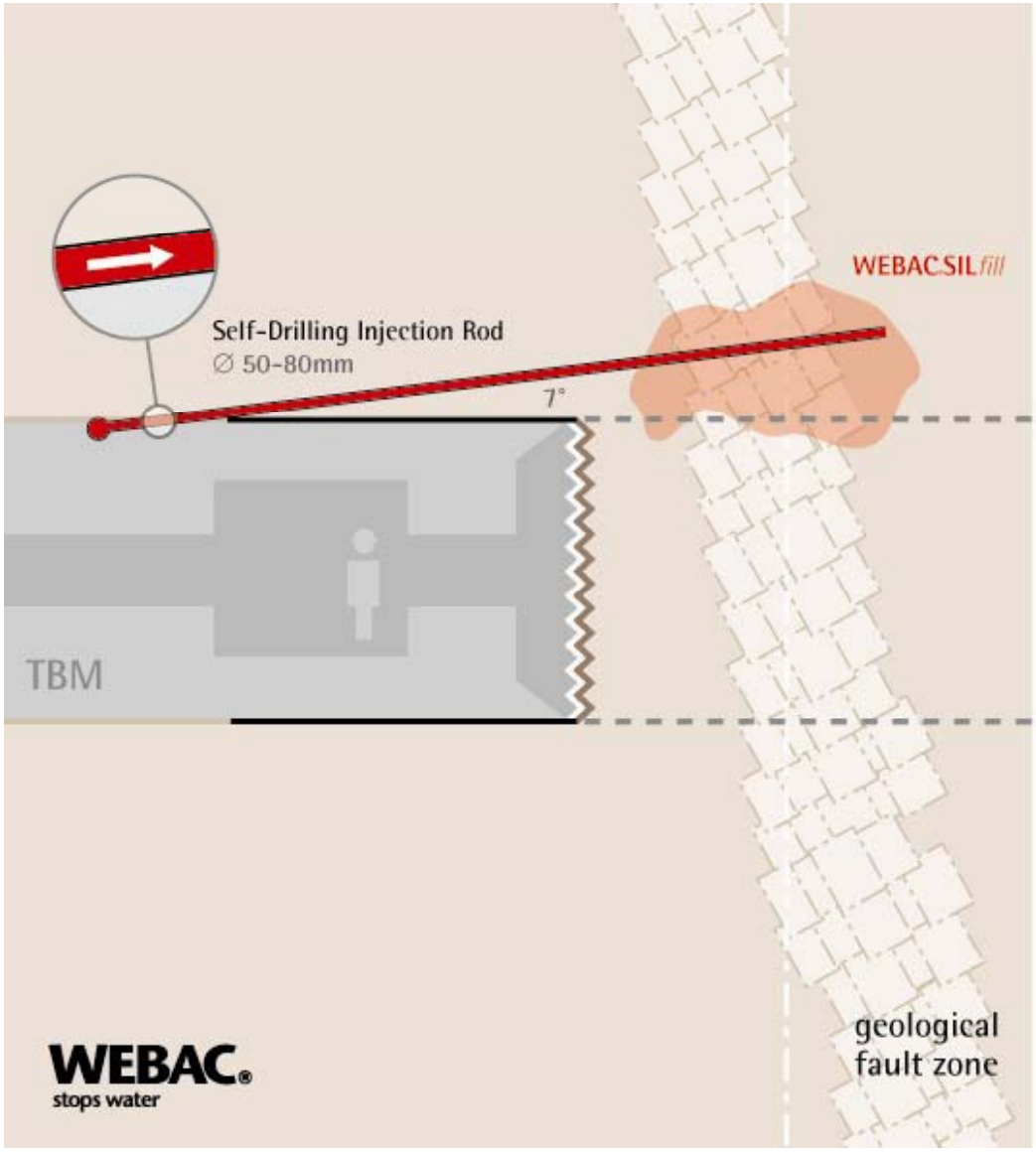
WEBAC®

Consolidation Line

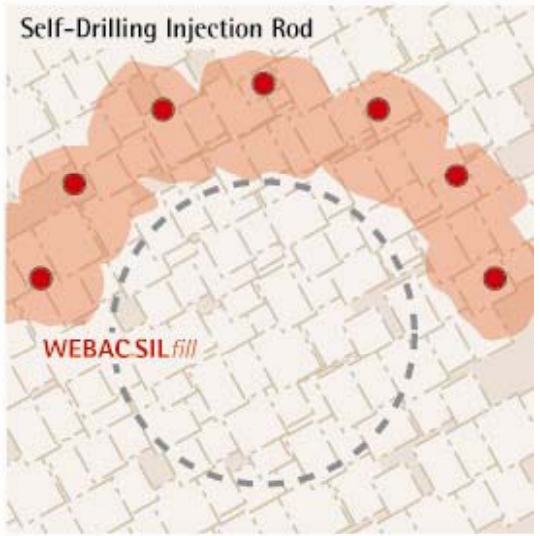
Our Formula – Your Solution

Where are our products used?

- Soil consolidation
- Rock mass stabilization
- Permanent consolidation
- Reduction or prevention of subsidences
- Stopping of water inrushes
- Permanent sealing against water and gas
- Filling of voids



Pre-Injection via TBM



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Start of face excavation

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Self-drillling boltdrills

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Crown of bolt

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2-component foam-resin injection

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Injection through bolts

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Abutment excavation for setting steel framework

