

Epoxy Injection Resins

## WEBAC® 4180N



- ▶ WEBAC® 4180N is an extremely low-viscosity epoxy injection resin with low temperature development suitable for impregnating structural elements, specially in monument conservation and wood solidification.

### Range of application

- Impregnation of porous porous structural elements such as masonry or concrete
- Closing of alligator cracks
- Sealing of gypsum-based masonry for the conservation of monuments
- Sealing injections in open-pored concrete structures (e.g. tamped concrete)
- Closing of surface cracks
- Solidification of wood

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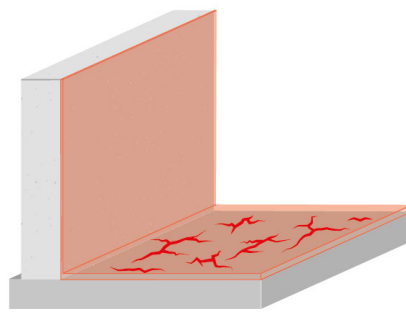
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### Properties

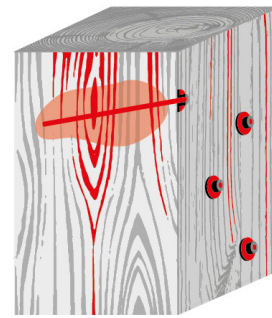
- Extremely low viscosity
- Pressureless penetration of finest capillaries and cracks
- Tack-free curing process
- Total solid\*

### Examples

Meaning of the icons ▶ WEBAC Product Catalog, [www.webac.de](http://www.webac.de) or [www.webac-grouts.com](http://www.webac-grouts.com)



Impregnation



Solidification of wood

\*according to test method by Deutsche Bauchemie e.V. (German Industry Association for Manufacturers of Construction Chemicals)

## ▶ Technical Information

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| Technical data  | Values                                      |                                    |                                    |                                    |
|---|---|------------------------------------|------------------------------------|------------------------------------|
| Mixing ratio  | 2 : 1 parts by volume                       |                                    |                                    |                                    |
| Density, 20 °C / 68 °F<br>(ISO 2811)                                      | <b>Comp. A</b>                              | ≈ 1.1 g/cm <sup>3</sup>            |                                    |                                    |
|   | <b>Comp. B</b>                              | ≈ 0.95 g/cm <sup>3</sup>           |                                    |                                    |
| Pot life*   |   | <b>30 °C / 86 °F</b><br>≈ 40 min   | <b>20 °C / 68 °F</b><br>≈ 60 min   | <b>12 °C / 54 °F</b><br>≈ 110 min  |
| Application temperature<br>Building structure and material                | > 5 °C                                      |                                    |                                    |                                    |
| Viscosity of mixture  |   | <b>30 °C / 86 °F</b><br>≈ 12 mPa·s | <b>23 °C / 73 °F</b><br>≈ 20 mPa·s | <b>12 °C / 54 °F</b><br>≈ 55 mPa·s |
| Adhesive strength on concrete<br>14 d, 21 °C / 70 °F (EN 1542)            | <b>dry</b>                                  | ≈ 2.4 N/mm <sup>2</sup>            |                                    |                                    |
| Compressive strength<br>7 d, 21 °C / 70 °F (ISO 604)                      | ≈ 4.6 N/mm <sup>2</sup>                     |                                    |                                    |                                    |
| Bending tensile strength<br>7 d, 21 °C / 70 °F (ISO 178)                  | ≈ 2.8 N/mm <sup>2</sup>                     |                                    |                                    |                                    |
| Tensile strength ·<br>elongation at break<br>7 d, 21 °C / 70 °F (ISO 527) | ≈ 1.8 N/mm <sup>2</sup> · ≈ 20%             |                                    |                                    |                                    |
| E modulus<br>7 d, 21 °C / 70 °F (ISO 527)                                 | ≈ 9.5 N/mm <sup>2</sup>                     |                                    |                                    |                                    |
| Shore hardness A<br>7 d, 21 °C / 70 °F (EN 868)                           | ≈ 82/76                                     |                                    |                                    |                                    |
| Fire behavior   | B2 according to DIN 4102-4. 2.3.2           |                                    |                                    |                                    |
| GISCODE   | RE1   |                                    |                                    |                                    |
| EPD   | EPD-DBC-20130024-IBE1-DE                    |                                    |                                    |                                    |
| Exposure scenarios<br>according to REACH                                  | Assessment of industry standard application |                                    |                                    |                                    |

\* Superficially thickened material can be mixed in, if necessary.

