

TECHNICAL DATA SHEET

R12230 GEL (A+B)
R12230 GEL ACC (A+B)

Oct 2024

Silicone gel on board electronic

PRODUCT DESCRIPTION

R12230 GEL is a pourable, two component silicone rubber that cures at room temperature by a polyaddition reaction, to a very soft and optical clear silicone gel.

R12230 GEL is particularly recommended for high transparency applications (encapsulation of electronic components, sensors for the automotive and power electronics industries, damping systems, encapsulation of solar cells).

A quick curing version, **R12230 GEL ACC** is also available.

MAIN CHARACTERISTICS

- Easy processing, due to the good fluidity of parts A and B, mixing ratio (1:1).
- Good pourability.
- Optically clear.
- Quick setting, accelerated by heating.
- Pronounced inherent tack.
- Outstanding dielectric properties.
- Good heat stability in confined space (even above 100°C).
- Outstanding protection of encapsulated equipment against mechanical stress due to temperature variations and vibrations.

MIXING

Mix Part A and Part B components according to recommended weight ratios: **1 / 1 by weight**.

1. Mixing of the two components

Hand mixing: The two components are thoroughly mixed using an electrical or pneumatic mixer, on a low speed setting so as to limit the inclusion of air in the mixture. A dispensing machine can also be used.

After mixing A and B parts, it is preferable to degas the product to eliminate the air bubbles that would be visible in the finished part and which would reduce the mechanical and dielectric properties. Degassing is generally carried out with a vacuum of 30 to 50 mbar releasing the vacuum several times during the operation. A recipient with a high diameter/height ratio is better suited to quick degassing; however the height must be sufficient to contain the swelling of the elastomer under vacuum conditions.

Automatic mixing: (to be preferred when using **R12230 GEL ACC** as the pot life is too short to hand-mix and efficiently degas the material). In order to avoid any air bubbles that may affect the mechanical and dielectric properties, it is recommended to degas separately A and B part, prior to pour it slowly and regularly into the tanks of the dosing machine. The A

and B Parts should be dosed and mixed with a static mixer with a standard commercial equipment (A special care is recommended in pumping the product from the tanks to avoid any air entry before dosing and mixing).

2. After mixing

R12230 GEL (A+B) or **R12230 GEL ACC (A+B)** is poured slowly and regularly. In the case of a high thickness coating operation, the casting must be made at the lowest point in the volume to be filled; this avoids forming and including air bubbles in the volume. It should not be filled totally to allow expansion of the gel at service temperatures.

Certain materials that **R12230 GEL** or **R12230 GEL ACC** may be in contact with when curing could inhibit the reaction. Especially troublesome materials are: Sulphur-containing cured natural and synthetic rubber compounds (neoprene, latex, SBR), tin catalyzed silicone rubbers, amine catalyzed epoxies, PVC stabilized with tin salts and some polyurethane elastomers.

PROPERTIES

Liquid products

<i>Properties</i>	<i>R12230 GEL part A</i> <i>R12230 GEL ACC part A</i>	<i>R12230 GEL part B</i> <i>R12230 GEL ACC part B</i>
Appearance	liquid	liquid
Color	transparent	transparent
Specific gravity	0.98	0.98
Viscosity (at 23°C, mPa.s)	1000	1200

Mixing of the two components

<i>Properties</i>	<i>R12230 GEL (A+B)</i>	<i>R12230 GEL ACC (A+B)</i>
Mixing ratio A/ B (by weight)	1:1	1:1
Viscosity (at 23°C, mPa.s)	1200	1200
Working time (at 23°C, min)	50	5
Curing time (at 23°C, min)	120-180	30

Cured product

<i>Properties</i>	<i>R12230 GEL (A+B)</i> <i>R12230 GEL ACC (A+B)</i>
Penetration, curing 30 min at 120°C (ISO 2137, 150 g hollow cone, 1/10 mm, approx.)	250
Dielectric Strength, kV/mm (ISO 60243-1), approx.	23

Dielectric constant at 1kHz (ISO 60250), approx.	2.8
Dielectric dissipation factor at 1kHz (ISO 60250), approx.	0.001
Volume resistivity, $\Omega \cdot \text{cm}$ (ISO 60093), approx.	1.10^{15}

R12230 GEL and **R12230 GEL ACC** are in compliance with REACH and RoHS regulations. A certificate may be sent on request (info@abchimie.com).

CONDITIONNING

REFERENCES

R12230 GEL (kit A+B)

Cartridge 400ml (1/1)	R12230 GEL C400
Kit 20kg (10kg A + 10kg B)	R12230 GEL K20K
Kit 50kg (25kg A + 25kg B)	R12230 GEL K50K
Kit 400kg (200kg A + 200kg B)	R12230 GEL K400K
Kit 2000kg (1000kg A + 1000kg B)	R12230 GEL K2000K

R12230 GEL ACC (kit A+B)

Cartridge 400ml (1/1)	R12230 GEL ACC C400
Kit 20kg (10kg A + 10kg B)	R12230 GEL ACC K20K
Kit 50kg (25kg A + 25kg B)	R12230 GEL ACC K50K
Kit 400kg (200kg A + 200kg B)	R12230 GEL ACC K400K
Kit 2000kg (1000kg A + 1000kg B)	R12230 GEL ACC K2000K

STORAGE AND DATE OF USE:

Storage temperature : -10 to 30°C, in original packaging

In all cases, refer to the safety data sheet to ensure good storage conditions.

Date of use : 12 months after manufacturing for **R12230 GEL**
6 months after manufacturing for **R12230 GEL ACC**

All information is given in good faith but without warranty. Properties are given as a guide only and should not be taken as a specification. ABchimie cannot be held responsible for the performance of its products within any application determined by the customer, who must satisfy themselves as to the suitability of the product.