

OEM REFERENCES

DINITROL WINDSCREEN ADHESIVES

The OEM's complete system for the repair market



YOUR **BONDING** AND **SEALING** SPECIALIST

We want to make mobility and transport safer and more durable for people. That is what drives us forwards. To achieve this aim, there is only one solution: quality!

DINITROL's windscreen adhesive systems are based on more than 50 years of knowledge and experience. Whether provided in bulk for OEM application processes or in smaller batches for the repair market, our windscreen adhesives not only meet OEM specifications, they are also OEM-approved and used materials, and they meet all FMVSS standards and safety requirements for windscreen bonding.

All DINITROL adhesives and pre-treatment products are manufactured, documented and regularly audited in accordance with our quality assurance procedures. Our management system is based on the European model for comprehensive quality management, which includes the elements EN ISO 9001, ISO/TS 16949 and EN ISO 14001. Our production sites, training provision and laboratory tests are continuously evaluated on this basis.

Our products are registered with the various chemicals inventories around the world, e.g. Reach, Australia (AICS), Turkey (CIRC/KKDIK), Canada (DSL), China (IECSC), Japan (ENCS), Korea (ECL), New Zealand (NZIOC), the Philippines (PICCS), Switzerland (New Substance Notification), Taiwan (TCSI), Thailand (TECI) and the USA (TSCA). Our Research & Development department is working today on the solutions of tomorrow so that we can continue to provide you with environmentally responsible high-tech solutions for your field in the future.



WINDSCREEN ADHESIVES IN AUTOMOBILE MANUFACTURE

A story of success that sets new standards. How our high-modulus and low-conductive adhesives conquered the automotive market.

The development of direct glazing began in the USA in the early 1960s. Windscreens were getting bigger and bigger, and it was no longer possible to hold them firmly enough in the bodywork with rubber frames.

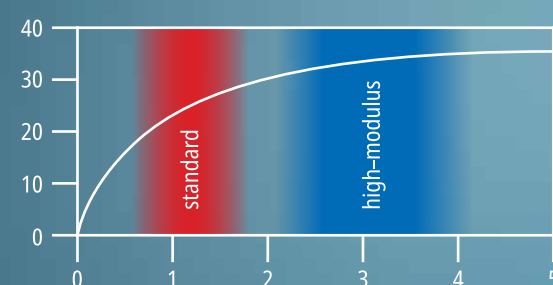
Safety regulations later made it necessary to bond windscreens. As a result of the oil crisis in the 1970s and the resulting high fuel prices, the focus turned to optimising cw-values. Adhesives technology made an important contribution in the area of windscreen installation, and finally achieved its breakthrough.

By now, almost all European car manufacturers have adopted windscreen bonding. Bonding using polyurethane systems set new benchmarks and is now the well-established standard.

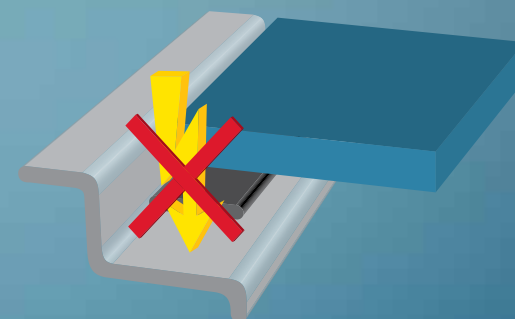
Through the use of high-modulus adhesives, the natural sturdiness of glass can be optimally used and the torsion rigidity of the vehicle increases by more than 15%. Car windows can thereby be incorporated into the vehicle design as a structural element. This results in better handling characteristics and improved driving comfort.

It is becoming increasingly common to have the aerals integrated into the front and back windscreens. These are set close to the edge of the windscreen for aesthetic reasons.

Even if the aerial comes into contact with one of our low-conductive adhesives, the radio waves and reception remain unaffected. Contact corrosion in aluminium vehicles is also prevented. Our adhesives thereby contribute to value retention, and the torsion rigidity of the vehicles is increased by up to 40 %.



Increase in the torsion rigidity with shear modulus (DIN 54451)



Use of low-conductive windscreen adhesive

CHOOSE THE RIGHT ADHESIVE SYSTEM WITH CONFIDENCE

Our DINITROL windscreen adhesive systems therefore meet the requirements of automotive manufacturers when it comes to repairs. Furthermore, all DINITROL adhesives used are crash-tested in accordance with FMVSS 212.



