

# WACKER<sup>®</sup> PASTE P 12

## Silicone Pastes

Pure white, soft consistency, heat sink paste with marked thermal conductivity. Electrically insulating.

### Properties

#### Specific features

- Thermally conductive

# Technical data

## General Characteristics

Property	Condition	Value	Method
Appearance	-	white	-
Bleeding (at 200°C/30h)	-	max. 0.4 %	FED-STD 791 M 321
Density	23 °C	2.1 g/cm <sup>3</sup>	DIN EN ISO 1183-1 A
Dielectric strength	-	10 kV/mm	IEC 60243-1
Dissipation factor	50 Hz	9 x 10 <sup>-3</sup>	IEC 62631-2-1
Loss of weight <sup>(1)</sup>	-	max. 1.2 %	FED-STD 791 M 321
Operating temperature range	-	-40 - 200 °C	-
Penetration (unworked) <sup>(2)</sup>	-	194 - 238 1/10mm	DIN ISO 2137
Permittivity	50 Hz	3.5	IEC 62631-2-1
Solidifying point	-	approx. -45 °C	-
Thermal conductivity	-	0.6 - 0.8 W/m.K	ASTM D 5470-12

<sup>1</sup>30h / 200 °C

<sup>2</sup>measured after 24h dwell time; 150g cone / 5s penetration time

These figures are only intended as a guide and should not be used in preparing specifications.

All the information provided is in accordance with the present state of our knowledge. Nonetheless, we disclaim any warranty or liability whatsoever and reserve the right, at any time, to effect technical alterations. The information provided, as well as the product's fitness for an intended application, should be checked by the buyer in preliminary trials. Contractual terms and conditions always take precedence. This disclaimer of warranty and liability also applies particularly in foreign countries with respect to third parties' rights.

Comprehensive instructions are given in the corresponding Material Safety Data Sheets. They are available on request from WACKER subsidiaries or may be downloaded via WACKER web site <http://www.wacker.com>.

## Applications

- Antifriction Agents & Lubricants
- Encapsulation

## Application details

WACKER® PASTE P 12 is used especially in semiconductor technology as a heat sink paste. Wherever it is important to have good heat transfer from a semiconductor to a cooling element, it is advisable to apply a thin coating of WACKER® PASTE P 12. In the assembly of semiconductors, e. g. diodes, transistors and thyristors, microscopic irregularities may exist on the mating surfaces of the semiconductor and the cooling surface. When assembled, a firm metal-to-metal contact might be hampered by these surface irregularities. A significant percentage of the device's surface therefore might lack direct contact to the heatsink. Remaining gaps are filled with air, providing relatively poor thermal conductivity.

By coating the contact surfaces with WACKER® PASTE P 12, surface irregularities will be filled with the heat sink silicone paste. The thermal conductivity of WACKER® PASTE P 12 is about 20 times better than that of air. Practical experience has shown that by using WACKER® PASTE P 12, the heat transfer resistance from the semiconductor housing to the cooling elements is reduced by 50 %.

## Processing

### Processing

The product can be applied with a brush, spatula or by screen printing. Best results are achieved when a uniform, thin coating is applied to the mating surfaces. Excess paste that's squeezed during assembly should be removed.

## Packaging and storage

### Storage

Store in a dry and cool place.

The 'Best use before end' date of each batch is shown on the product label.

Storage beyond the date specified on the label does not necessarily mean that the product is no longer usable. In this case however, the properties required for the intended use must be checked for quality assurance reasons.

## Safety notes

Comprehensive instructions are given in the corresponding Material Safety Data Sheets. They are available on request from WACKER subsidiaries or may be printed via WACKER web site <http://www.wacker.com>.

## QR Code WACKER® PASTE P 12



### For technical, quality or product safety questions, please contact:

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