The specified data are values determined under laboratory conditions and are subject to a certain fluctuation. Deviations are possible in practice depending on the respective object situation.

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### Preparatory work

- ▶ See **WEBAC Brochure Crack Repair**



Crack Repair



### Mixing

#### Application by 1C pump

- Empty component A and B at the given mixing ratio into a bucket (make sure that the containers are completely empty) and mix homogeneously
- Transfer the mixed material to the hopper or apply to substrate



### Application instruction

- The mixture must be used completely within the specified pot life
- Only use pure WEBAC material without any residues of cleaning agents or other impurity
- The reaction speed is influenced by the temperature of the material and the building structure – higher temperatures accelerate, lower temperatures slow down the reaction

Due to the heat development of the injection pump, the pot life of the material may be reduced. Once the material is noticeable warm, it must either be used immediately or removed from the hopper and pump.



### Application

- The injection pressure depends on the nature and condition of the structure, start the injection by filling the lowest crack areas first
- In the case of horizontal cracks, carry out the injection from one side in order to avoid air inclusions
- Continue the injection until resin leaks out from the adjacent packers. This is necessary to get an even material distribution
- When injecting the last packer check the ventilation hole for apparent resin
- A secondary injection should be carried out within the gelling phase of the material (up to approx. 30 min after end of the pot life)

#### Impregnation

- Repeat impregnation until the substrate is saturated



### Final work and cleaning

- The patching can be removed as soon as the injection process is completed and the filling material is cured
- Close the drill holes with suitable non-shrinking mortar and re-profile the surface
- Clean the pump with **WEBAC® Cleaner A**
- Use **WEBAC® Cleaner B** for dissolving cured material but never for rinsing pumps
- Observe the technical data sheets of the injection pump and cleaners used
- For detailed information refer to the operating manual of the injection pump used

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| Product data             |   |                                    |
|--------------------------|---|------------------------------------|
| Application              | <ul style="list-style-type: none"> <li>• Application by brush, roller or rubber scraper</li> <li>• Injection by 1C pump</li> </ul>  |                                    |
| Packing                  | <b>Comp. A</b><br>17.5 kg<br>3.3 kg   | <b>Comp. B</b><br>7.6 kg<br>1.4 kg |
| Storage                  | <ul style="list-style-type: none"> <li>• Between 8 °C / 46 °F and 25 °C / 77 °F</li> <li>• Protect from moisture</li> <li>• In original, sealed containers</li> </ul>   |                                    |
| Compatibility/Resistance | <ul style="list-style-type: none"> <li>• Compatible with concrete, steel, cable sheathing and WEBAC injection materials</li> <li>• Resistant to harmful salts, alkalis and acids in common concentrations in building structures</li> </ul> |                                    |

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### Occupational safety

The safety regulations of the industrial trade associations and the WEBAC Safety Data Sheets are to be observed at all times when working with this product. Safety data sheets according to Regulation (EC) No. 1907/2006 (REACH) must be accessible to all persons responsible for occupational safety, health protection and the handling of materials. For further information, please see the separate information sheet "Occupational Safety" in our product catalog or [www.webac-grouts.com](http://www.webac-grouts.com).

### Waste disposal

In Germany, empty containers can be disposed of via "Interseroh Dienstleistungs GmbH" observing the respective terms and conditions. It is not possible to dispose of containers at production facilities or delivery warehouses. For more detailed information, please see the separate information sheet "Information on the disposal and return of WEBAC packaging" in our product catalog or [www.webac-grouts.com](http://www.webac-grouts.com) and the safety data sheets.

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