Here you'll find your recommended **DINITROL reference adhesive**:
<http://www.dinitrol.com/oem-referenzsuche/?lang=en>

Our windscreen adhesive makes a key contribution to safety:

- The windscreen, which is bonded to the bodywork with the windscreen adhesive, has to absorb the impact force in a crash or accident.
- Windscreens installed using high-modulus DINITROL windscreen adhesives significantly increase the torsion rigidity of the vehicle body.
- The windscreen helps the airbag to open properly. To do so, when the airbag is triggered, the securely bonded windscreen must remain in the frame after the crash.
- After impact, the laminated safety glass that is held in place by the PU adhesive protects the passenger from being hurled out.



Moreover, the professional use of the DINITROL system when installing windscreens prevents leaks and stops the windscreen from slipping after bonding. Because of its excellent strength build-up, the adhesive system bolsters the windscreen's holding force and, through its special module, also ensures the long-term durability of the bodywork in combination with the windscreen against various torsion forces.

Available upon request:

- Pre-treatment tables
- Instruction sheets

The technical datasheets and safety datasheets of the products can be downloaded in our download area.

www.dinitrol.com/download-area



You'll find our **application video here**:
www.dinitrol.com/agr



NEW

BONDING AND SEALING

DINITROL 501 FC-HM

Moisture-reactive 1-component polyurethane adhesive

DINITROL 501 FC-HM is used together with the corresponding primer for the replacement of windscreens.

Advantages

- ✓ High modulus and low conductive
- ✓ Solvent- and PVC-free
- ✓ Excellent coverage and holding properties
- ✓ Increase in body torsion rigidity of 30–50%
- ✓ Crash test carried out in accordance with FMVSS 212
- ✓ Simple positioning – windscreens do not slip out

Drive-away time

- without airbag: 1 h
- with double airbag: 1 h

Item no.	Size	Container	Colour
12067	310 ml	Cartridge	Black
12126	400 ml	Foil bag	Black
12068	600 ml	Foil bag	Black
12618	25 kg	Hobbock	Black

BONDING AND SEALING

DINITROL 9100

Moisture-curing 1-component polyurethane windscreen adhesive

DINITROL 9100 is used in conjunction with the corresponding pre-treatment for the replacement of windscreens.

Advantages

- ✓ High modulus and low conductive
- ✓ Outstanding coverage and holding properties
- ✓ Simple positioning – windscreens do not slip out
- ✓ Solvent- and PVC-free
- ✓ Increase in body torsion rigidity of 30–50%

Drive-away time

- without airbag: 30 min.
- with double airbag: 30 min.

Item no.	Size	Container	Colour
12485	310 ml	Cartridge	Black
12492	400 ml	Foil bag	Black
12493	600 ml	Foil bag	Black

BONDING AND SEALING

DINITROL 9200

Moisture-curing 1-component polyurethane windscreen adhesive

DINITROL 9200 is designed to be used in conjunction with the recommended DINITROL pre-treatment agent for the replacement of windscreens.

Advantages

- ✓ High modulus and low conductive
- ✓ Outstanding coverage and holding properties
- ✓ Simple positioning – windscreens do not slip out
- ✓ Solvent- and PVC-free
- ✓ Increase in body torsion rigidity of 40–60%

Drive-away time

- without airbag: 30 min.
- with double airbag: 30 min.

Item no.	Size	Container	Colour
12572	310 ml	Cartridge	Black

BONDING AND SEALING

DINITROL 512 2K HM

2-component polyurethane adhesive

The 2-component polyurethane adhesive DINITROL 512 2K HM was designed for replacement glazing in which fast drive-away times are required. Unlike typical 1-component sealants & adhesives, this product's reaction does not depend on humidity.

Advantages

- ✓ Excellent adhesion to top coats
- ✓ Short pot life
- ✓ Odourless
- ✓ PVC-free
- ✓ High modulus and low conductive
- ✓ Resistant to ageing and weathering

Drive-away time

- without airbag: 30 min.
- with double airbag: 1 h

Item no.	Size	Container	Colour
12070	400 ml	Cartridge	Black

BONDING AND SEALING

DINITROL 516 A/F

High Performance 2-C Windscreen Adhesive

DINITROL 516 A/F is an accelerated polyurethane adhesive for the direct glazing of car windscreens. The 2-component adhesive system consists of the black, moisture-curing polyurethane adhesive DINITROL 516 A and the accelerating paste DINITROL 516 F.

