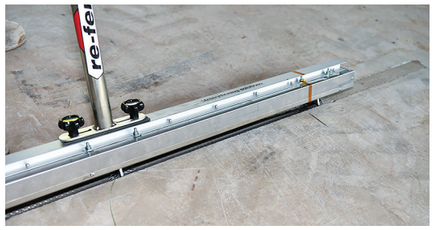
Application equipment for re-bar

V04 | 11.2019

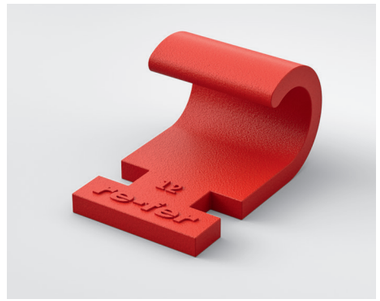
Approved heaters

re-EL
«re-EL» heating systems use the electrical resistance of memory-steel to heat re-bar under control.
On request.



re-IR 1500
«re-IR 1500» infrared heater with handle, control module and integrated temperature sensor. The device only needs a 220V power connection. The temperature control is executed with a separate handset.

Electrical insulators



re-clip
"re-clip" (Ø12 mm) is set on the existing reinforcement to fix re-bar onto it.

re-bolt
Place «re-bolt» in the drilled hole (Ø8 mm) and fix re-bar to re-bolt with binding wire or cable tie.

Tested Sika system mortar

Sika MonoTop-452 N "Reprofiling mortar"
Sika MonoTop-422 PCC "Spray-on mortar"
SikaGrout-311 «Grouting mortar»

BUILDING TRUST

re-bar:

Diameter	Cross-section	Prestressing $F_{p,\theta}$	Breaking force $F_{s,u}$
12 mm	105 mm²	35 kN	68 kN

Tensile strength $f_{s,u}$	Strain at failure $\varepsilon_{s,u}$	Prestress $\sigma_{p,\theta}$ *	Relaxation
650 N/mm²	>10%	340 N/mm²	15% after t_∞

* Reduced prestress can be achieved at lower heating temperatures

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strengthening solutions

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Processing guidelines

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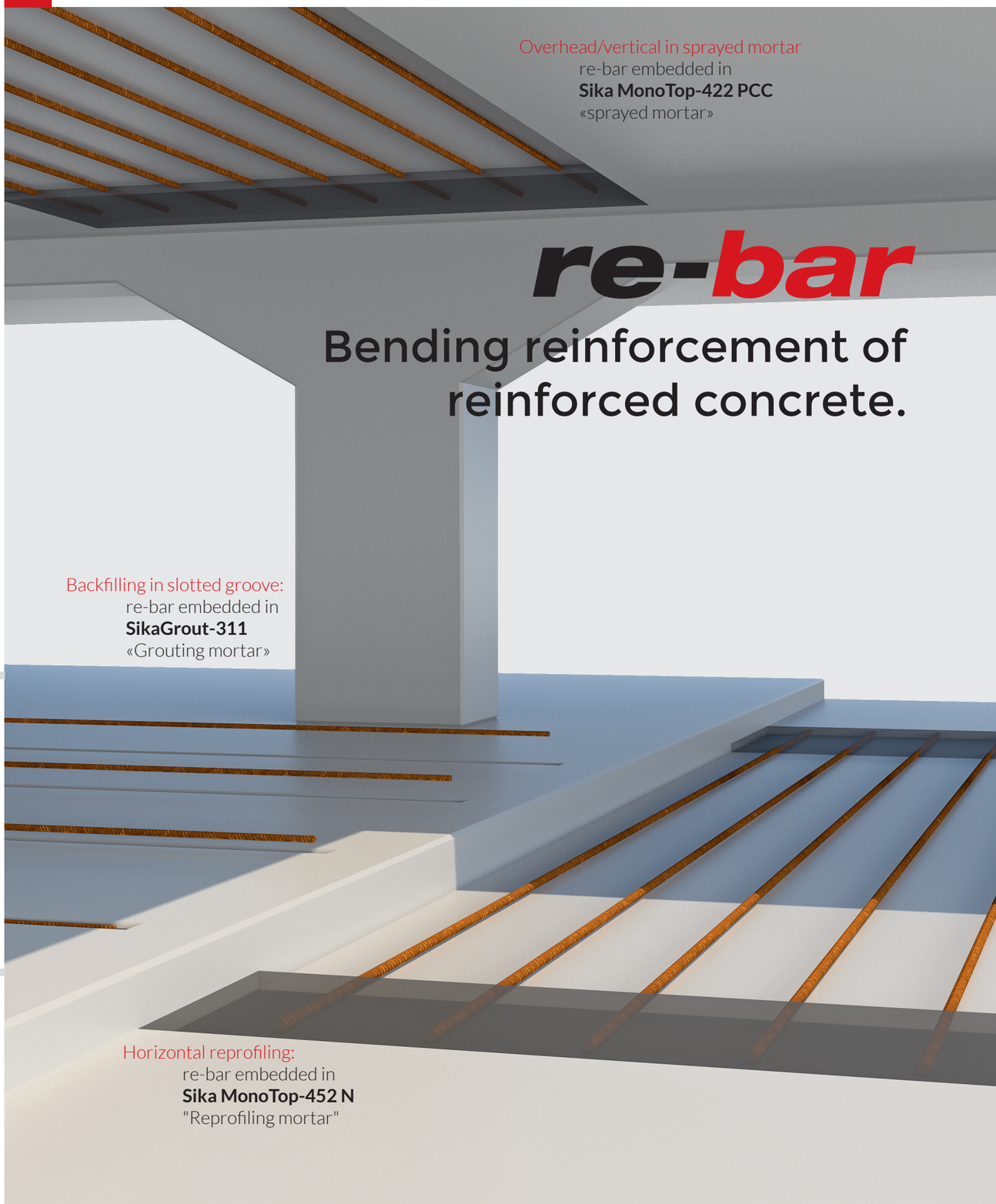
strengthening solutions