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Excavation with hammer

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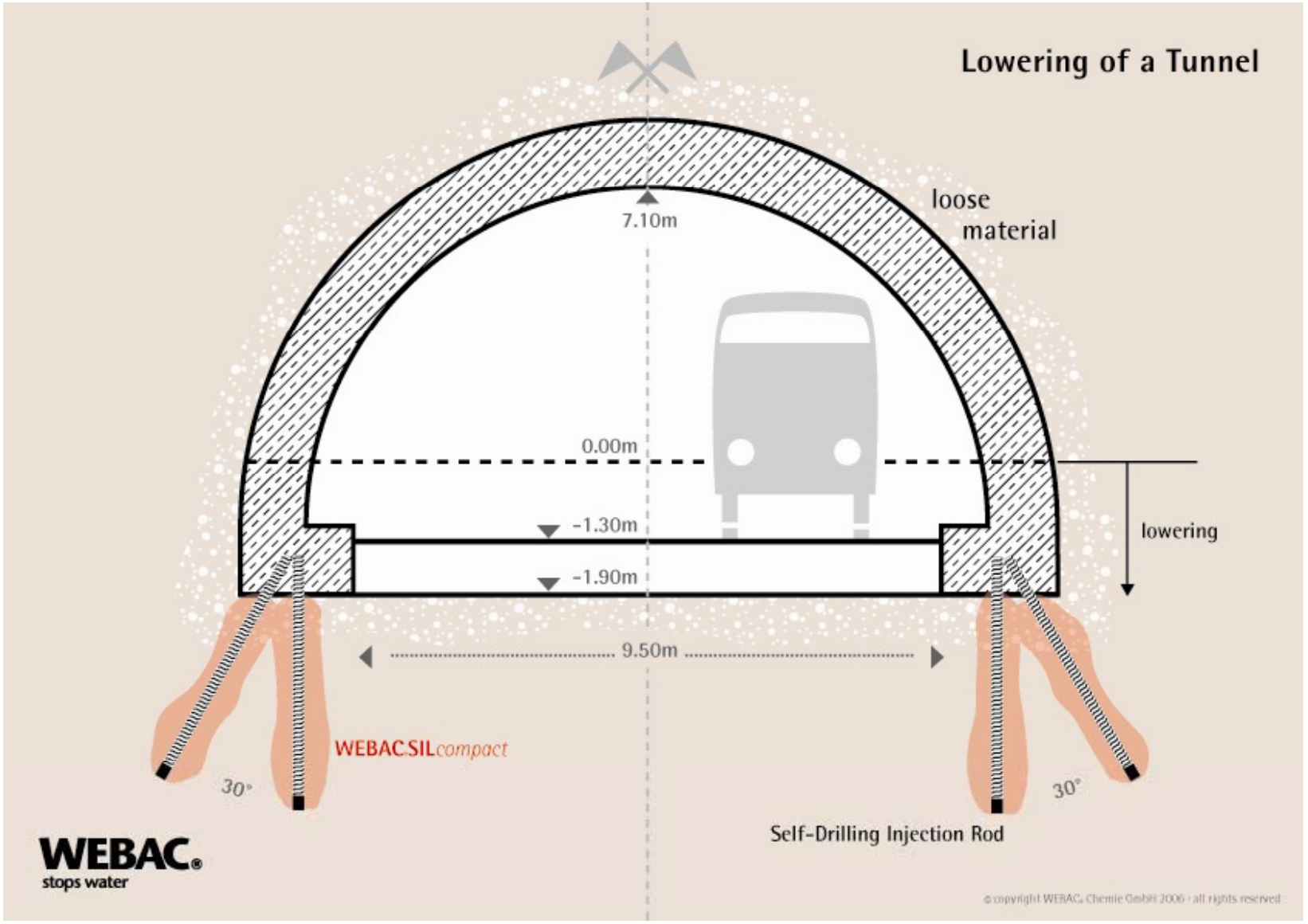

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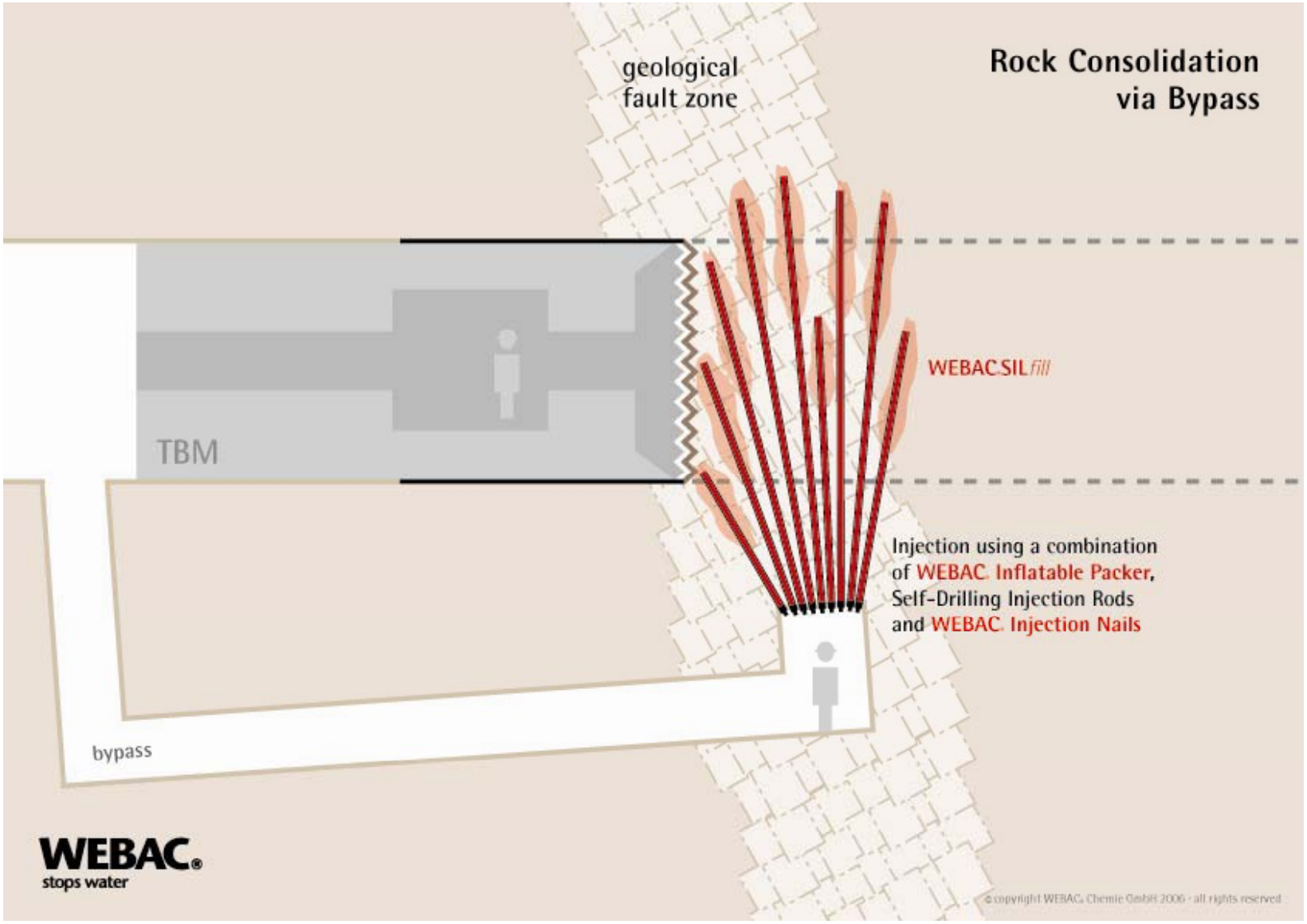

