

Epoxy Injection Resins

**WEBAC® 4110** CE



**WEBAC®**

- ▶ WEBAC® 4110 is a CE-certified epoxy injection resin for structural bonding of cracks in concrete elements and construction joints.

### Range of application

- Crack repair in concrete according to EN 1504-5 (CE-Declaration of Performance/2+)
  - Tested according to ZTV-ING (RISS)
  - Registered with the BASt list, tested/monitored by IBMB
- Bonding of structural elements
- Injection of construction joints
- Adhesive agent for mineral materials (wet in wet application)
- Grouting of anchors in hollow layers
- Solidification of hollow core screed
- Consolidating steel sheet injection
- Solidification of open-pored concrete structures (e.g. tamped concrete)

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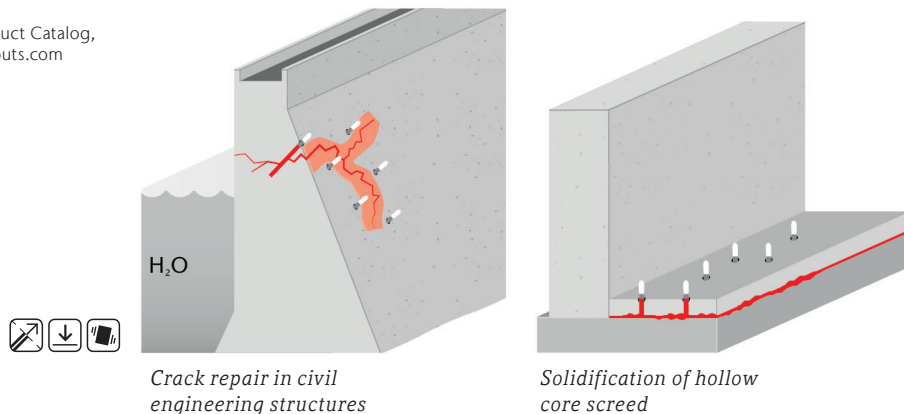
[www.webac.de](http://www.webac.de)

### Properties

- Excellent edge adhesion
- Cures even under dynamic stress
- Volume and dimensional stability
- Mortar resin
- 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)



Crack repair in civil engineering structures

Solidification of hollow core screed

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

## ▶ Technical Information

All the data indicated in this technical data sheet and any related information provided by our employees are of an advisory nature representing our current state of knowledge and in no way binding. As the exact chemical, technical and physical conditions of the actual application are beyond WEBAC's control, this information does not preclude examination of the products and/or procedures for the intended application and surface by the user. WEBAC is thus unable to guarantee results. The user is fully responsible for the observation of existing regulations and conditions when using the products. © WEBAC-Chemie GmbH. Version 03/17

# Epoxy Injection Resins

## WEBAC® 4110 CE

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Technical data	Values			
Mixing ratio	2 : 1 parts by volume			
Density, 20 °C / 68 °F (ISO 2811)	<b>Comp. A</b>	≈ 1.1 g/cm <sup>3</sup>		
	<b>Comp. B</b>	≈ 0.94 g/cm <sup>3</sup>		
Pot life		<b>30 °C / 86 °F</b> ≈ 30 min	<b>20 °C / 68 °F</b> ≈ 100 min	<b>12 °C / 54 °F</b> ≈ 120 min
Application temperature Building structure and material	> 8 °C / 46 °F			
Viscosity of mixture		<b>30 °C / 86 °F</b> ≈ 200 mPa·s	<b>23 °C / 73 °F</b> ≈ 360 mPa·s	<b>12 °C / 54 °F</b> ≈ 1,100 mPa·s
Tensile strength on concrete 14 d, 21 °C / 70 °F (EN 12618-2)	<b>dry</b>	≈ 4.3 N/mm <sup>2</sup>		
Compressive strength 7 d, 21 °C / 70 °F (ISO 604)	≈ 45 N/mm <sup>2</sup>			
Bending tensile strength 7 d, 21 °C / 70 °F (ISO 178)	≈ 53 N/mm <sup>2</sup>			
Tensile strength · elongation at break 7 d, 21 °C / 70 °F (ISO 527)	≈ 20 N/mm <sup>2</sup> · ≈ 28%			
E modulus 7 d, 21 °C / 70 °F (ISO 527)	≈ 6,570 N/mm <sup>2</sup>			
Shrinkage (EN 12617-2)	< 3%			
Glass transition temperature $T_G$	> 40 °C / 104 °F			
Shore hardness D 7 d, 21 °C / 70 °F (EN 868)	≈ 74/70			
CE classification (EN 1504-5)	U(F1) W(2) (1) (8/30) (1)			
Fire behavior	B2 according to DIN 4102-4. 2.3.2			
GISCODE	RE1			
EPD	EPD-DBC-20130015-IBE1-DE			
Exposure scenarios according to REACH	Assessment of industry standard application			

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 homogenously
- Transfer the mixed material to the hopper



### 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)



### 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

**Product data**

Product data		
<b>Application</b>	Injection by 1C pump	
<b>Packing</b>	<b>Comp. A</b>	<b>Comp. B</b>
	2 x 225 kg	180 kg
	21 kg	8.7 kg
	10 kg	4 kg
	5 kg	2 kg
	1 kg	0.4 kg
	<b>Combi:</b> 0.71 kg	0.29 kg
<b>Storage</b>	<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>	
<b>Compatibility/Resistance</b>	<ul style="list-style-type: none"> <li>• Compatible with concrete, steel, foil, 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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### Test certificates

- Declaration of performance according to Construction Products Regulation
- Test certificate\* according to KTW recommendations: D1 (large sealing of surfaces)
- Registered with the BASt list
- Tested/monitored by Institute for Construction Chemicals IBMB
- Further test certificates on request

### 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 occupa-

tional 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.

\* for drinking water