was formed as a business group of the Dow Chemical Company in 1988, and in 1999 became Dow's first industry-focused business unit.

At the same time, Essex Speciality Products Inc., a wholly owned subsidiary of The Dow Chemical Company, was also integrated into Dow Automotive. In January 2001, Dow Automotive acquired Gurit-Essex AG (pioneers of direct glazing technology) and its business groups, which like Essex and its other global affiliates, has served the automotive industry since 1960.



With a product portfolio including polypropylene, nylon, ABS, polycarbonate, SAN, crystalline polymers, thermoplastic urethanes, adhesive films, engineering plastic blends, polyurethane and vinyl ester resins, Dow Automotive are major suppliers of materials, parts modules & systems for the automotive industry. With the integration of Essex & Gurit-Essex this portfolio is extended to glass bonding systems, structural adhesives, reinforcing composites, sealer systems acoustical/structural foams & acoustical damping systems.

As one of the leading manufacturers and distributors to the commercial vehicle body-building and associated industries, Albert Jagger can combine considerable experience gained supplying polyurethanes with Dow Automotive's knowledge of bonding adhesives/sealants to offer an unprecedented partnership supplying superior products and systems.



We are also able to provide extensive laboratory facilities where applications engineers can determine the suitable adhesive or sealing material along with the relative pre-treatment stages. The material can then be supplied in the usual cartridges and sausages, or if required, in the larger 22 litre or 200 litre drums. Thus offering a complete product range complimented by an extensive system of applicators, both manual and automated.



SYSTEM SELECTION

	Steel - mild	Steel - galvanised	Steel - powder coat	Steel - paint	Steel - stainless	Aluminium	Glass - plain	Glass - ceramic frit	Fibreglass	GRP	ABS	Polycarbonate	Plywood
Abrade							
Betaclean 3350					
Betaclean 3900			
Betaclean 3300								...					
Betaprime 1707							
Betaprime 5500				
Betaprime 5004							...*	...					
Betamate 7120
Betamate 7185
Betalink 1102
Betaseal 1407
Betamate 2700

* - To ensure sufficient UV protection, it is advisable to fit additional protective cover strips.

The information shown above is for guidance only & implies no liability as to the usage of the product listed. Since the applications, utilisation & processing of the products are beyond our control, the information given is not intended to replace individual trials with the product to establish their suitability for specific applications.

Seam Sealants/Adhesives - BETAFILL™

fill & seal in one operation

BETAFILL™ seam sealants from Dow Automotive provide factory standard products for sealing, filling and for bonding lightweight materials. Available in black, grey and white, these single component, moisture curing polyurethanes provide permanent elasticity and good adhesion to a wide variety of different substrates.

Applied using either manual or pneumatic guns, **BETAFILL™** sealants can be abraded once cured and are over-paintable with most systems.

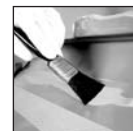
To guarantee a permanent bond the use of the **BETACLEAN™** range of cleaners is recommended when applying **BETAFILL™** to ensure all surfaces are dry, and free from dirt, grease and oil.

On certain substrates the use of wipes, cleaners and primers is required but **BETAFILL™** can be applied primerless on:

- Coated sheet steel
- Glass reinforced plastic (GRP)
- Polyurethane (PUR, PUR-RIM)
- Polycarbonate (PC)
- PUR plasticised, PUR hard
- PVC
- Wood

Typically used on light commercial vehicle, heavy truck, recreational vehicle, bus, coach and many other industrial applications for:

- Internal seam joints between panels
- Seam sealing on GRP roof panels
- Sealing aluminium fabrications
- Gap filling between panels
- Cosmetic finishing of internal/external joints
- Sealing of lightweight construction materials
- Bedding compound to absorb shocks & vibrations
- Sealing of wood, metal, plastic door frames & window fittings
- Bulkhead sealing & door skin fixing
- Wheel arch sealing



Sealing of vehicle body joints and seams provides added protection against corrosion while also protecting interior compartments from dust, dirt and moisture. As well as sealing, **BETAFILL™** sealants also achieve bonding, acoustic, and thermal improvements.