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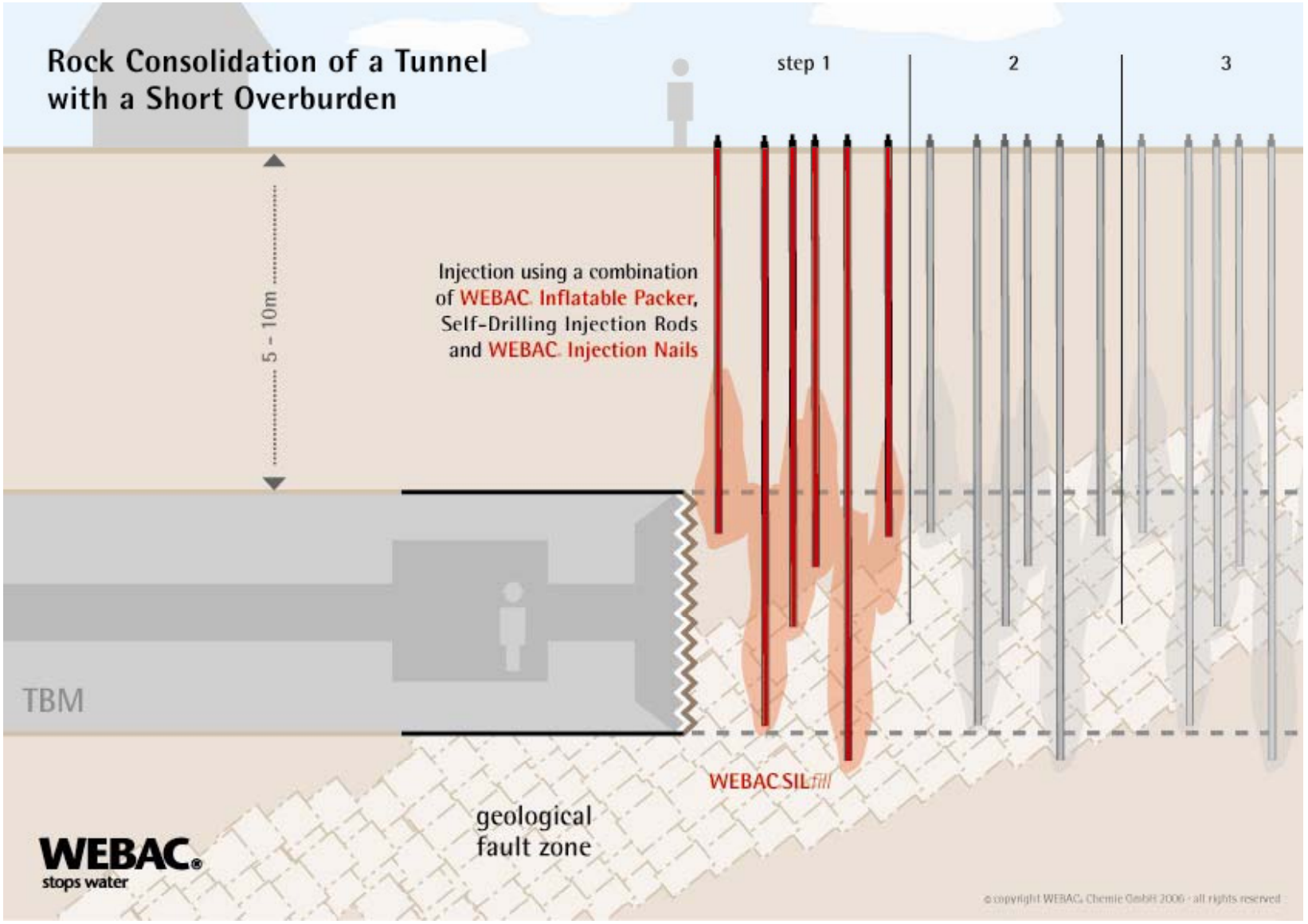

