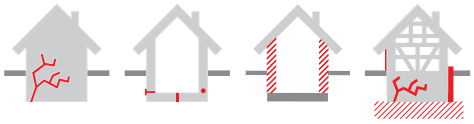
Epoxy Injection Resins

WEBAC® 4110 CE



Range of application

- Crack injection in components according to DIN EN 1504-5
- Injection of construction joints
- Filling cracks and cavities in building components
- Adhesive agent for mineral materials
- Grouting of anchors in hollow layers
- Bonding of structural elements
- Solidification of hollow screed
- Steel sheet injection
- Solidification of open-pored concrete structures (e.g. tamped concrete)

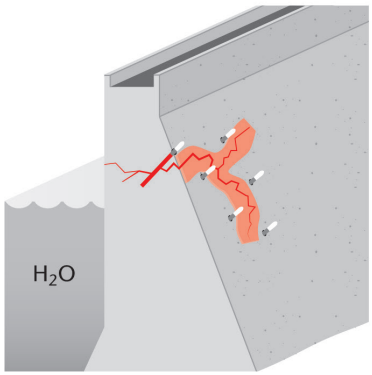
Properties

- Epoxy-based injection resin
- High edge adhesion
- Cures even under dynamic stress
- Volume and dimensional stability
- Total solid*

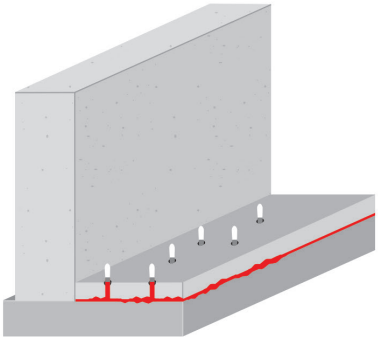
Test certificates

- Declaration of performance in accordance with the Construction Products Regulation (system 2+)
- Certificate of conformity of the factory production control
- Test certificate according to KTW recommendations: D1 (large-surface sealants)
- Registered with the BASt List
- Tested according to ZTV-ING (RISS)
- Tested/supervised according to DIN V 18028 by the official material testing institute iBMB
- Environmental Product Declaration (EPD)
- List of chemical resistance

Examples



Crack injection in civil engineering structures



Solidification of hollow screed

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

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Technical Information

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Technical data	Values			
Mixing ratio	2 : 1 parts by volume			
Density, 20 °C (DIN ISO 2811)	**Comp. A** ≈ 1.1 g/cm³ **Comp. B** ≈ 0.94 g/cm³			
Pot life (WEBAC test specification based on DIN ISO 9514)		**30 °C** ≈ 30 min	**20 °C** ≈ 100 min	**12 °C** ≈ 120 min
Application temperature Building structure and material	> 8 °C			
Viscosity of mixture (WEBAC test specification based on DIN ISO 3219)		**30 °C** ≈ 200 mPa·s	**23 °C** ≈ 360 mPa·s	**12 °C** ≈ 1,100 mPa·s
Tensile strength on concrete 14 d, 21 °C (DIN EN 12618-2)	**dry**	≈ 4.3 MPa (N/mm²)		
Compressive strength 7 d, 21 °C (DIN ISO 604)	≈ 45 MPa (N/mm²)			
Bending tensile strength 7 d, 21 °C (DIN ISO 178)	≈ 53 MPa (N/mm²)			
Tensile strength · Elongation at break 7 d, 21 °C (DIN ISO 527)	≈ 20 MPa (N/mm²) · ≈ 28%			
E modulus 7 d, 21 °C (DIN ISO 527)	≈ 6,570 MPa (N/mm²)			
Shrinkage (DIN EN 12617-2)	< 3%			
Glass transition temperature T_G	> 40 °C			
Shore hardness D 7 d, 21 °C (DIN EN 868)	≈ 74/70			
CE classification (DIN EN 1504-5)	U(F1) W(2) (1) (8/30) (1)			
Fire behavior (DIN 4102-4. 2.3.2)	B2			
GISCODE	RE30			
EPD	EPD-DBC-20220175-IBF1-EN			
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

Structural analysis

- Preparation of a building condition analysis to determine the actual condition of the structure/component
  - Structure condition
  - Hydrodynamic and hydrostatic conditions
  - Cavities/voids
  - Crack pattern

This results in:

- Planning of suitable remediation measures in accordance with the applicable rules and standards
- Selection of suitable material
- Selection of packers/lances
- Positioning of the drill holes and placement of the packers/lances
- Carrying out a test injection if necessary

Application instruction

- Injection by 1C pump
- Make sure the filter in the hopper is clean
- The mixture must be used completely within 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.

Mixing

- Empty component A and B at the given mixing ratio into a mixing vessel (make sure that the containers are completely empty) and mix homogenously
- Transfer mixed material in a new mixing vessel, stir well again and fill into the hopper of the pump

Strong heat development – only mix small quantities!

Application

- Adapt the injection pressure to 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 to get an even material distribution
- When injecting the last packer check the ventilation hole for apparent resin
- A secondary injection must be carried out within the gelling phase of the material

Final work and cleaning

- After the material is cured, knock off patching if necessary and remove packers
- 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 flushing 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

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Product data

		Comp. A	Comp. B
Delivery form		2 x 225 kg	180 kg
		19.8 kg	7.95 kg
		10 kg	4 kg
		5 kg	2 kg
		1 kg	0.4 kg
	Combi:	0.71 kg	0.29 kg
Storage		• Between 8 °C and 25 °C • Protected from moisture • In original, sealed containers	
Compatibility		• Compatible with concrete, steel, foil, cable sheathing and WEBAC injection materials	
Resistance		• Resistant to salts harmful to the building, alkalis and acids	

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.com.

Waste disposal

In Germany, empty containers can be disposed of via “Interzero Circular Solutions Germany 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 “Disposal Notes” in our product catalog or www.webac.com and the safety data sheets.

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