BETAFILL™ 10210, 10211 & 10215



- Polyurethane technology
- Available in black, white & grey
- Flexible body repair - seam sealer, finisher & filler
- Combines medium bonding sealing properties
- Easily abraded
- Over paintable

- **2190/87551** - 310ml cartridge (white)
- **2190/87556** - 600ml sausage (white)
- **2190/87500** - 310ml cartridge (grey)
- **2190/87338** - 600ml sausage (grey)
- **2190/87520** - 310ml cartridge (black)
- **2190/87523** - 600ml sausage (black)

BETAFILL™ 10101



- Polyoxypropylene (POP) technology
- Available in grey only
- Sprayable
- UV stable
- Over-paintable, wet-on-wet
- **2190/87133** - 310ml cartridge (grey)

Dow: Adhesive Sealants

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Adhesive Sealants - BETALINK™ superior sealing solutions

Due to in-built adhesion promoters **BETALINK™ 1102** can be applied to a number of semi-structural bonding and sealing applications with the minimal amount of surface preparation required. A single component, moisture curing, polyurethane **BETALINK™ 1102** from Dow Automotive shows exceptional tolerance to extreme temperatures ranging from -40°C to +80°C with short term resistance up to +120°C (once cured).



Boasting non-conductive properties **BETALINK™ 1102** benefits from permanent elasticity and good non-sag properties. These properties along with its ability to withstand dynamic stress enables excellent gap filling and vibration dampening on applications with multiple substrates. **BETALINK™ 1102** is particularly versatile for bonding side, roof and floor panel applications consisting of:

- Sheet metal
- Aluminium
- Stainless steel
- GRP
- PVC
- Wood



Typically used on commercial vehicle, heavy truck, recreational vehicle, bus, coach, rail and many other industrial applications:

- Body & door panels
- Semi structural members
- Seating structures
- Bulkheads
- Roof sheets to cross members

Applied using either manual or pneumatic guns. Its high viscosity allows easy pumping, a major benefit when using manual hand guns. **BETALINK™ 1102** can be abraded, once cured, and is over-paintable with most systems.

To guarantee a permanent bond the use of the **BETACLEAN™** range of cleaners is recommended when applying **BETALINK™ 1102** to ensure all surfaces are dry, and free from dirt, grease and oil.



The broadest material portfolio developed and proven to perform to stringent automotive OEM standards. Materials offering innovative and functional solutions technology to the global commercial transportation industries.



BETALINK™ 1102



- Polyurethane technology
- Available in white only
- Non conductive
- In built adhesion promoters
- Over paintable
- Easily abraded
- **2190/87206** - 310ml cartridge (white)
- **2190/87210** - 600ml sausage (white)

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Structural Bonding - BETASEAL™ & BETAMATE™ structural enhancement

Utilising advanced polyurethane technology, the **BETASEAL™** & **BETAMATE™** products are single component, high viscosity, structural bonding adhesives, providing high performance adhesion to a vast range of substrates and in simulated tests out-performed conventional methods of mechanical fasteners.

BETASEAL™ & **BETAMATE™** products utilise bonding technology which addresses key design and manufacturing issues particularly within the bus, truck and rail industries leading to improved vehicle durability by:

- Eliminating substrate contact
- Improving rigidity of body structure
- Reducing overall vehicle weight
- Eliminating galvanic corrosion
- Decreasing production times

BETASEAL™ 1407 has been specifically developed to offer users a multi-functional adhesive capable of numerous bonding and sealing applications for vehicle assembly construction. **BETASEAL™ 1407** is easily pumpable at temperatures down to +5°C and its non conductive properties make it ideal for both glass and metal bonding (when combined with an etch primer).

'RAIL APPROVED' **BETAMATE™ 7120** offers engineers and designers alike the opportunity to build structural functionality through glass and glazing units, enabling light-weight construction materials to be utilised throughout the build process.

Significant streamlining of production processes can be achieved through the use of **BETAMATE™ 7185**. High sag resistance along with instant-grab, quick-fix properties, when applied warm, eliminates the necessity of mechanical fixing aids and facilitates faster drive off times.



Bonding of headliners and roof, floor and body panels with structural adhesives improves overall body stiffness and offers protection against corrosion and fatigue normally associated with welding and mechanical fasteners.

BETAMATE™ 7120



- 'Rail' approved
- Fully UV stable
- Non conductive
- High strength polyurethane technology
- Available in black only

- **2190/85108** - 300ml cartridge (black)
- **2190/85470** - 600ml sausage (black)

BETASEAL™ 1407



- High strength polyurethane technology
- Available in black only
- UV resistant
- Non conductive
- Easily extruded
- Bonds dissimilar substrates
- Vibration absorption reduces metal fatigue

- **2190/286529** - 310ml cartridge (black)
- **2190/286530** - 400ml sausage (black)

BETAMATE™ 7185



- High strength polyurethane technology
- Available in black only
- Instant grab when warm applied
- Streamlines production processes
- Bonds dissimilar substrates
- Vibration absorption reduces metal fatigue

- **2190/85813** - 600ml sausage (black)

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Dow: Adhesive Sealants



Through the use of the full range of cleaners, primers and adhesives, including new primerless technologies, vehicle manufacturers are assured of superior direct glazing that improves vehicle structure and provides protection from natural elements such as moisture, temperature variants & UV light.