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Consolidation Line

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Crater

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Drilling work

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Drilling and injection work

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Drilling and injection work

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Drilling and injection work

Consolidation Line

WEBAC®PUR*stop*

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Injection work

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Injection

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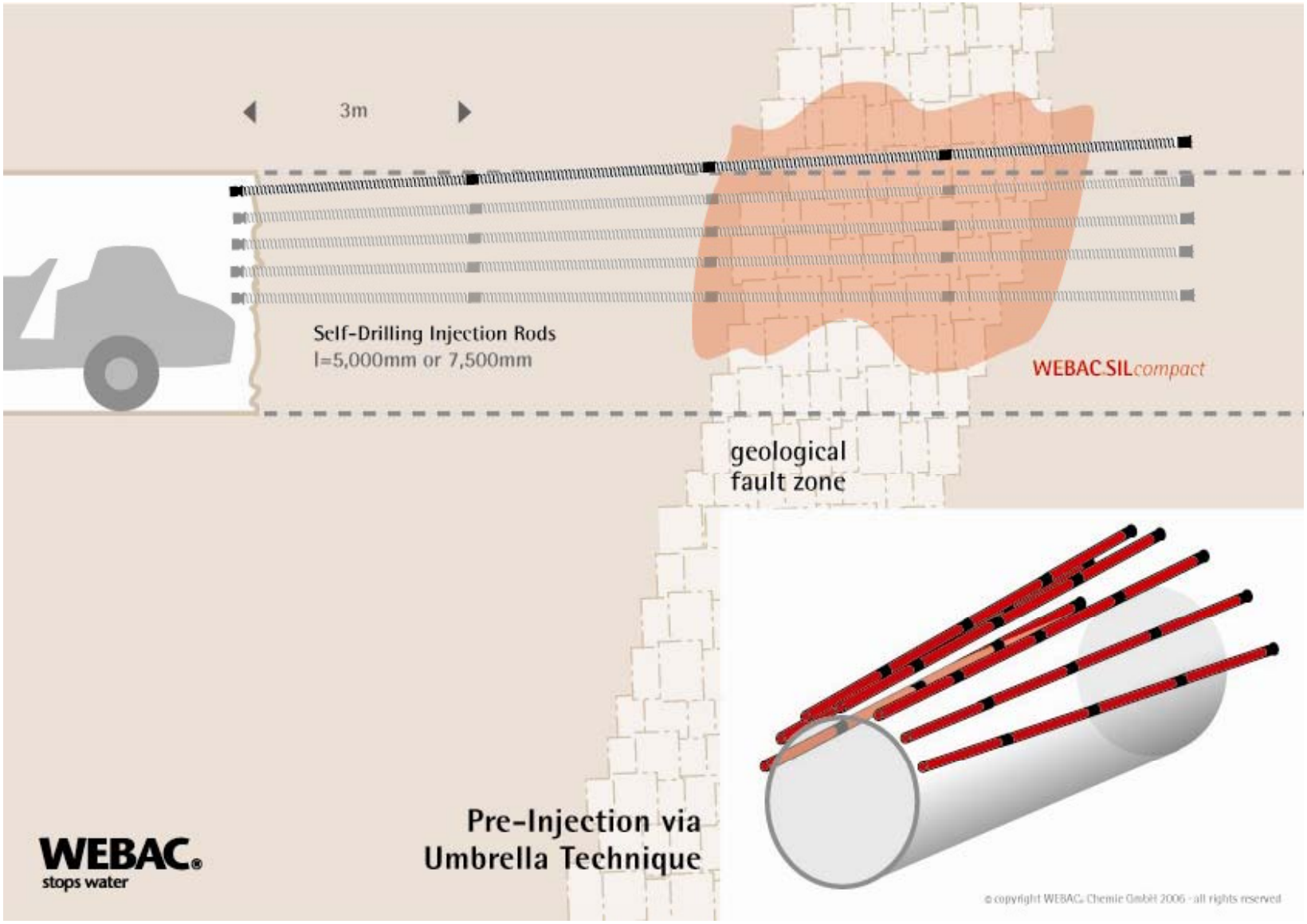
Consolidation Line



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Consolidation Line

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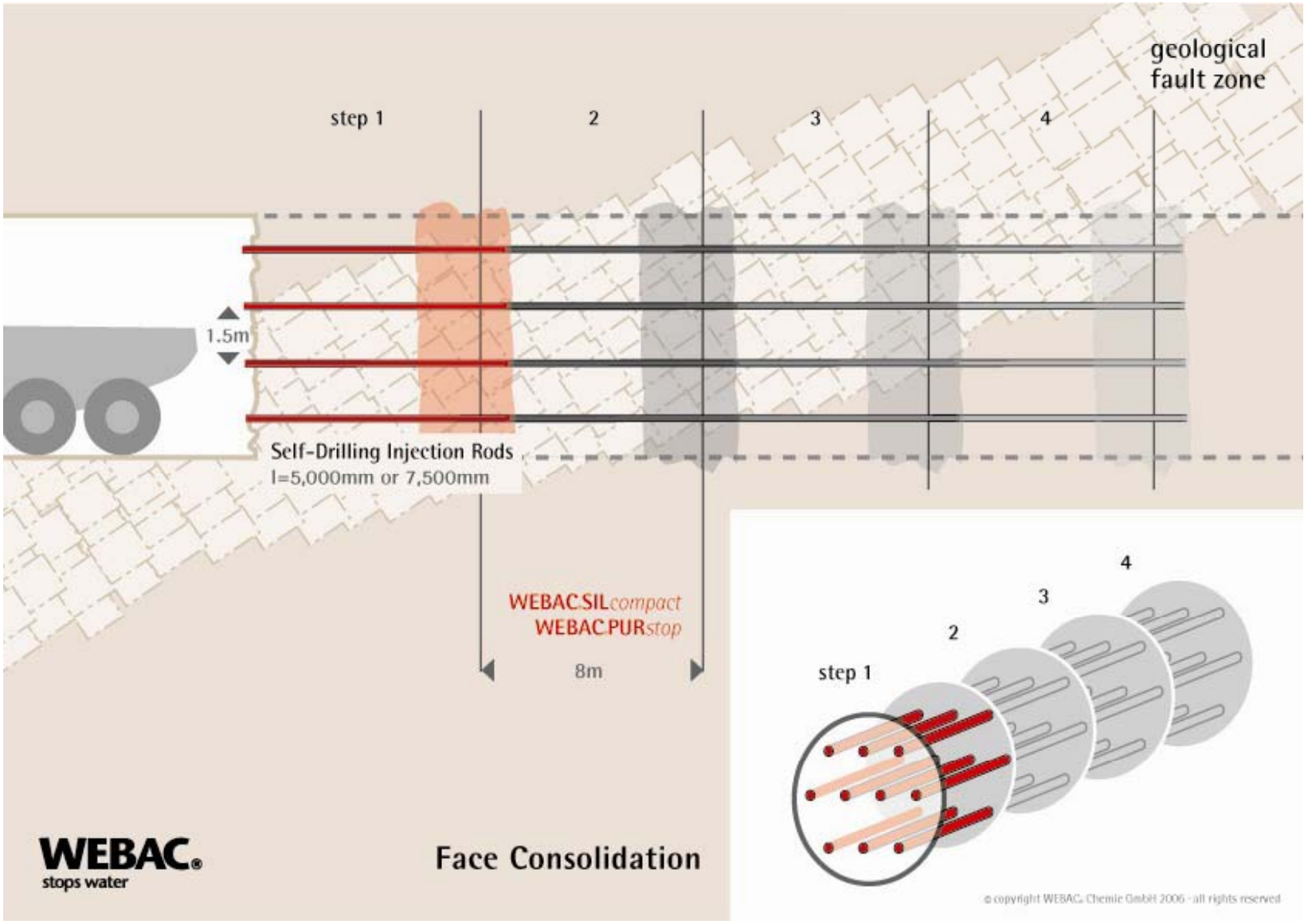

