

TECHNICAL DATASHEET

ergo.[®] 1680

(ergo.[®] 1678 + ergo.[®] 1664)

Description

ergo.[®] 1680 is a non-sagging, two-part methacrylate adhesive designed for structural bonding. The cured adhesive offers a balanced profile of properties with high stiffness combined with a strong toughness. ergo.[®] 1680 is mainly designed as an universal grade for industrial applications where composites are involved.

Advantages

- Non-dropping paste
- bridges gap up to 10 mm
- minimum gap 200 – 300 µm (Spacer)
- Excellent resistance against dynamic loads
- Resistant against outside conditions and humidity
- 100% reactive compound
- Low odour
- High flashpoint

Product data

Chemical base	Methacrylate
Curing system	2-Component-System
Mixing ratio by volume	10 : 1 (ergo. [®] 1678 : ergo. [®] 1664)

Physical properties (uncured):

Viscosity	Resin	ergo. [®] 1678	~100'000 mPa•s
	Hardener	ergo. [®] 1664	~50'000 mPa•s
Density	Resin	ergo. [®] 1678	1.07 g/cm ³
	Hardener	ergo. [®] 1664	1.15 g/cm ³
Colour	Resin	ergo. [®] 1678	off-white
	Hardener	ergo. [®] 1664	blue
Flashpoint			> 60°C
Gap filling			up to 10 mm
Minimum gap / Spacer			200 – 300 µm

Curing properties:

Application temperature

+10 °C to +40 °C

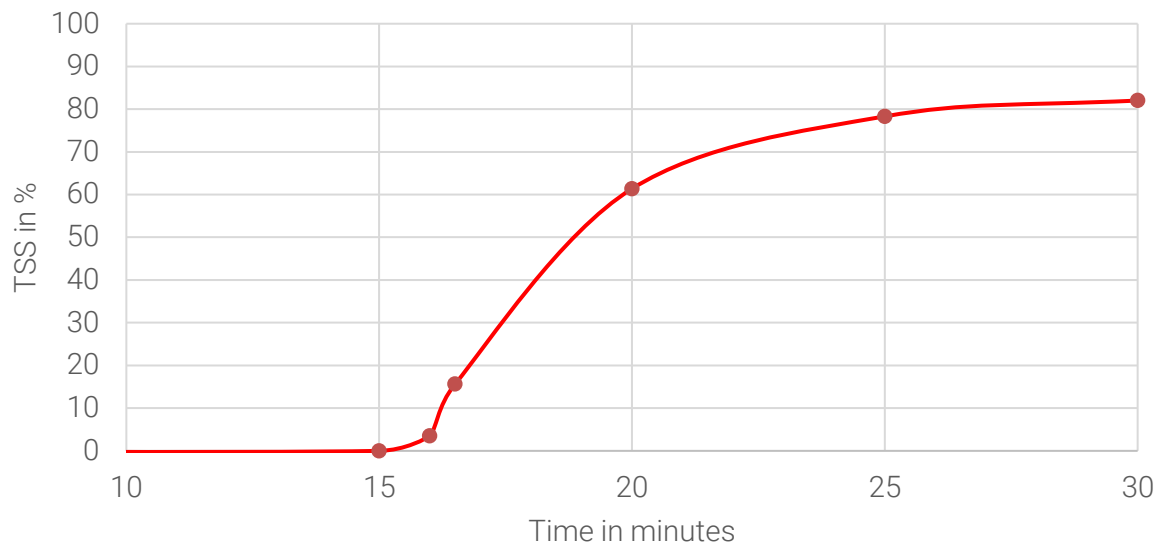
Open time

8 – 12 minutes

Final strength

24 hours

Tensile shear strength increase in %



Physical properties (cured):