Direct Glazing - BETASEAL™ & BETAMATE™ advanced bonding technologies

BETASEAL™ & BETAMATE™ glass bonding systems from Dow Automotive are used worldwide for the structural bonding and sealing of stationary glass and help vehicles meet international safety standards for barrier, rollover and roof crush regulations. New technologies include primerless to paint, non-conductive, high modulus and fixture free application of adhesives.



Applied using either manual or pneumatic guns, **BETASEAL™ & BETAMATE™** bonding adhesives offer high tensile strength whilst still maintaining permanent joint elasticity, providing product performance to the toughest OEM specifications.

BETASEAL™ & BETAMATE™ formulations provide a wide range of mechanical properties to suit all vehicle requirements. Formulations developed to be compatible with today's modern production processes and consistently provide the capability to significantly optimise the direct glazing process - saving costs and reducing assembly times.



Moisture curing, single component polyurethanes, **BETASEAL™ & BETAMATE™** structural adhesives have a high modulus content suitable for applications requiring high shear resistance. Benefits include:

- Excellent performance on glass & ceramic substrates
- Compatible with most automotive paint technologies
- Primerless to paint technology
- Improves body structure rigidity
- Reduces overall vehicle weight
- Decreases production times
- High performance to the toughest OEM specifications

Many modern vehicles today incorporate integral antennas into both front and back windscreens. Non-conductive adhesive formulations ensure that radio signals are not compromised. Chemical technology which also reduces contact corrosion, improving bond stability along with vehicle durability.

BETAMATE™ 7120



- 'Rail' approved
- Fully UV stable
- Non conductive
- High strength polyurethane technology
- Available in black only

- **2190/85108** - 300ml cartridge (black)
- **2190/85470** - 600ml sausage (black)

BETASEAL™ 1407



- High strength polyurethane technology
- Available in black only
- UV resistant
- Non conductive
- Easily extruded
- Bonds dissimilar substrates
- Vibration absorption reduces metal fatigue

- **2190/286529** - 310ml cartridge (black)
- **2190/286530** - 400ml sausage (black)

BETAMATE™ 7185



- High strength polyurethane technology
- Available in black only
- Instant grab when warm applied
- Streamlines production processes
- Bonds dissimilar substrates
- Vibration absorption reduces metal fatigue

- **2190/85813** - 600ml sausage (black)

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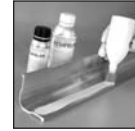
Urethane Primers - **BETAPRIME™** innovative chemical technology

In order to obtain optimum adhesion results the correct surface preparation is imperative. A chemical bond between two separate substrate surfaces is required to guarantee maximum performance from the adhesive compound. Once cleaned, to eliminate any contaminants such as rust, dirt, grease or oils, an adhesion promoter from Dow Automotive's **BETAPRIME™** range of surface primers is used to encourage cross-linking between the substrate and the adhesive compound.

BETAPRIME™ 1707, is a two part, bare metal, etch primer which provides an excellent barrier and protection for corrosion prone areas. Abrasion of all metal substrate surfaces is advisable prior to application in order to physically remove any surface contaminants, particularly rust.

BETAPRIME™ 5404 saves both time and money by simplifying installations and reducing stocked inventory requirements. With a new improved formulae, this single multifunctional primer is used to promote adhesion on a wide variety of substrates ranging from painted metal (including powder coated steelwork) to numerous plastics such as GRP, polycarbonate, fibreglass, perspex, ABS and PVC. Giving a total black out when applied, **BETAPRIME™ 5404** protects any polyurethane, subsequently applied, from the degenerating effects of aggressive UV light; particularly important when using clear substrates such as perspex and acrylics.

BETAPRIME™ 5500 is used for direct glazing applications, where the glass plays an integral part in the vehicles structural integrity. Designed specifically for glass with a ceramic edge, this one-step, black primer chemically prepares glass and frit to assure optimal chemical link with the adhesive. The unique formulation dramatically reduces production process times with its fast drying time (5 minutes minimum) and its ability to prime and re-activate previously applied PU; particularly useful when replacing damaged glass.



Superior strength,
performance
and safety
achieved through
innovative R&D
and chemical science expertise
second to none.