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Consolidation Line

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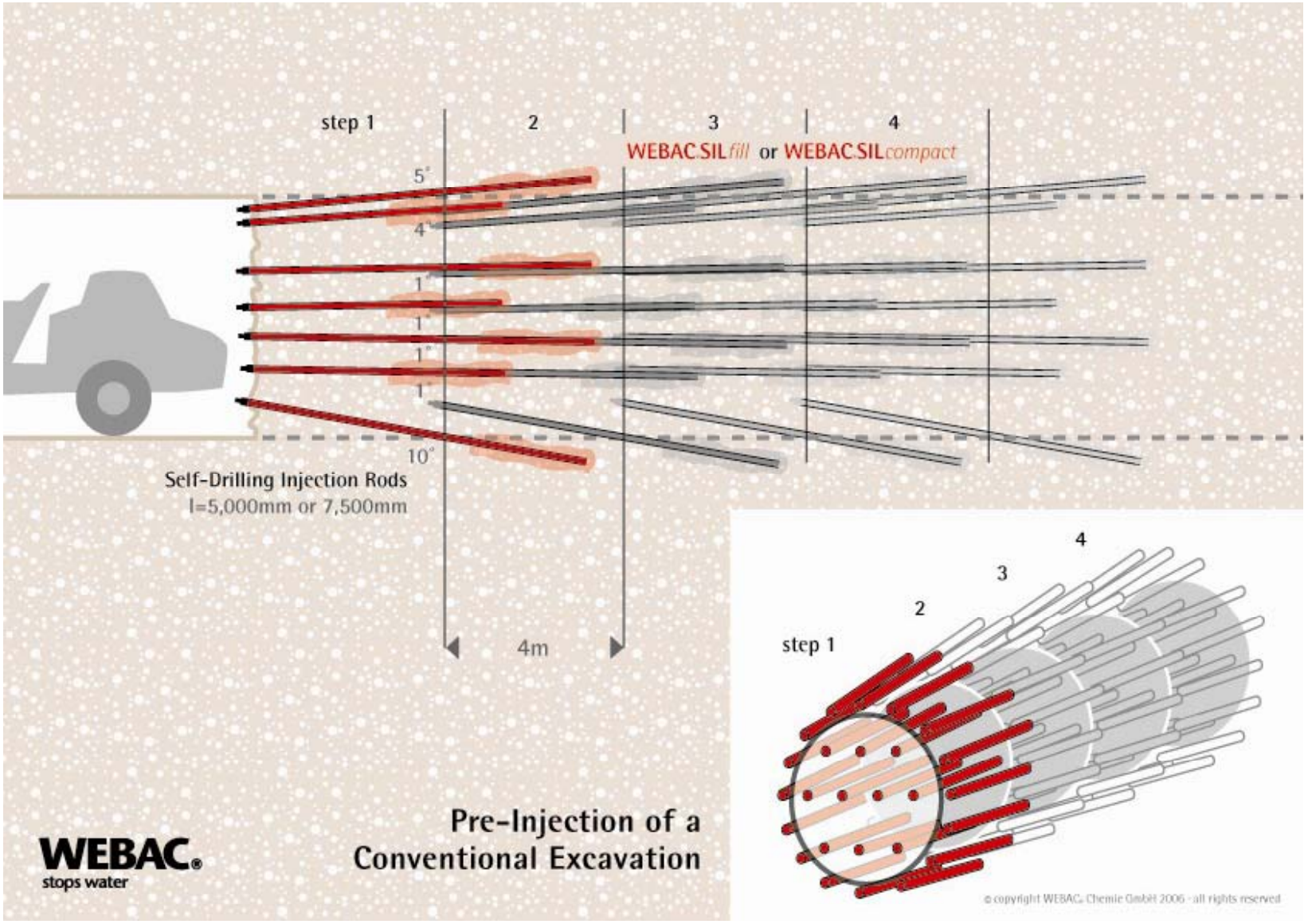

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Consolidation Line

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Forepole Solution

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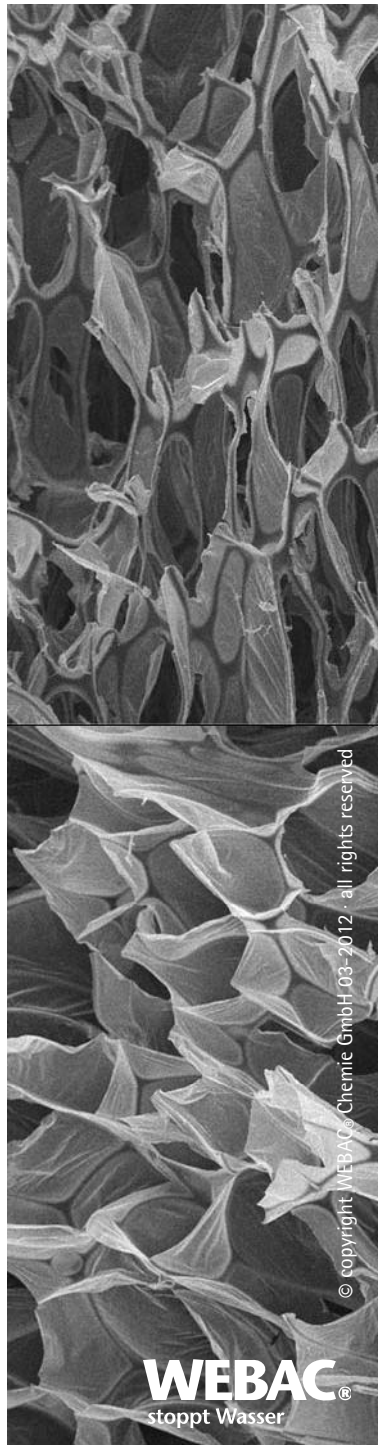
What does our Consolidation Line comprise?

