



U-SEAL 501

One-part polyurethane elastic adhesive and sealant for vehicle construction and repair

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Description

U-SEAL 501 is a one-part, very fast curing, polyurethane elastic adhesive and sealant designed for car body construction and repair which cures on exposure to atmospheric moisture. Specifically developed to meet the car industry requirements, thanks to its balanced viscosity the product can easily be brushed and tooled in order to match the original brush mark. Once cured, the products reach high levels of hardness that gives a first equipment appearance to the material.

Areas of Application

U-SEAL 501 is suitable for sealing, seam sealing (welded seams, lap panels in all internal vehicle bodywork and painted sheet metals which includes the reproduction of original brush marks and seam sealing), simple bonding as well as for vibration reduction and sound deadening measures in car body repair and car body construction. Suitable substrates are metals, metal primers and paint coatings (2-c systems), painted plastics.

Advantages

- Very fast skinning and curing time
- Over-paintable, even in a short time, with many water and solvent based paints (preliminary tests recommended)
- Can be easily tooled, brushed and smoothed
- Capable of withstanding high dynamic stresses
- Bonds and seals at the same time
- Wide spectrum of adhesion
- Permanently flexible
- Vibration and sound dampening properties



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NEW POLYURETHANE TECHNOLOGIES

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Technical data

Appearance	Thixotropic paste
Colour	White, Grey, Black
Chemical nature	Polyurethane
Curing Mechanism	Moisture-curing
Curing through volume [mm] (1 day at 23°C and 50% r.h.)	ca. 3,6
Non-sag properties	good
Shore A (23°C and 50% r.h.; DIN 53505)	ca. 55
Density [g/cc] (23°C and 50% r.h.)	ca. 1,27
Tack-free time [min] (23°C and 50% r.h.)	ca. 20
Tensile strength [N/mm²] (ISO 37 DIN 53504)	ca. 2,3
Elongation [%] (ISO 37 DIN 53504)	ca. 250
Application temperature [°C]	from +5 to +40
Temperature Resistance [°C]	-40/+90 with brief point at 120



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Application

Surface preparation

Pre-test substrates for adhesion. Cleaners and/or primers may be required to achieve optimal adhesion. As a rule, the substrates must be prepared in accordance with the NPT instructions; technical guidance regarding adhesion on specific surfaces may be obtained by submitting substrate samples for analysis to our laboratories. Surfaces must be clean, dry, free of water, oil, grease or rust and of sound quality. Remove all loose particles or residues with a jet of compressed air, sandpaper or hard brush. Glass, metal and other non-porous surfaces must be free of any coatings and wiped clean with solvent.

Pierce through the protective membrane in the front threaded section. Screw on the plastic nozzle and cut it at an angle according to the desired bead thickness and profile. Fit the cartridge into a manual or pneumatic air operated gun (provided with telescopic piston) and extrude the adhesive/sealant carefully preventing air entrapment. Once opened, packs should be used up within a relatively short time.

The optimum operating temperature for both substrate and sealant is between 15°C and 25°C.

Chemical Resistance

Long term resistance to fresh water, seawater, lime water and cleaning agents. Short term resistance to petrol, grease and mineral oil. Not resistant to organic acids, concentrated mineral acids, pool water, caustic solutions or solvents. This information is offered for general guidance only. Advice on specific applications will be given on request.

Finishing indications and limitations

Tooling and finishing must be carried out within the tack-free time of the sealant.

U-SEAL 501 can be over-painted. The paint must be tested for compatibility by carrying out preliminary trials. Attention must be observed with the use of alcohol or alkyd-resin since they may interfere with the curing process of the sealant and reduce the drying time of the paint itself. It should be understood that the hardness and film thickness of the paint may impair the elasticity of the sealant and lead to cracking of the paint film.

Avoid exposure to high levels of chlorine (avoid sealing joints in chlorinated swimming pools). Do not cure in the presence of curing silicone sealants. Avoid contact with alcohol and other solvent cleaners during cure. When applying sealant, avoid air-entrapment. Since system is moisture-cured, permit sufficient exposure to air. Bonded elements may require additional holding or support during curing period.



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Cleaning of equipment

Clean tools with acetone or alcohol immediately after use. Cured material can only be removed mechanically.

Packaging

Alu-cartridge 310ml:	12 cartridges per box
Alu-PE bags 600 ml.:	20 bags per box
Alu-PE bags 400 ml.:	12 bags per box (on request)

Storage

U-SEAL 501 can be stored for 12 months in its original packaging (unopened container) at 10°- 25°C in a cool, dry place. The storage temperature should not exceed 25°C for extended periods of time. Keep away from wet areas, direct sunlight and heat sources.

General Information

The information contained in this technical data sheet is to the best of our knowledge correct, being based on our knowledge and experience to date and cannot be used as a guarantee, due to the various different materials present on the market and the fact that the application conditions are not under our direct control and supervision. NPT srl, however, guarantees constant product quality. NPT srl, has the right to modify or up-date this technical data sheet according to requirements. Customers are kindly requested to verify that they are in possession of the latest version.

ALWAYS CONSULT THE MATERIAL SAFETY DATA SHEET BEFORE USING THE PRODUCT.



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