Advantages

- ✓ Fast, controlled strength build-up
- ✓ No formation of CO2 bubbles
- ✓ Secure adherence to a variety of materials with the DINITROL system
- ✓ Good holding properties
- ✓ Solvent- and PVC-free
- ✓ Resistant to ageing and weathering

Drive-away time:

- Windscreens with sensors 1 h
- Windscreens without sensors 30 min.

Item no.	Size	Container	Colour
12715	490 ml	Cartridge	Black



More products at:

<http://www.dinitrol.com/produktkatalog/?lang=en>

	DINITROL 501 FC-HM	DINITROL 9100	DINITROL 9200
Binding agent	Polyurethane prepolymers	Polyurethane prepolymer	Polyurethane prepolymers
Colour/consistency	black paste	black	black paste
Hardening mechanism	moisture-curing	Paste	moisture-curing
Density (DIN 53217-4)	approx. 1,200 kg/m³	approx. 1,130 kg/m³	approx. 1,130 kg/m³
Stability	Excellent	Excellent	Excellent
Processing temperature	10°C–40°C (product)	15°C–35°C	20°C–45°C
Skin formation time¹	approx. 20 min.	approx. 12–15 min.	approx. 11–15 min.
Open time¹	approx. 15 min.	approx. 13 min.	approx. 13 min.
Curing	approx. 3–4 mm/24 h	approx. 3.5–4 mm/24 h	approx. 3.5–4 mm/24 h
Shore A hardness (DIN 53505)	approx. 65–75	approx. 61	approx. 61
Tensile strength (DIN 53504)	approx. 11 MPa	approx. 10 MPa	approx. 10 MPa
Elongation at break (DIN 53504)	approx. 400%	500%	approx. 500%
Tear strength (DIN 53515)	approx. 11 N/mm	approx. 12 N/mm	approx. 12 N/mm
Tensile shearing strength (DIN EN 1465)	approx. 9 MPa	approx. 7 MPa	approx. 8 MPa
Shear modulus (DIN 54451)	approx. 2.5 MPa	approx. 2.5 MPa	approx. 2.7 MPa
Volume resistivity (DIN 60093)	approx. 10⁶ Ωcm	approx. 10⁷ Ωcm	approx. 10⁷ Ωcm
Glass transition temperature	approx. -40°C	approx. -40°C	approx. -40°C
Temperature resistance	<80°C short-term (approx. 1 h): <120°C	<80°C <120°C	<80°C to 120°C (approx. 1 h)
Shelf life (storage <25°C) (FMVSS 212/208)	Cartridge/bag: 12 months Barrel/hobbock: 6 months	Cartridge/bag: 12 months Barrel/hobbock: 6 months	Cartridge/bag: 12 months
Time until vehicle (car) can be used again¹ (FMVSS 212/208)	without airbag: 1 h with double airbag: 1 h	without airbag: 30 min. with double airbag: 30 min.	without airbag: 30 min. with double airbag: 30 min.
Available in	310 ml cartridges, 400 ml & 600 ml foil bags 20 L buckets	310 ml cartridges, 400 ml & 600 ml foil bags	310 ml cartridges

DINITROL 512 2K HM	
Appearance/colour	A comp.: black/ B comp.: black
Mixing ratio	1 : 1
Density (DIN 53217-4)	approx. 1,200 kg/m³
Stability	good, subject to conditions
Processing temperature	10°C–35°C (product)
Pot life¹	approx. 8–12 min.
Shore A hardness (DIN 53505)	approx. 75
Tensile strength (DIN 53504)	approx. 5 MPa
Elongation at break (DIN 53504)	approx. 200%
Tear strength (DIN 53515)	approx. 6 N/mm
Tensile shearing strength (DIN EN 1465)	approx. 5–6 MPa
Shear modulus (DIN 54451)	approx. 3.0 MPa
Volume resistivity (DIN 60093)	approx. 10⁹ Ωcm
Glass transition temperature	approx. -40°C
Temperature resistance	<80°C short-term (approx. 1 h): <120°C
Shelf life (storage <25°C)	PE cartridge: 12 months
Time until vehicle (car) can be used again¹ (FMVSS 212/208)	without airbag: 30 min. with double airbag: 1 h
Available in	400 ml PE double cartridge, 25 L buckets

