

With seismic C1 and C2



WPER500-S

The next-generation ultimate performance pure-epoxy based chemical anchoring system for extreme loads and maximum load safety

WPER500-S



Based on next-generation pure epoxy formulation



Market leading performance in cracked and non-cracked concrete

Seismic performance categories C1 and C2



European Technical Assessments: Option 1 and TR023

Inspired by smart solutions from the start

Walraven is a globally active company in the installation industry, founded in 1942. We have always been dedicated to make the work of our customers easier and more effective. With simple and smart solutions, comprehensive services and excellent support.

Walraven. The value of smart

WPER500-S Chemical Anchor

Based on next-generation pure epoxy formulation

Product Information

WPER500-S is the ultimate performance pure-epoxy based chemical anchoring system for extreme loads and maximum load safety. It is approved for installations in cracked and non-cracked concrete under normal and seismic C1 and C2 conditions and for post-installed rebar connections. WPER500-S has a market-leading performance in its product class.



Features and benefits

- ETA Option 1 approval for cracked and non-cracked concrete
- ETA approval for post-installed rebar connections
- Seismic performance categories C1 and C2 for design of anchorages under seismic actions
- Reduced concrete edge and anchor spacing distances
- Non-sag formulation for easy overhead applications
- Reduced drilling diameter for M20 and M24, resulting in 50% product saving during installation
- Cartridge may be used up over several times (each installation after a break requires a new mixing nozzle)
- Always correct mixing ratio thanks to the static mixer nozzle
- Installations in flooded holes without any negative effect on performance
- WRAS Material Approval for contact with potable water
- LEED v4.1 attestation
- A+ VOC emissions class



Concrete (cracked)



Concrete (non-cracked)

Approvals & Certificates

- European Technical Assessment for cracked and non-cracked concrete, M8-M30 (ETA-19/0641, 13/10/2019)
- European Technical Assessment for post-installed rebar connections, Ø8-32mm (ETA 19/0640, 13/10/2019)
- LEED v4.1 (392-2017-10347007_H_EN_05)
- VOC Emissions Test Report (392-2015-0034601_E_EN_04)
- WRAS Material Approval for contact with drinking water (MA5306/D, of 21/02/2020)



Product and packaging details

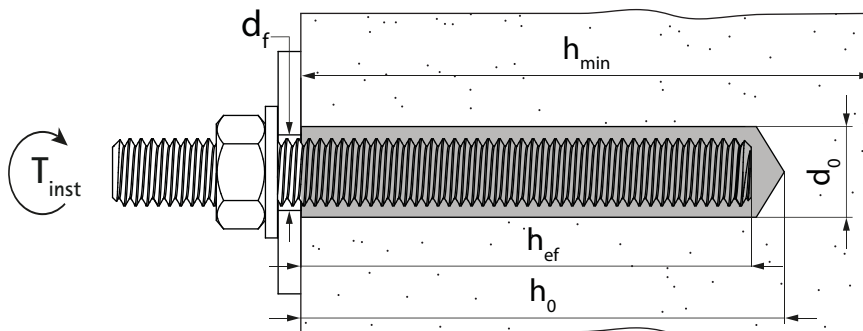
Article	Description	Pack 1		Pack 2	
		(pcs)	EAN13	(pcs)	EAN13
6099160	WPER500-S 585ml	1	8719942030502	12	8719942030519

System accessories

Article	Description	For	Pack 1	
			(pcs)	EAN13
6099989	WIS Dispenser Gun	WPER500-S 585ml	1	8712993160211
6099363	WIS EF Mixer Nozzle	WPER500-S 585ml	12	8719942030663
6099992	WIS Extension Pipe	WIS EF Mixer Nozzle	10	8712993160105
6099320	WIS BRS Brush 14mm	For M10 threaded rods	10	8719942030564
6099321	WIS BRS Brush 16mm	For M12 threaded rods	10	8719942030588
6099322	WIS BRS Brush 22mm	For M16 threaded rods	10	8719942030601
6099323	WIS BRS Brush 24mm	For M20 threaded rods	10	8719942030625
6099324	WIS BRS Brush 31mm	For M24 threaded rods	10	8719942030649

