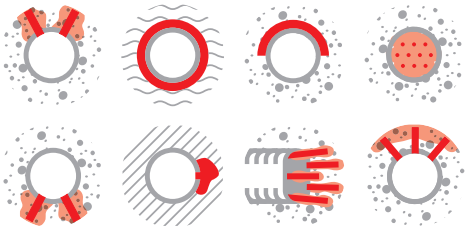
Silicate Injection Resins

WEBAC® SIL*compact M*



Range of Application

- Stabilization and permanent sealing of tunnel systems and mining installations
  - Umbrella injection in direct TBM areas
  - Reinforcement ahead of the tunnel face and tunnel face stabilization
  - Filling of cavities/voids and gaps
- Subsoil and rock mass stabilization
  - Consolidation and stabilization in earthworks and dam building
  - Slope stabilization
  - Solidification of karst and unconsolidated rock, gravel and crushed rock layers

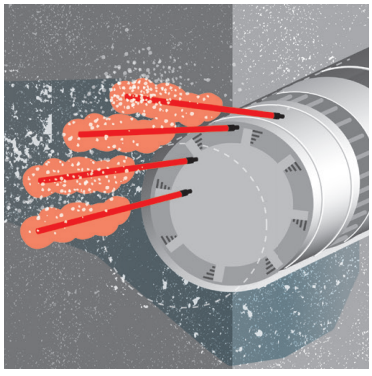
Properties

- Silicate-based injection resin
- Good flow properties
- Very fast strength development
- No foam formation even under water
- Compact curing
- Low reaction temperature
- Suitable for cutting and planning

Test Certificates

- German Mining Approval (LOBA E 62.12.22.67-2011-1)
- Test certificate according to KTW recommendations: B (containers)
- Assessment and effects of construction products on soil and ground water according to DIBt code of practice
- Environmental Product Declaration (EPD)

Example



Tunnel face pre-injection

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Technical Information

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Technical Data		Values
Mixing ratio		1 : 1 parts by volume
Density, 23 °C (DIN ISO 2811)	**Comp. A** **Comp. B**	≈ 1.46 g/cm³ ≈ 1.2 g/cm³
Application temperature Building structure and material		> 15 °C
Viscosity, 23 °C (DIN ISO 3219)	**Comp. A** **Comp. B**	≈ 290 mPa·s ≈ 390 mPa·s
Reaction time Flow limit • Tack-free • Solid		**20 °C** ≈ 120 s • ≈ 180 s • ≈ 240 s
Compressive strength uniaxial, 21 °C (DIN ISO 604)	**< 24 h** **6 d**	≈ 40–50 MPa (N/mm²) ≈ 50 MPa (N/mm²)
Bending tensile strength (DIN ISO 178)	**6 h** **3 d**	≈ 23 MPa (N/mm²) ≈ 25 MPa (N/mm²)
Tensile strength, 6 d, 21 °C (DIN ISO 527)		≈ 10 MPa (N/mm²)
Shore hardness D, 20 °C (DIN ISO 386)	**1 h** **24 h**	≈ 60 ≈ 70
Heat development, 30 °C*		max. 103 °C
Density, cured material (DIN ISO 2811)		≈ 1.25 g/cm³
Bonding strength, 24 h (based on DIN EN 196)		≈ 3.5 MPa (N/mm²)
Ultimate strength, < 30 °C (based on DIN EN 196)		Bonding strength ≥ 1 MPa (N/mm²)
Flashpoint (DIN ISO 2719)	**Comp. A** **Comp. B**	not determinable** ≈ 200 °C
GISCODE		PU40
EPD		EPD-FEI-20220021-IBG1-EN
Exposure scenarios according to REACH		Assessment of industry standard application

* free temperature development with 200 g of material
** The flashpoint is not determinable due to water vapor development.

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

- Check the injectability of the rock, subsoil or building structure
- Determine a remediation concept in accordance with the applicable rules and standards
- Carrying out a test injection if necessary

Application Instruction

- Injection by 2C pump
- We recommend storing the components at a minimum temperature of 15 °C for at least 12 hours prior to use to ensure optimum application performance
- Component A must be thoroughly stirred separately before application or transfer. When processing from a small container, use a slow-running stirrer at max. 300 rpm (e.g. drill with paddle stirrer), when processing from an IBC, we recommend a suitable stirring unit
- Stir component A again and again during processing
- Protect components from moisture penetration (skin formation, pump-damaging precipitates, foam formation due to moisture)
- 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

Only use injection pumps for one type of material (silicate resin or polyurethane resin). When changing the material, the pump must be cleaned thoroughly and all material and cleaning agent must be removed entirely. For further information, please contact WEBAC.

WEBAC Quality Control recommends checking the product specification before processing products that have been stored for a longer period of time.

Mixing

- Components A and B are delivered at a mixing ratio of 1 : 1 from respective containers directly with a 2C pump, the components are mixed homogenously by a static mixer in the mixing head

Application

- Depending on application

We will be pleased to advise you.
Please contact us! Phone +49 40 670 57-0

Cleaning

- When interrupting work for a short period of time the mixing head can be cleaned with component A of the injection material
- When interrupting work for a longer period of time and after conclusion of the injection process it is necessary to rinse the hoses and the pistons of component A thoroughly with water, use **WEBAC® Cleaner A** for cleaning component B
- Observe the technical data sheet 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	1,360 kg 29 kg	1,100 kg 23.5 kg
Storage	• Between 5 °C and 30 °C • Protected from moisture • In original, sealed containers	

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.

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-grouts.com and the safety data sheets.

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