- PUR Injection System (PIS)
  - PUR Injection Foam Resins
  - PUR Injection Resins
- Silicate Injection System (SIS)
  - Silicate Injection Foam Resins
  - Silicate Injection Resins
- Injection Pumps
- Injektion Packers and Lances



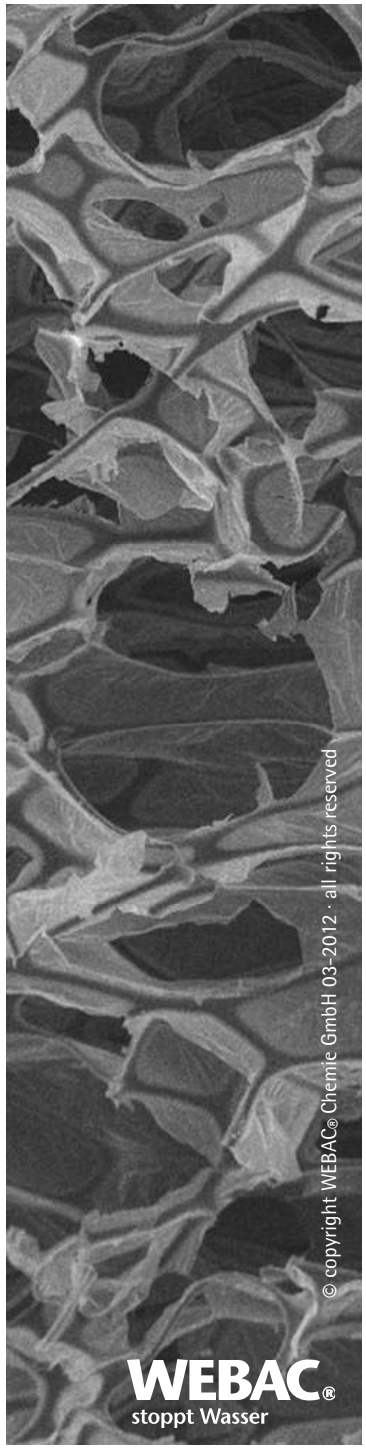
PUR Injection System (PIS)

WEBAC®PUR*seal*

WEBAC®PUR*seal* is a 2-comp. PUR injection resin for the stabilization of rock mass in tunnel and foundation constructions. The material cures with and without water contact.

Properties	WEBAC® PUR*seal*
Viscosity (23 °C)	approx. 300/260 mPa•s (comp. A/comp. B)
Mixing ratio	1:1 parts by volume
Flow limit (23 °C)	approx. 40 s
Compressive strength	approx. 80 N/mm² (MPa)
Foam factor	approx. 1 – 3

Consolidation Line



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PUR Injection System (PIS)

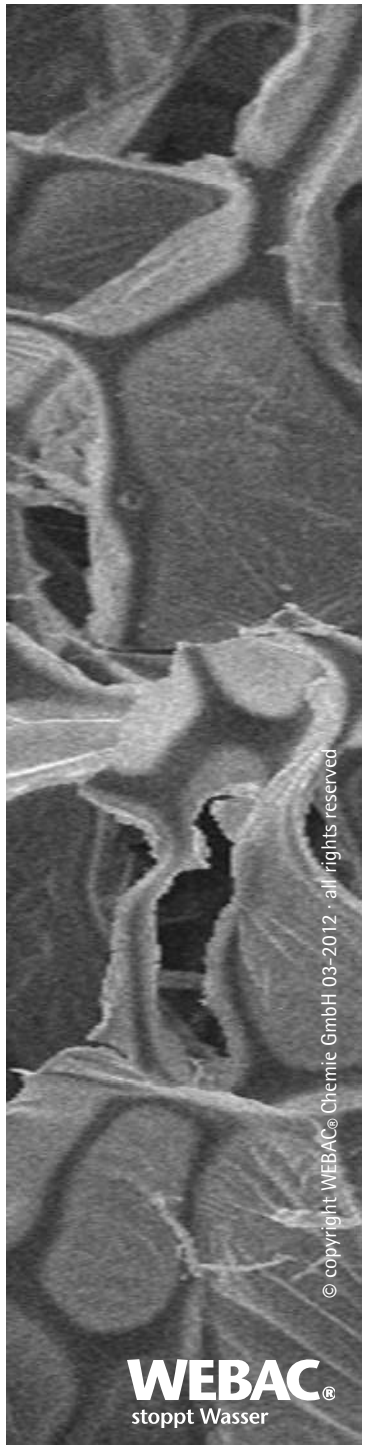
WEBAC®PUR*stop*

WEBAC®PUR*stop* is designed for the quick stopping of flowing water due to cracks, cavities and leaks.

Properties	WEBAC® PUR*stop*
Mixing ratio	1:1 parts by volume
Foam start (20 °C)	approx. 20 s (adding 10 % of accelerator)
Foam end (20 °C)	approx. 12 s (adding 20 % of accelerator)
Foam factor	up to approx. 40

The system is accelerated by adding WEBAC®PUR*stop* *Accelerator*. **Apply by single- or two-comp. injection pump.**

Consolidation Line



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Silicate Injection System (SIS)

WEBAC®SIL*fill*

WEBAC®SIL*fill* is a 2-comp. injection foam resin based on silicate. It is specially designed for the preventive securing and stabilization of heading faces in tunnel constructions and for the quick filling of cavities. The system reacts with and without water contact.

