bonding solutions - Automotive

SEMIRIGID 2005

TWO COMPONENT PU ADHESIVE

SEMIRIGID 2005 is a two component, room temperature curing, black coloured, odourless, tixotropic polyurethane adhesive mainly oriented to auto body shop and makes possible fast and easy repairs on most of the damage to plastic parts.

PRODUCT DATA:

Properties	Component A	Component B	Mixed
Chemical base	Polyol	MDI	Polyurethane
Cure mechanism	-	-	Polyaddition
Mixing ratio by volume	1,00	1,00	-
Mixing ratio by weight	0,89	1,00	-
Colour	Black	Amber	Black
Appearance	Liquid	Liquid	Thixotropic
Viscosity	1500 mPas	1000 mPas	60000 mPas
Relative density	1,06	1,20	1,13
Application temperature	+10 / +30 °C	+10 / +30 °C	-
Flashpoint	>200 °C	230 °C	-
Vapour pressure	Very Low	0.000004 mmHg	-
Solubility in water	Insoluble	Insoluble	-
Shelf life	12 month	12 month	-

PRODUCT BENEFITS:

- Fast hardening time
- Excellent grinding properties
- High strength
- Easy to apply
- Over paintable
- No marking through
- Suitable for many different material

AREA OF APPLICATION:

SEMIRIGID 2005 is used to repair plastic parts like bumpers, lights, front grills, blinkers, side protection, etc. whenever flexible parts are damaged.

Suitable substrates are: all thermosetting plastics and most of all thermoplastic such as ABS, PC, PA, PPO, PP, PP+EPDM, SAN.

SEMIRIGID 2005 also has very good adhesion on many different material as metal, wood, concrete, ceramics and glass.

PRODUCT APPLICATION:

SEMIRIGID 2005 is available in bi-component cartridges by 50 ml and 178 ml. Blending should be made through static mixer composed by a minimum of 16 elements (PL.MIXE.050 or PL.MIXE.178).

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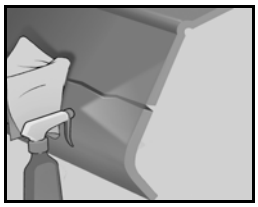
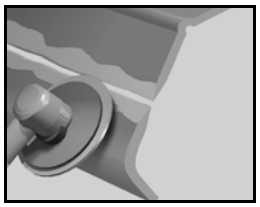


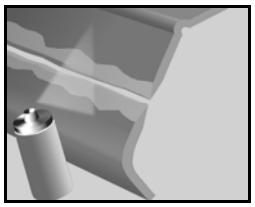
CLEANING

Clean the surface to be repaired using the Cleaner 2011 and a dry cloth, do not forget to clean the part from both sides. It's very important to remove dust, grease and all contaminants in general.



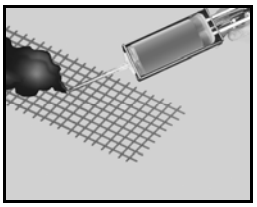
PREPARATION

Grind the damaged part with 80 grit sand paper on both sides. Make a V groove along the damaged area and use 80 grit sand paper on the surrounding area. Sand the back side of the repair area.



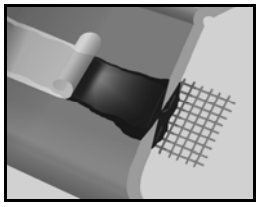
CLEANING AND PRIMING

Clean the sanded surfaces with Cleaner 2011. Wait approximately 2 minutes and then apply 2010 Primer and wait 5 minutes before applying the plastic repair product.



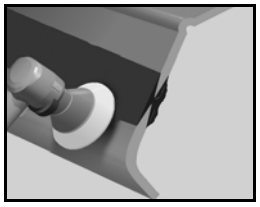
APPLICATION

Select the proper PU product in reference to the type of plastic to be repaired. Cut the Patch 88 in the right dimension to cover the back part of the damage. Apply PU on the Patch 88 and place it on the back side of the repair within 50 seconds.



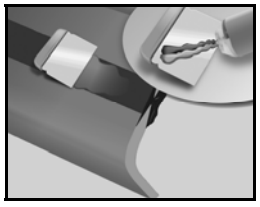
SHAPING

Use the Film 8 on the front surface. Push ample PU material through the break to the front and shape it with your hand. Do not touch the product directly with unprotected skin. The Film 8 must be used every time.



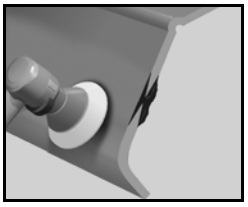
SANDING

After 15 minutes film 8 can be removed. Sand the repaired area (use 80 grit sand paper and finish with 180 grit sand paper with 2-3 grit steps) to a smooth finish avoiding excessive speed and heat.



