



TECHNICAL DATA SHEET

ergo.[®] 1452 glass/metal bonding set (gel + activator)

Product - description

ergo.[®] 1451 is a medium viscous, toughened and impact resistant two-component system, which is suitable for all applications where glass, ceramic, metal or a combination of these materials is involved. **ergo.[®] 1451** bonds even materials with different thermal elongation coefficients. Its excellent physical properties allow the use under difficult conditions as for instance thermal and climatic cycles. The product may be used only in combination with the accelerator **ergo.[®] 1093**. The product cures within approx. 20 seconds (at 23°C)
It may be used also for magnetic materials (ferrites).

Advantages

- Excellent compromise between hardness, strength and impact resistance
- Especially usable for the bonding of car rear-mirrors with the wind shield
- Good flowing behaviour
- 100 % reactive content
- Extreme fast curing properties with accelerator ergo.[®] 1093

Physical properties Gel

Liquid product:

Chemical base	:	modified urethane-acrylate
Viscosity	:	> 100'000 mPas
Density	:	1,08 g/cm ³
Colour	:	slightly yellow
Flashpoint	:	> 100° C (COC-method)
Shelf life	:	min. 12 month (at 23°C)
Cure speed with activator	:	fixed after 20 seconds Final strength after 12 hours (23°C)

Cured product:

Tensile shear strength	:	> 18 N/mm ² steel/steel > 35 N/mm ² on glass --> material failure
Thermal range	:	- 55° C up to + 120° C
Resistance against solvents	:	very good
Shore D hardness	:	65 – 70

Electric properties Gel

Dielectric constant @ 1 MHz (ASTM D-150)	:	3,0
Loss factor @ 1 MHz (ASTM D-150)	:	0,010
Contact resistance	:	> 1 x 10 ¹⁴ ohm-cm
Surface resistance	:	> 2 x 10 ¹³ ohm-cm
Breakdown voltage (ASTM D-149)	:	> 450 V/mm



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ergo.[®] 1093 Accelerator

This accelerator is specially developed for glass and ceramic materials. With its help, it is possible to bond parts within seconds

Physical properties Accelerator

Chemical base	: methacrylic ester
Viscosity	: 5 mPas
Density	: 1,08 g/cm ³
Colour	: green
Flashpoint	: > 100° C (COC-method)
Shelf life	: min. 12 month (at 23°C)

How to use the product

1. If required mark opposing surfaces to ensure correct alignment, clean thoroughly and then dry with a clean cloth or heat with a hot air gun to remove any moisture, if glass let glass cool.
2. Squeeze activator capsule between fingers until the inner glass tube breaks. The free flowing activator now moves to the felt tip. Remove the paper cap.
3. Now apply the activator to one of the surfaces that are to be bonded (normally glass). As the activator is solvent free it requires no flashing off time.
4. Cut of the tip of the adhesive bag. Apply a thin and even layer of the bonder to the other surface (normally metal). Now, under constant pressure, press the metal surface onto the area of the glass that has been pre-treated with activator. Remove excess bonder immediately with a clean cloth. 50 % of bond strength will be achieved after 15 to 20 minutes.

Attention:

Avoid use on glass surfaces that have been heated by the sun or by other means.

The surfaces to be bonded must have compatible contours. The glue has no gap filling characteristics

The information in this data sheet is based on the results of our research and experience. However, the suggestions herein concerning the use, application, and processing of the products (collectively, „the methods“) **are non-binding recommendations only**. It is the user's sole responsibility to determine the suitability and safety of these methods, based on the user's particular purpose in using the products.

Before relying on the reliability and safety of any parts that are bonded using the products, it is extremely important that the user test the reliability and safety of the parts that are bonded. Failure to do so could result in serious personal injury.

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