LUVITEC® K and VA-grades for Adhesive Applications.

Optimize your products with the various and unique properties of polyvinylpyrrolidones.
LUVITEC® K and VA-grades for Adhesive Applications.

LUVITEC® polymers have been used in adhesive applications for many years. It’s desirable range of properties give it the flexibility for use in

- **Glue sticks**
  Adhesives produced with LUVITEC® K shows a high degree of initial tack, and gives outstanding adhesion and bonding especially to paper.

- **Skin adhesives**
  LUVITEC® polymers are highly viscous and toxicologically safe. They can be readily crosslinked via electron beam to form hydrogels. This combination of properties makes it ideal for the production of adhesive gels for wound dressing, dermal pads and medical electrodes.

- **Hot-melt adhesives**
  A low glass transition temperature of about 105 °C makes LUVITEC® VA 64 Powder ideal for use in hot-melt applications. It is soluble in water, can be remoistened and shows good adhesion to glass, metal, paper and plastic surfaces. This unique combination of properties has given rise to several applications like
  - Wetness indicator for diapers
  - Labels, envelopes and stamps
  - Tapes and plasters
  - Plastics

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**Products**

**LUVITEC® K-grades**

![Chemical structure of LUVITEC® K-grades]

**LUVITEC® VA-grades**

![Chemical structure of LUVITEC® VA-grades]
Advantages of LUVITEC®

The special chemical structure of Polyvinylpyrrolidone gives LUVITEC® K and VA unique and special properties such as

- Excellent Adhesion / Initial Tack
- Solubility in water, alcohols and other polar solvents
- Dispersion of chemical ingredients and dye pigments
- Viscosity control / Rheology modifier
- Low Tg of approx. 105 °C in case of LUVITEC® VA 64
- Ability to remoisten
- Crosslinkability
- Insensitive to pH
- Film formation
- Biocompatibility and toxicologically safe
- and many many more.

PVP provides good adhesion especially to

- Paper
- Glass
- Metal
- Plastic (e.g. PE, PP, PES, PUR)
- Sand and minerals
- Skin
- Textile

Wetness indicator for diapers based on LUVITEC® VA

PVP glue sticks based on LUVITEC® K

Dependence of the viscosity on the solids content of aqueous LUMTEC® K solutions; Brookfield RVT Viscometer, spindle 3, 100 rpm at room temperature

Moisture absorption of LUVITEC® K grades (film thickness: 2 mm) at 23 °C after saturation
**LUVITEC® K**

<table>
<thead>
<tr>
<th>K-Value*</th>
<th>Solids content in %*</th>
<th>TG in °C*</th>
<th>Mw in kDa*</th>
<th>pH-Value [10 % sol.]*</th>
<th>Residual-NVP in ppm*</th>
<th>Applications</th>
</tr>
</thead>
<tbody>
<tr>
<td>LUVITEC® K 30 solution approx. 30 %</td>
<td>27 – 33</td>
<td>29 – 31</td>
<td>175</td>
<td>50</td>
<td>4.0 – 8.0</td>
<td>≤ 100</td>
</tr>
<tr>
<td>LUVITEC® K 30 powder</td>
<td>27 – 33</td>
<td>≥ 95</td>
<td>175</td>
<td>50</td>
<td>3.0 – 7.0</td>
<td>≤ 100</td>
</tr>
<tr>
<td>LUVITEC® K 60 solution approx. 35 %</td>
<td>52 – 62</td>
<td>34 – 36</td>
<td>175</td>
<td>450</td>
<td>7.0 – 9.0</td>
<td>≤ 300</td>
</tr>
<tr>
<td>LUVITEC® K 85 CQ solution approx. 20 %</td>
<td>83 – 88</td>
<td>19 – 21</td>
<td>180</td>
<td>1100</td>
<td>7.0 – 9.0</td>
<td>≤ 100</td>
</tr>
<tr>
<td>LUVITEC® K 85 powder</td>
<td>84 – 88</td>
<td>≥ 95</td>
<td>180</td>
<td>1100</td>
<td>5.0 – 9.0</td>
<td>≤ 100</td>
</tr>
<tr>
<td>LUVITEC® K 90 solution approx. 20 %</td>
<td>90 – 98</td>
<td>19 – 21</td>
<td>180</td>
<td>1600</td>
<td>7.0 – 9.0</td>
<td>≤ 100</td>
</tr>
<tr>
<td>LUVITEC® K 90 powder</td>
<td>88 – 92</td>
<td>≥ 95</td>
<td>180</td>
<td>1400</td>
<td>5.0 – 9.0</td>
<td>≤ 100</td>
</tr>
<tr>
<td>LUVITEC® K 90 HM powder</td>
<td>92 – 96</td>
<td>≥ 95</td>
<td>180</td>
<td>1800</td>
<td>5.0 – 9.0</td>
<td>≤ 100</td>
</tr>
<tr>
<td>LUVITEC® K 115 solution approx. 10 %</td>
<td>114 – 130</td>
<td>10.5 – 11.5</td>
<td>180</td>
<td>2200</td>
<td>7.0 – 9.0</td>
<td>≤ 50</td>
</tr>
</tbody>
</table>

**LUVITEC® VA**

<table>
<thead>
<tr>
<th>NVP/VA in %*</th>
<th>K-Value*</th>
<th>Solids content in %*</th>
<th>TG in °C*</th>
<th>Mw in kDa*</th>
<th>pH-Value [10 % sol.]*</th>
<th>Residual-NVP/VA in ppm*</th>
<th>Applications</th>
</tr>
</thead>
<tbody>
<tr>
<td>LUVITEC® VA 64 powder</td>
<td>60/40</td>
<td>26 – 34</td>
<td>≥ 95</td>
<td>105</td>
<td>65</td>
<td>3.8 – 6.0</td>
<td>≤ 100/≤ 300</td>
</tr>
</tbody>
</table>

* all data are approx. values. It does not necessarily form part of the product specification. A detailed product specification is available from our local BASF representative.

**LUVITEC® polymers**

LUVITEC® polymers cover a broad range of molecular weights and viscosities and have been used in adhesive applications for many years. LUVITEC® K 30, K 85, K 90, K 90 HM and VA 64 are available as dry powders and LUVITEC® K 30, K 60, K 85, K 90, K 115 and VA 64 are available as aqueous solutions.