DINITROL 516 A/F		
Dinitrol 516 A		reactive polyurethane
Colour/consistency		black paste
Density		approx. 1.22 g/cm3
Dinitrol 516 F		reactive paste
Appearance		white paste
Density		approx. 1.45 g/cm3
Density at 20°C		approx. 1.22 g/cm3
Mixing ratio		100 : 10 / 516 A : 516 F (V/V)
DINITROL 516A / 516F		
Stability		Excellent
Processing time		approx. 12 minutes
Processing temperature		15°C–35°C
Shore A hardness (DIN 53505)		approx. 55
Tensile strength (DIN 53504)		approx. 8 MPa
Elongation at break (DIN 53504)		>350%
Tensile shearing strength (DIN EN 1465)		approx. 6 MPa
Tensile shearing strength after 1 h (DIN EN 1465)		approx. 2 MPa
Shear modulus (DIN 54451)		approx. 1.3 MPa
Volume resistivity (DIN 60093)		approx. 10 ⁶ Ωcm
Glass transition temperature		approx. -50°C
Temperature resistance	longer-term	<90°C
	short-term (approx. 1 h)	<130°C
Shelf life (storage below 25°C): tubular bags/PE tube/hobbock/PE cartridges		9 months

PRE-TREATMENT CLEANING AGENTS



INTENSIVE CLEANING AGENT

DINITROL 7250

Highly effective cleaning foam

Advantages

- ✓ Removes soiling without streaks or residues
- ✓ Simple, fast cleaning



TRANS-
PARENT

TECHNICAL DATA	
Base	alcohol solubilising agent and wetting agent
Colour	colourless/transparent
Density	0.94 g/ml
Aerosol flash point	<-19°C
Active ingredient flash point	>21°C
Propellant gas	Propane/butane
Storage	cool and dry
Storage period	24 months
Hazard warning	highly flammable

Item no.	Size	Container	Colour
15031	400 ml	Spray can	Transparent



INTENSIVE CLEANING AGENT

DINITROL 580 SPECTRUM CLEANER

Transparent, quickly drying cleaning agent for heavily soiled surfaces

Advantages

- ✓ Excellent cleaning agent that supports the bonding of DINITROL adhesives
- ✓ Cleaning of heavily soiled surfaces without residue
- ✓ Supports long-term safety when using DINITROL adhesives



TRANS-
PARENT

TECHNICAL DATA			
Base	Isopropanol		
Colour	clear/transparent		
Specific density (20°C)	0.785 kg/L		
Flash point	approx. 13°C		
Drying time (20°C)	approx. 3 minutes		

Item no.	Size	Container	Colour
12581	1 L	Can	Transparent



INTENSIVE CLEANING AGENT

DINITROL 582 SPECIAL CLEANER

Quickly drying special cleaning agent for heavily soiled surfaces

Advantages

- ✓ Excellent cleaning agent that supports the bonding of the DINITROL adhesive system
- ✓ Cleaning of heavily soiled surfaces without residue
- ✓ Supports long-term safety when using DINITROL adhesives



TRANS-
PARENT

TECHNICAL DATA	
Base	aliphatic hydrocarbons
Colour	clear/transparent
Density	0.72 g/ml
Flash point	<-4°C
Boiling range	95–100°C
Available in	1 & 5 L, bag for single use

Item no.	Size	Container	Colour
12044	1 L	Can	Transparent
12145	5 L	Canister	Transparent



PRE-TREATMENT ACTIVATOR



GLASS ACTIVATOR

DINITROL 520

Glass activator for pre-treatment when replacing automotive glass



TRANS-
PARENT

Advantages

- ✓ Cleaning agent for bonding surfaces
- ✓ Outstanding adhesion promoter for the replacement of windscreens (together with DINITROL 530) and on metal and plastic (together with DINITROL 550)
- ✓ Supports the long-term safety of windscreens with DINITROL adhesives

TECHNICAL DATA	
Chemical base	solvent-containing adhesion promoter
Drying time	approx. 5 min.*
Viscosity Brookfield	1–5 Pas
Density, 23°C	800 ± 30 kg/m ³
Application method	Cloth/paper
Processing temperature	+5°C–40°C
Flash point	<21°C
Air drying time	min. 10 minutes*
Consumption	max. 24 hours, ca. 50 g/m ²
Shelf life	12 months

Item no.	Size	Container	Colour
12020	250 ml	Bottle	Transparent
15031	400 ml	Spray can	Transparent
12025	1 L	Can	Transparent