FINISHING

Clean the surface with Cleaner 2011. If necessary, apply a putty for plastics with spatulas to fill minor imperfections of the repaired surface.



REFINISHING

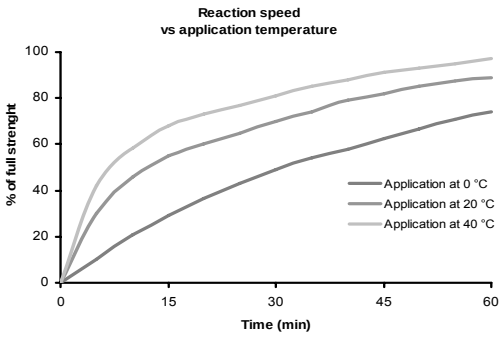
After 15 minutes sand the putty with 180-220 grit sanding paper. Clean the area with Cleaner 2011. PU products can be over painted. Please refer to the recommendation of the paint manufacturer.

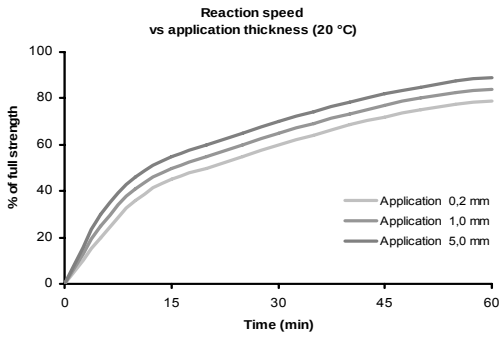
REACTION MECHANISM:

The speed of the harden reaction is mainly influenced by two factors: the application temperature and the application thickness. Being the reaction exothermic, the speed decreases as the thickness and temperature application decreases.

Even if in smaller measure, the substrate influences the speed reaction. Materials with a high coefficient of thermo conductivity will tend to slow down the reaction.

The maximal temperature of the reaction will be reached in 5 mm. application thickness and is always lower than 90°C.





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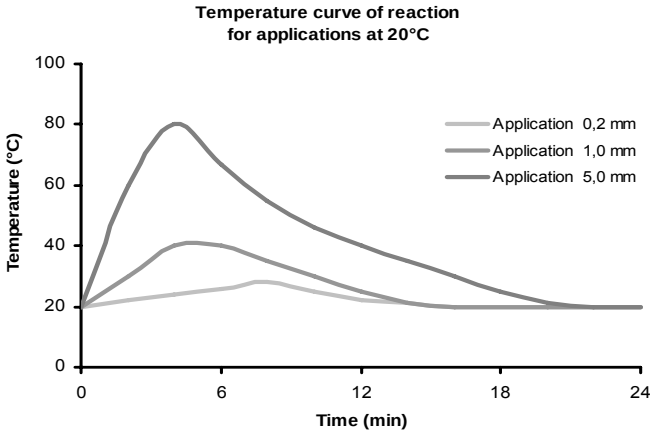


Typical reaction properties
10 gr of product at 20 °C

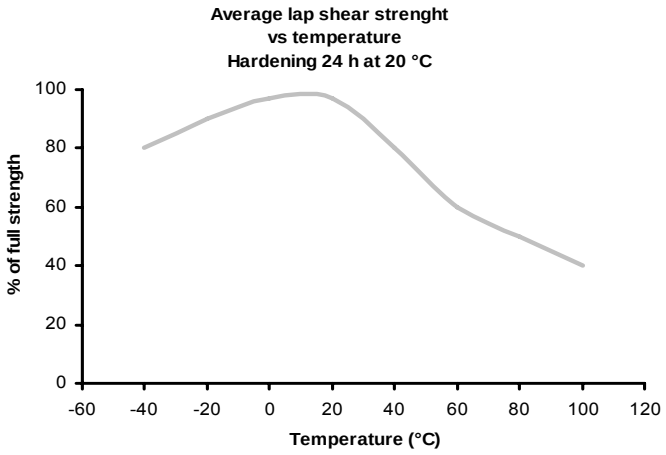
Property	Value
Open time	1 min
Bonding time	5 min
Fully cured time	240 min
Temperature of exothermic reaction	80 °C

TECHNICAL CHARACTERISTICS OF CURED PRODUCT:

The below properties have been obtained through standard samples tests, made bonding by overlapping samples of different materials of dimensions 100 × 20 × 20 mm with an adhesion area of 20 × 20 mm.

