

TEROSON PU 1511

September 2016

PRODUCT DESCRIPTION

Technology	1c-Polyurethane Encapsulated Isocyanate
Product Type	Adhesive
Additional Function	Solvent free Thermosetting

TEROSON PU 1511 is a one-component, thermosetting adhesive based on encapsulated isocyanate. Curing requires temperatures above 90 °C inside the adhesive, at lower temperatures it is incomplete or will not happen at all. Already after 30 seconds the products is solidified and achieves between 60 and 80 % of its final strength, provided that the heat acts throughout the whole adhesive sheet.

APPLICATION AREAS

TEROSON PU 1511 is used for bonding of primed respectively painted metal parts, i.e. modules in the automotive or commercial vehicle industry. Also high-strength plastics, as for instance fiber reinforced composites (GFRP, CFRP etc.) are possible substrates. It is recommended to test the suitability in advance.

TECHNICAL DATA (Typical Test Results)

Colour:	black
Density:	approx. 1.35 g/cm ³
Solids:	approx. 99 %
Consistency:	paste
Rheological characteristics	
Equipment:	Physica MCR 302
Viscosity:	100 to 300 Pa.s
Yield Point (Casson):	300 to 800 Pa
Tensile strength (DIN 53504)	approx. 10 MPa
Elongation at break (DIN 53504)	approx. 200 %
Lap Shear Strength (30min. 100°C)	approx. 8 MPa thickness 1mm
Shore-A-hardness: (30 min. 100°C)	approx. 87
Curing temperatures:	Curing possible between 90 and 150 °C
Application temperature:	18 °C to 35 °C at lower storage temperatures make sure that the containers are brought to application temperature in time, prior to application
Open Time: (DIN 50014 standard climate 23°C, 50% r.h.)	3 h
In service temperature range:	-40 to 100 °C

Temperature resistance:

Short exposure (up to 1h) 150 °C

PRELIMINARY STATEMENT

Prior to application it is necessary to read the Safety Data Sheet for information about precautionary measures and safety recommendations. Also, for chemical products exempt from compulsory labeling, the relevant precautions should always be observed.

DIRECTIONS OF USE

Pretreatment

The parts to be bonded must be free from oil, grease, moisture, dirt and release agents. From the Henkel portfolio for example TEROSON PU 8550 or TEROSON VR 20 can be used as cleaners. In the case of plastics a flame pre-treatment like plasma or corona can be necessary to ensure good adhesion of TEROSON PU 1511 to the substrate. Occasionally usage of a primer is also an option.

APPLICATION

Packaging and inliner shall be opened directly before use. If the material cannot be consumed rapidly, the following measures have to be regarded:

- The packaging must be covered tightly by the follower plate.
- In case of longer breaks (more than 60 minutes downtime without material consumption) a complete pressure relief and, on heated parts of the system, a temperature switch-off has to be carried out.
- The recommended storage temperature (10°C to 30°C) has to be maintained.

In addition, after a longer stoppage (i.e. after weekends) the equipment must be rinsed sufficiently with fresh material.

In consideration of these measures a package can remain under the equipment up to maximum 2 months after opening, but at most until end of its shelf life.

TEROSON PU 1511 is applied with piston type pumps with a compression ratio of minimum 48:1, equipped with follower plate and over-stroke alert. Due to the high reactivity of the product, not more than 6 strokes / minute shall be allowed. Hydraulically or electrically driven piston dosing systems are recommended for the dosing. In case of alternative dosing units preliminary suitability tests have to be conducted.

All parts of the equipment which can get in contact with TEROSON PU 1511 must be made of stainless steel grade 1.4301 or better. Alternatively inert coatings, as for instance PTFE, can be used.



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Curing

Besides hot air (convection oven) also electromagnetic radiation (i.e. infrared radiation, microwaves) or magnetic fields for heating up the substrates (induction devices) can serve as energy source.

Cleaning

Freshly applied and uncured material should be removed with a dry cloth and then cleaned off with a suitable solvent. Cured adhesive can only be removed mechanically.

STORAGE

Frost sensitive	no
Recommended storage temperature	10 to 30 °C
Shelf life	9 months

Disclaimer

Note:

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