PU REACTIVATOR

DINITROL 540 PU REACTIVATOR

Solvent-based, physically and reactively drying activator



TRANS-
PARENT

Advantages

- ✓ Cleaning agent for bonding surfaces
- ✓ Outstanding adhesion promoter for the replacement of windscreens (together with DINITROL 530) and on metal and plastic (together with DINITROL 550)
- ✓ Supports the long-term safety of windscreens with DINITROL adhesives

TECHNICAL DATA	
Chemical base	Reactive polyurethane adducts
Drying time	approx. 5 minutes (23°C/50% RF)
Viscosity Brookfield	1–5 mPas
Density, 23°C	900 ± 30 kg/m ³
Application method	Cloth, brush, felt applicator
Processing temperature	+5°C–40°C
Flash point	<21°C
Air drying time	min. 10 minutes, max. 24 hours
Shelf life (storage below 25°C)	12 months

Item no.	Size	Container	Colour
12043	30 ml	Bottle	Transparent
12135	100 ml	Bottle	Transparent



PRE-TREATMENT PRIMER



ONE-STEP PRIMER

DINITROL 538 PLUS

One-step primer for use with all DINITROL polyurethane adhesives

Advantages

- ✓ One-step primer for ceramic coating
- ✓ Pre-treatment of RIM and paints
- ✓ Long-term primer (no reaction within 3 months)
- ✓ Rust-proofing for small scratches in paint
- ✓ Compatible with all DINITROL polyurethane adhesives



BLACK

TECHNICAL DATA	
Chemical base	Reactive polyurethane adducts
Viscosity Brookfield	5–15 mPas
Density, 23°C	910 ± 20 kg/m ³
Processing temperature	+5°C–40°C
Application method	Felt/brush
Consumption	approx. 150 g/m ²
Flash point	<21°C
Air drying time	min. 5 minutes*, max. 72 hours
Solid content	28 ± 2%
Drying time	>5 min.*
Shelf life	12 months
Adhesion with PU adhesives on the ceramic coating:	
• with activator	good
• without activator	good
Adhesion with PU adhesives on:	
• paints	good
• RIM and trimmed bead	good

Item no.	Size	Container	Colour
12349	10 ml	Stick	Black
12404	30 ml	Bottle	Black
12341	100 ml	Bottle	Black
12694	250 ml	Bottle	Black



BLACK PRIMER

DINITROL 530

Black primer for pre-treatment when replacing automotive glass; promotes bonding between glass (in combination with the activator DINITROL 520), paint and windscreen adhesive.

Advantages

- ✓ Compatible with the DINITROL PU adhesives
- ✓ Rust-proofing for small scratches in paint
- ✓ In conjunction with the DINITROL adhesive system and additional long-term safety



BLACK

TECHNICAL DATA	
Chemical base	Reactive polyurethane adducts
Drying time	approx. 5 min.*
Solid content	33 ± 2%
Viscosity Brookfield	17–25 mPas
Density, 23°C	990 ± 20 kg/m ³
Application method	Brush/felt
Processing temperature	+5°C–40°C
Flash point	<21°C
Air drying time	min. 10 minutes*, max. 72 hours
Consumption	approx. 150 g/m ²
Shelf life	12 months

Item no.	Size	Container	Colour
12023	30 ml	Bottle	Black
12030	100 ml	Bottle	Black
12026	250 ml	Bottle	Black
12133	1 L	Bottle	Black



BLACK PRIMER

DINITROL 550

Black multi-primer for the pre-treatment of various metals and plastics. DINITROL 550 is used in combination with the activator DINITROL 520, which promotes bonding between the substrate and the adhesive.

Advantages

- ✓ Adhesion promoter for various paints, metals and plastics
- ✓ Compatible with the DINITROL PU adhesives
- ✓ Supports long-term safety in combination with DINITROL adhesives



BLACK

TECHNICAL DATA	
Chemical base	Reactive polyurethane adducts
Drying time	>5 min.*
Solid content	35 ± 2%
Viscosity Brookfield	15–25 mPas
Density, 23°C	980 ± 20 kg/m ³
Application method	Brush/felt
Processing temperature	+5°C–40°C
Flash point	<21°C
Air drying time	min. 10 minutes, max. 24 hours
Consumption	approx. 150 g/m ²
Shelf life	12 months

Item no.	Size	Container	Colour
12137	30 ml	Bottle	Black
12138	250 ml	Bottle	Black
12139	1 L	Bottle	Black

DINITROL®



THE QUALITY SOLUTION

dinitrol.com



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dinitrol.shop

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