

## SP50\_gel

The creation of the latent heat blended material RUBITHERM® SP has led to a new and innovative class of low flammability PCM. RUBITHERM® SP consists of a unique composition of inorganic components. RUBITHERM® SP is preferably used as macroencapsulated material. Densities of 1,0 kg/l and more can be achieved. This and all properties mentioned below make RUBITHERM® SP to the preferred PCM used in the construction industry. Both passive and active cooling can easily be realized e.g. in air conditioners. We look forward to discussing your particular questions, needs and interests with you.



### Properties:

- stable performance throughout the phase change cycles
- high thermal storage capacity per volume
- limited supercooling (2-3K dependig on volume and cooling rate),
- low flammability, non toxic
- different melting temperatures between -50°C und 70°C are available
- encapsulation necessary, minimum volume: 50ml

### The most important data:

**Melting area**

**Congealing area**

**Heat storage capacity ± 7,5%**  
Combination of sensible and latent heat in a temperatur range of 40 °C to 55 °C.

**Specific heat capacity**

**Density solid**  
at 40°C

**Density liquid**  
at 55°C

**Volume expansion**

**Heat conductivity**

**Max. operation temperature**

**Corrosion**

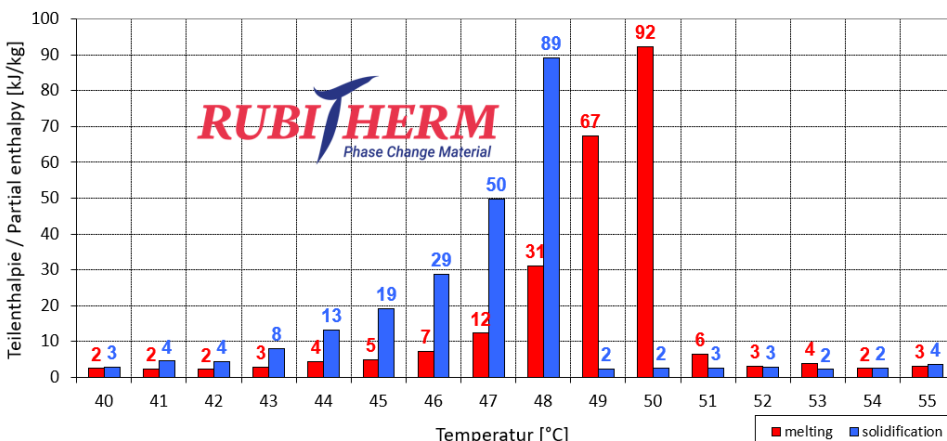
### Typical Values

|                                   |  |
|-----------------------------------|--|
| <b>49-50</b> [°C]                 |  |
| main peak:50                      |  |
| <b>46-48</b> [°C]                 |  |
| main peak:48                      |  |
| <b>220</b> [kJ/kg]                |  |
| <b>60</b> [Wh/kg]*                |  |
| <b>2</b> [kJ/kg·K]*               |  |
| <b>~1,5</b> [kg/l]                |  |
| <b>~1,4</b> [kg/l]                |  |
| <b>~8</b> [%]                     |  |
| <b>0,6</b> [W/(m·K)]              |  |
| <b>80</b> [°C]                    |  |
| <b>corrosive effect on metals</b> |  |

### Note:

Many SP-product are hygroscopic and may absorb moisture if stored improperly. This can result in a change of the physical properties given. Storing in closed containers mandatory.

Beispiel / example: SP50\_gel Teilenthalpie / Partial enthalpy distribution\*



\*Measured with 3-layer-calorimeter.

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