Properties	WEBAC® SIL*fill*
Viscosity (23 °C)	approx. 50/180 mPa•s (comp. A/comp. B)
Mixing ratio	1:1 parts by volume
Flow limit (23 °C)	approx. 27 s
Foam factor (23 °C)	approx. 30

The cured foam is ready for cutting and planing.

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Silicate Injection System (SIS)

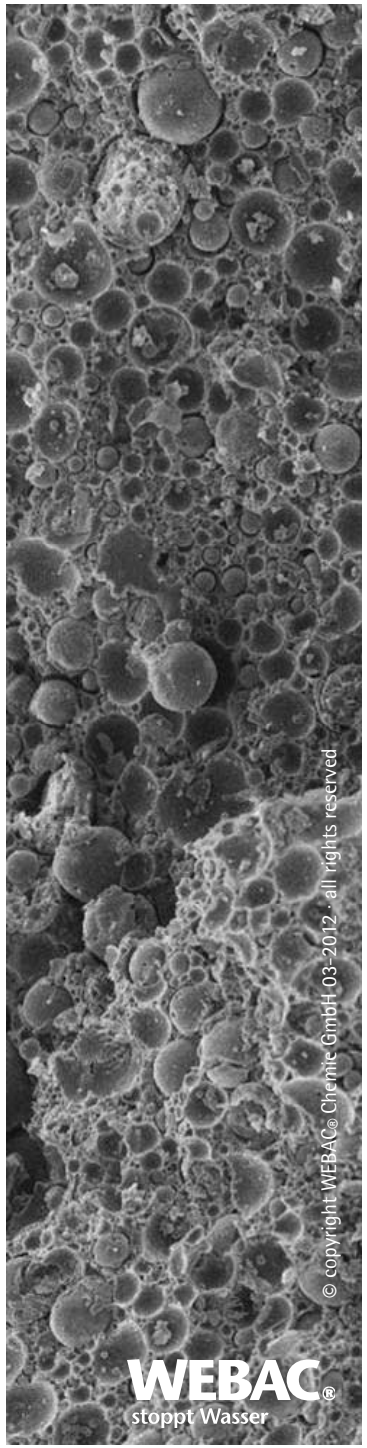
WEBAC®SIL*compact*

WEBAC®SIL*compact* is a 2-comp. injection resin based on silicate. It is designed for consolidation purposes when using tunnel boring machines and for the bonding of injection lances and anchors.

Properties	WEBAC® SIL*compact*
Viscosity (23 °C)	approx. 210/180 mPa•s (comp. A/comp. B)
Mixing ratio	1:1 parts by volume
Flow limit (23 °C)	approx. 30 s
Compressive strength (3 days)	approx. 75 N/mm² (MPa)
Foam factor	1 (no foam formation)

The two components cross-link immediately after mixing and thus do not absorb water.

Consolidation Line



Injection Pumps

WEBAC® IP 2K-320/30/30 is an air-driven, 2-comp. injection pump with a fixed mixing ratio for the application of products of the **WEBAC® Consolidation Line**.

Physical properties	WEBAC® IP 320/30/30
Injection pressure	up to 230 bar
Pump capacity	approx. 12 l/min (100 bar)
Air requirement	6 m³/min (212 CU ft/min)
Weight	approx. 140 kg

Electro/Hydraulic Pumps (400 Volt) on request

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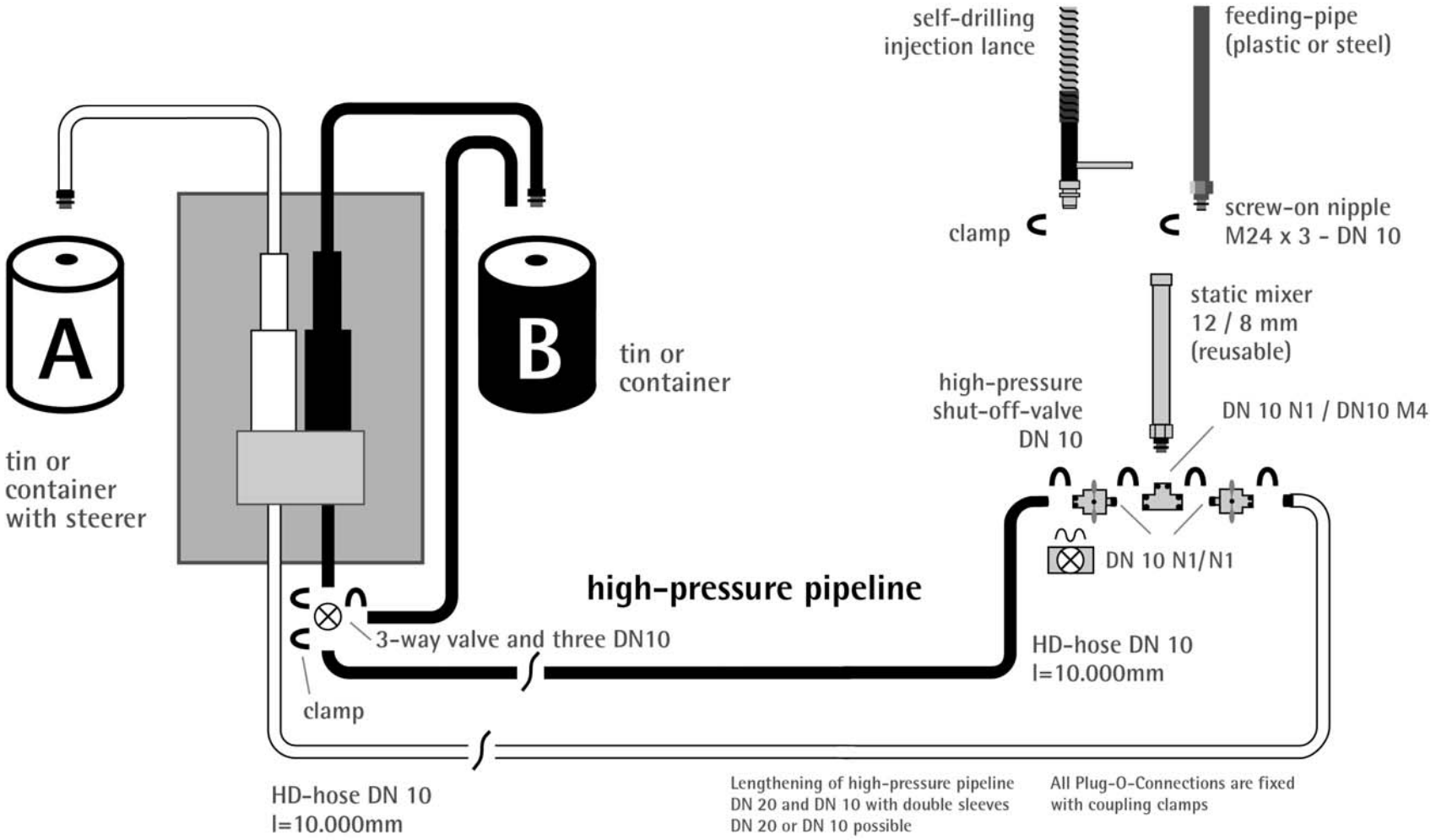
Injection unit



