

# POWERSIL® FLUID TR 50

TRANSFORMER COOLANT AND INSULATING LIQUID

## Product description

A fully synthetic, nonvolatile and noncorrosive silicone fluid. The high fire point and the virtually self extinguishing behaviour represent a much lower fire hazard than conventional transformer fluids.

An outstanding thermal stability, even under the presence of air, allows a higher thermal utilization in comparison with other liquid coolants.

## Properties

- fully synthetic fluid
- maximum purity
- non corrosive
- lowest environmental impact
- high flash point
- extra high fire point
- excellent resistance to oxidative and thermal degradation
- long-term-stable dielectric properties
- good compatibility with other insulating materials used in transformers

POWERSIL® FLUID TR 50 fulfills the requirements of class K3 according to IEC 61100 and is classified as L-NTUK-8360300 according to IEC 61039.

## Application

When used as coolant and insulation fluid, POWERSIL® FLUID TR 50 is dried and degassed in the same way as conventional transformer fluids. The

compatibility of silicone fluids to other materials normally used in transformers has been demonstrated in a number of published articles.

## Storage

POWERSIL® FLUID TR 50 should be stored in the tightly sealed original container. The liquid should be able to adapt their temperature to that of the environment before use. At high humidity this is especially recommended.

Being a silicone fluid, the product has a virtually unlimited self life.

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>.

## Product data

Typical general characteristics	Inspection Method	Value
Color		clear
Density at 20 °C	ISO 3675	0,96 g/cm <sup>3</sup>
Viscosity, kinematic at 40 °C	ISO 3104	40 mm <sup>2</sup> /s
Flash point	ISO 2719	> 240 °C
Fire point	ISO 2592	> 340 °C
Refractive index at 25 °C	ISO 5661	1,404 (+/- 0,002)
Pour point	ISO 3016	< -50 °C
Water content <sup>1)</sup>	IEC 60814	< 50 mg/kg
Neutralizing value	IEC 60836	< 0,01 mg KOH/g
Breakdown voltage <sup>2)</sup>	IEC 60156	> 40 kV
Dissipation factor tan δ at 90 °C and 50 Hz	IEC 60247	< 0,001
Permittivity at 90°C and 50 Hz	IEC 60247	2,55 (+/- 0,05)
Volume resistivity at 90 °C	IEC 60247	>10 <sup>13</sup> Ω cm (>100 GΩm)

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

- <sup>1)</sup> Please note: the water content is measured before POWERSIL® FLUID TR 50 leaves the company; the fluid might take up water during the transportation if the originally sealed container has been opened; in this case Wacker Chemie AG can not guarantee a water content lower than 50 mg/kg when material arrives at the customer.
- <sup>2)</sup> Please note: the indicated value is true for POWERSIL® FLUID TR 50 that contains less than 50 mg/kg water.

The data presented in this leaflet are in accordance with the present state of our knowledge, but do not absolve the user from carefully checking all supplies immediately on receipt. We reserve the right to alter product constants within the scope of technical progress or new developments. The recommendations made in this leaflet should be checked by preliminary trials because of conditions during processing over which we have no control, especially where other companies' raw materials are also being used. The recommendations do not absolve the user from the obligation of investigating the possibility of infringement of third parties' rights and, if necessary, clarifying the position. Recommendations for use do not constitute a warranty, either express or implied, of the fitness or suitability of the products for a particular purpose.

The management system has been certified according to DIN EN ISO 9001 and DIN EN ISO 14001

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