E Modulus (DIN EN ISO 178)
after 24 h at 23°C

~ 550 MPa

Tensile strength (ISO 527 1A)
after 24 h at 23°C

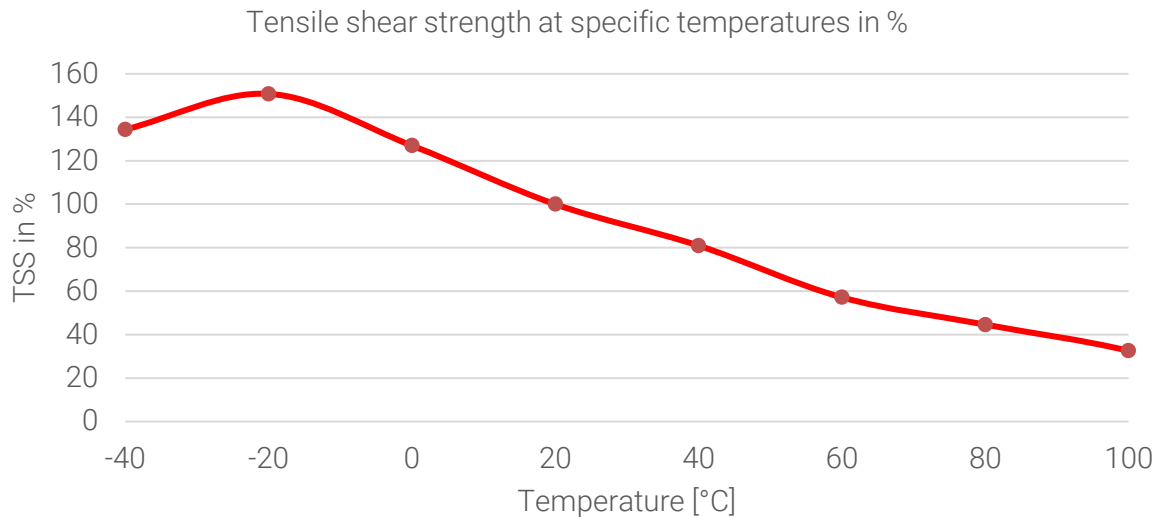
~ 14 N/mm²

Elongation at break (ISO 527 1A)
after 24 h at 23°C

~ 65 %

Usage temperature

- 55°C to + 100°C



Lap shear strength (DIN EN 1465)
after 24 h at 23°C

Steel	~ 19 N/mm ²
Stainless Steel	~ 18 N/mm ²
Aluminium	~ 17 N/mm ²
Brass	~ 14 N/mm ²
Copper	~ 13 N/mm ²
GFRP Epoxy	~ 16 N/mm ²
CFRP	~ 19 N/mm ²
ABS	> 5 N/mm ² (X)
PMMA	> 5 N/mm ² (X)
PVC	> 4 N/mm ² (X)
PC	> 8 N/mm ² (X)
PA	~ 2 N/mm ²

(X) = Failure of test specimen

Chemical resistance

Excellent in

Hydrocarbons
Acidic solutions (pH 3 – 10)
Alkaline solutions (pH 3 – 10)
Salt solutions

Unstable in

Polar solvents
Strong Acidic/alkaline solutions

Handling and storage

Due to the high reactivity of the product and the exothermic curing process, never mix bigger amount of the components. The heat might evaporate parts of the formulation and cause strong smell. Do not waste exceeded material in plastic containers, because of the danger of melting.

Slight serum formation may occur during storage.

The serum does not imply any quality issues and can be ejected when levelling the cartridge before first use.

Precautions

For your own safety, please refer to the information of the concerned MSDS and for the correct handling the "user instructions".

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. Because of the use of the products are within the purchaser's sole control, Kisling Corporation specifically disclaims all warranties, express or implied, including warranties of merchantability or fitness for a particular purpose, arising from the sale or use of the products described herein. Kisling Corporation specifically disclaims any liability for consequential, incidental, or other damages of any kind, including lost profits. Kisling Corporation's liability for damages shall not exceed the purchase price of the products used.

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