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WEBAC®
stops water

Injection Packers

	WEBAC® Inflating Packers	
Material	Steel core with inflating body made of rubber-coated fabric	Plastic core with inflating body made of rubber-coated fabric
Diameter	approx. ø 36 mm	approx. ø 40 mm
Maximum expansion	approx. ø 60 mm	approx. ø 70 mm
Length	approx. ø 330 mm	approx. 330 mm
Max. flow rate	approx. 20 l/m	approx. 20 l/min
Opening pressure	approx. 40 bar	approx. 40 bar

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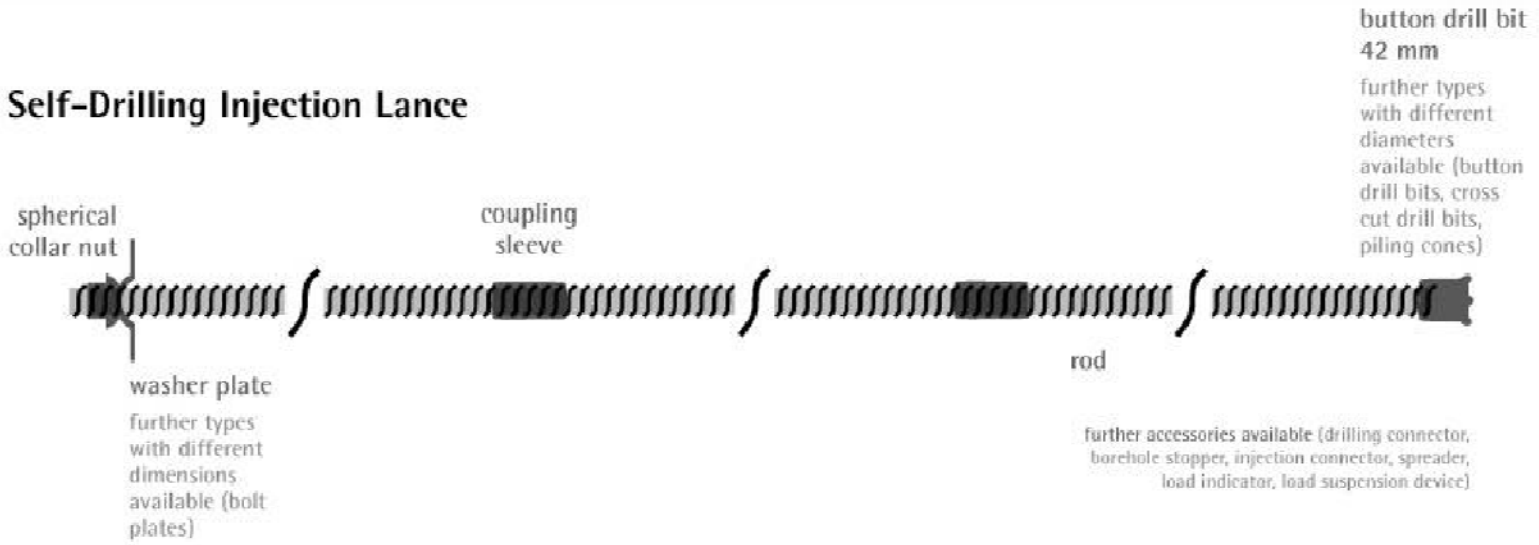
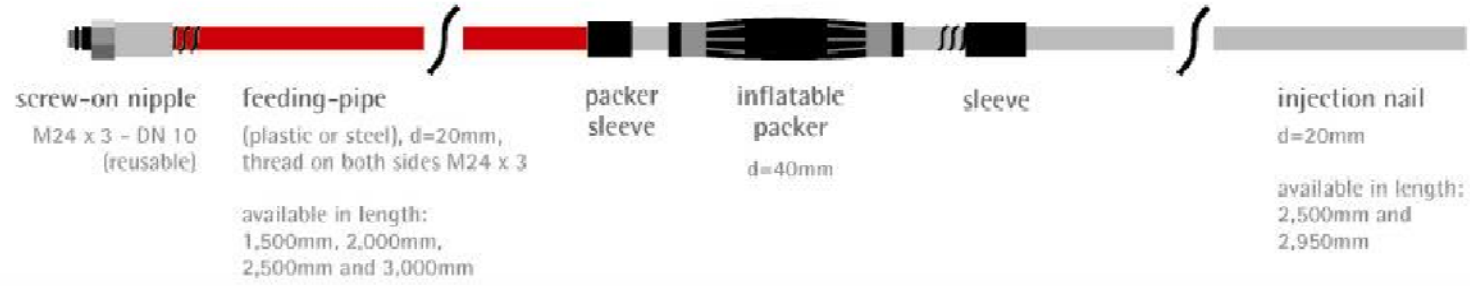
Injection Packers and Lances

Self-Drilling Injection Lance



WEBAC Inflatable Packer



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What are typical application ranges?

To summarize again:

- Stabilization of soil
- Proofing against water and gas
- Filling of Cavities

Consolidation Line

WEBAC® protects and preserves.

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Consolidation Line – Your Solution