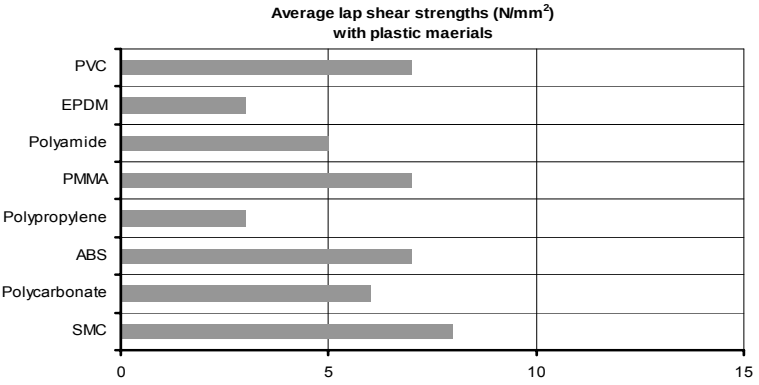
The values, obtained with standard methods on typical lots, are exclusively provided as technical information, and not as product specific.

In any case, it will be up to the user to test the product for a specific situation and then give his final approval.



Typical properties at 20 °C

Property	Value
Hardness	70 D
Tensile strength	22 N/mm^2
Elongation	20%
Resistivity	4,8x10^{14} Ωxcm
Service Temperature	-36 / +100 °C



The tests have been conducted at 20°C on plastic to plastic joints, which have been hardened for 24 hours at 20°C.
Pre-treatment has been made by abrading and degreasing with iso- propanol.

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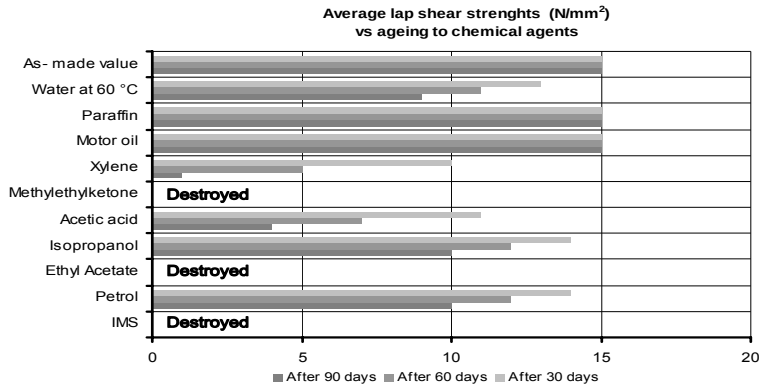

If not specified, the tests have been conducted at 20°C after immersion for 30, 60 and 90 days at 20°C on steel to steel joints which have been hardened for 48 hours at 20°C

PRODUCT STORAGE:

SEMIRIGID 2005 has a shelf life of 12 months from the initial production as long as it is stored in a cool and dry place, between +10°C and 25°C. Expiry date is indicated on the label.

The cartridges have to be kept in a sealed plastic bag and protected from light and heating sources inside the original packaging

Once opened, the cartridges will last until the expiry date (as long as the above conditions are met) leaving the last mixer used onto the cartridge.

PRODUCT HANDLING CAUTIONS:

PU products are generally quite harmless to handle provided that certain precautions are normally taken when handling chemicals are observed.

The uncured materials must not be allowed to come into contact with foodstuffs or food utensils, and measures should be taken to prevent the uncured materials from coming in contact with the skin, since people with particularly sensitive skin may be affected.

The wearing of impervious rubber or plastic gloves will normally be necessary; likewise the use of eye protection.

The skin should be thoroughly cleaned at the end of each working period by washing with soap and warm water. The use of solvents has to be avoided. Disposable paper should be used to dry the skin.

Adequate ventilation of the working area is recommended.

These precautions are described in greater detail in the Safety Data Sheet for the individual products and should be referred to for further information.

NOTE:

The information, and, in particular, the recommendations relating to the application and end-use of our products, are given in good faith based on our current knowledge and experience of the products when properly stored, handled and applied under normal conditions.

We cannot assume responsibility for the results obtained by others over whose methods we have no control.

It is the user's responsibility to determine suitability for the user's purpose of any production method mentioned herein and to adopt such precautions as may be advisable for the protection of property and of persons against any hazards that may be involved in the handling and use thereof.

We specifically disclaim all warranties expressed or implied, including warranties of merchantability or fitness for a particular purpose, arising from sale or use of our products. We specifically disclaim any liability for consequential or incidental damages of any kind, including lost profits.

Users should always refer to the most recent issue of the Technical Data Sheet for the product concerned, copies of which will be supplied on request.