Proven results over years
of success producing advanced
system solutions to stringent OEM
automotive specifications

BETAPRIME™ 1707



- 2 part, grey primer
- Etch primer for bare metals
- 30 minute drying time
- Active for 72 hours
- **2190/218376** - 160ml combined (grey)

BETAPRIME™ 5404



- 1 part, black primer
- For paint & plastic substrates
- 10 minute drying time
- Active for 24 hours
- **2190/40868** - 15ml bottle (black)
- **2190/40806** - 250ml bottle (black)

BETAPRIME™ 5500



- 1 part black primer
- For glass with ceramic edge
- 5 minute drying time
- Active for 24 hours
- Simplified pre-treatment;
prep with Betaclean 3300 only
- **2190/40015** - 15ml bottle (black)
- **2190/40525** - 250ml bottle (black)

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Dow: Adhesive Sealants



A versatile range of cleaners providing a vital component of advanced surface preparation.

From removing dust, dirt, grease and oil to removing excess uncured polyurethane from substrate surfaces or tooling.



Degrease/Clean/Activate - BETACLEAN™ total surface preparation

For effective cross-linking between the substrate and the adhesive compound to take place, it is imperative that meticulous preparation of the substrate surface takes place. Dow Automotive's **BETACLEAN™** range are extremely efficient cleaners for most applications where elimination of all contaminants such as rust, dirt, grease or oil is required to provide a sound surface prior to priming.



BETACLEAN™ 3300, is a light blue, opaque solution containing both isopropanol and demineralised water. Applied via a handy wet/dry wipe or a spray bottle, this versatile, smear free, glass cleaner removes dust, dirt and grease and can be used for the visual inspection of glass quality prior to installation as it readily highlights both fingerprints and imperfections. **BETACLEAN™ 3300** is used primarily in conjunction with **BETAPRIMETM 5500** as part of a one step glass preparation system.

BETACLEAN™ 3350 is a clear, heptane based cleaning solution designed to remove heavy contamination of oil and grease from bare metal substrates. Particularly useful for removing polyurethane residues from both applications and tooling. Typical substrates include:



- Stainless steel
- Galvanised steel
- Copper
- Mild steel
- Aluminium
- Brass

BETACLEAN™ 3900 is a clear, isopropanol cleaner, which ensures substrate surfaces are free from dirt, dust and grease residues such as fingerprints. Recommended for use on:

- Most painted surfaces
- Powder coated steel
- Polycarbonate
- Most plastics
- Fibreglass, GRP, ABS

Designed specifically as a combined cleaner and activator for clear substrates such as glass and plastics (acrylics/perspex). A silane based cleaner, **BETAWIPE™ VP 04604**, activates substrate surfaces prior to application of **BETAPRIME™ 5004**. **BETAWIPE™ VP 04604** is also used to give superior cross linking when applying **BETALINK™ 1102** to substrates such as GRP, aluminium and painted metal.

BETACLEAN™ 3300



- Isopropanol/demineralised water
- 12 month shelf life
- Sprayable
- Smear free, glass cleaner
- 2190/49107 - 25 litre pail
- 2190/227936 - Tap (for 25l pail)
- 2190/49110 - Satchet (tissues)

BETACLEAN™ 3350



- Heptane solution
- 1 month open time
- Wipe on/wipe off
- Suitable for bare metal substrates
- 2190/79150 - 1 litre bottle

BETACLEAN™ 3900



- Isopropanol solution
- 1 month open time
- Wipe on/wipe off
- Suitable for most plastics & painted metal substrates.
- 2190/79110 - 1 litre bottle

BETAWIPE™ VP 04604



- Silane solution
- 5 day open time
- Active for 24 hours
- 2 minute drying time
- 2190/40151 - 250ml bottle
- 2190/40654 - 15ml bottle
- 2190/40641 - 1 litre bottle

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Consumables



CONSUMABLES	
<i>Applicators</i>	
2190/20010	100 ml, plastic applicator bottle
2190/20011	200 ml plastic applicator bottle
2190/60018	Plastic cap for applicator bottle
2190/60024	Felt pad for applicator bottle
2190/60041	Wire mounted, felt applicator pad
2190/15010	Uncut cartridge nozzle
2190/60003	Pre-cut cartridge nozzle
2190/60228	Pre-cut sausage nozzle

Ancillary



ANCILLARY PRODUCTS	
<i>SLIG Hand cleaner</i>	
2190/79200	250 ml tube
2190/79208	2 litre dispenser pack
2190/26180	2 litre dispenser unit



2189/240	240v HEATER <i>For use with BETAMATE 7185. Holds 4 x 600ml sausages</i>
2189/110	110v HEATER <i>For use with BETAMATE 7185. Holds 4 x 600ml sausages</i>

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FASTENERS, ADHESIVES & SEALANTS