Overhead/vertical in sprayed mortar
re-bar embedded in
Sika MonoTop-422 PCC
«sprayed mortar»

re-bar

Bending reinforcement of reinforced concrete.

Backfilling in slotted groove:
re-bar embedded in
SikaGrout-311
«Grouting mortar»

Horizontal reprofiling:
re-bar embedded in
Sika MonoTop-452 N
"Reprofiling mortar"

Horizontal bending reinforcement in the reprofiling mortar

Overhead/vertical bending reinforcement in the sprayed mortar

› Construction preparations

1 Hydromechanical roughening of the concrete substrate

2 Fixing re-bar with **re-clip** electrical insulators and/or **re-bolt**

› Double-sided end anchoring in the Sika MonoTop 500 mm

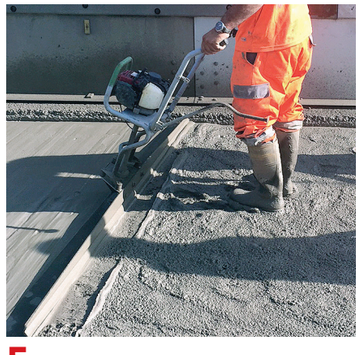
3A Double-sided embedding in **Sika MonoTop-452 N** «Reprofiling mortar» as final anchoring

3B Double-sided embedding in **Sika MonoTop-422 PCC** «Sprayed mortar» as final anchoring

Waiting time 5-7 days until the compressive strength in the mortar >35 N/mm². This is followed by the re-bar activation.

› Activation «heating» with infrared radiant heater or variant re-EL heating system

4 Activation «heating» of re-bar with **re-IR 1500** infrared heater



5A **Apply Sika MonoTop-452 N** between the end anchors

5B **Apply Sika MonoTop-422 PCC** between the end anchors

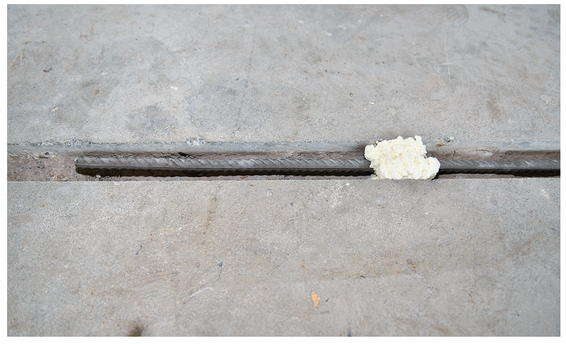
Bending reinforcement in slotted groove

› Construction preparations

1 Slitting the concrete groove in the concrete substrate (Width 3.5 cm / depth 2.5 cm / for re-bar Ø12 mm)

2 fixing rebar centrally in concrete groove

› Double-sided end anchoring in the Sika Grout 300 mm



3 Double-sided foreclosure and embedding in **SikaGrout 311**

Waiting time 5-7 days until the compressive strength in the mortar >35 N/mm². This is followed by the re-bar activation.

› Activation «heating» with infrared radiant heater (variant re-EL heating system)

4 Activate «heating» of re-bar with **re-IR 1500** infrared heater

5 Filling with **SikaGrout 311** between double-sided end anchors