Installation parameters for threaded rods in concrete

Anchor Type			WPER500-S							
Anchor Size			M8	M10	M12	M16	M20	M24	M27	M30
Drill hole diameter	d_0	(mm)	10	12	14	18	22	26	30	35
Cleaning brush	d_b	(mm)	11	14	14/15	22	24	31	31	38
Installation torque	T_{inst}	(mm)	10	20	40	80	120	160	180	200
Embedment depth, min	$h_{ef,min}$	(mm)	60	60	70	80	90	96	108	120
Embedment depth, max	$h_{ef,max}$	(mm)	160	200	240	320	400	480	540	600
Depth of drill hole	h_0	(mm)	$h_{ef} + 5mm$							
Min. edge distance	C_{min}	(mm)	40	40	40	40	50	50	50	60
Min. spacing	S_{min}	(mm)	40	40	40	40	50	50	50	60
Min. concrete member thickness	h_{min}	(mm)	$h_{ef} + 30mm \geq 100mm$				$h_{ef} + 2 d_0$			



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Gelling and curing times

Base material temperature (°C)	Working time t_{work} (min)	Curing time t_{cure} (hrs)
5	300	24
5 - 10	150	24
10 - 15	40	18
15 - 20	25	12
20 - 25	18	8
25 - 30	12	6
30 - 35	8	4
35 - 40	6	2

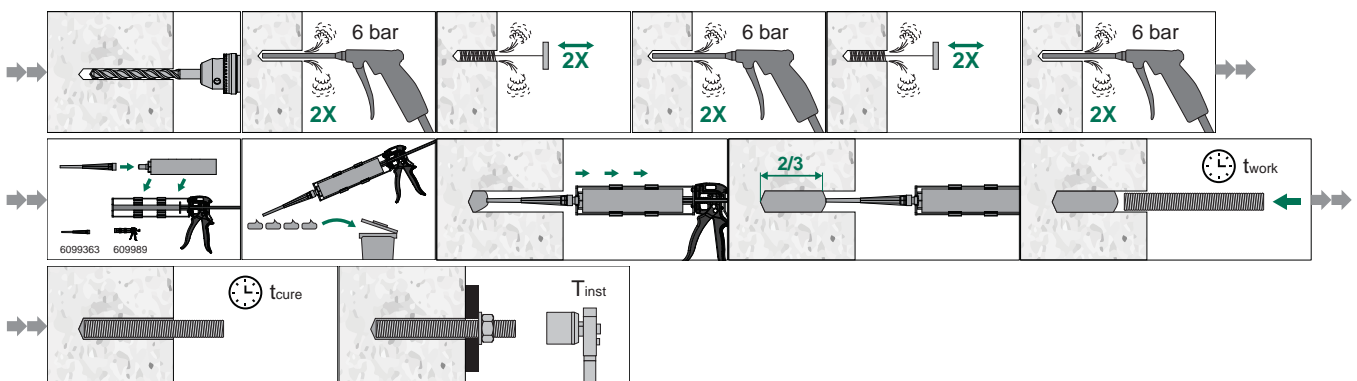
Working time relates to the highest temperature in the range. Curing time relates to the lowest temperature in the range. Cartridge must be conditioned to a minimum of +10 °C before use.

Loading performance information in concrete with threaded rods*

Anchor Type				WPER500-S							
Anchor Size				M8	M10	M12	M16	M20	M24	M27	M30
Effective embedment depth	h_{ef}	(mm)		80	90	110	125	170	210	240	270
Concrete member thickness	$\geq h$	(mm)		110	120	140	161	214	272	302	346
Non-cracked concrete											
Tension load	N_{Rec}	(kN)	Steel grade 8.8	13.5	17.5	25.6	32.7	51.9	71.2	87.9	103.9
Shear load	V_{Rec}	(kN)	Steel grade 8.8	8.5	13.0	19.0	36.0	56.0	80.5	105.0	128.0
Cracked concrete											
Tension load	N_{Rec}	(kN)	Steel grade 8.8	7.5	10.5	14.8	22.5	35.6	49.9	48.5	60.5
Shear load	V_{Rec}	(kN)	Steel grade 8.8	8.5	13.0	19.0	36.0	56.0	80.5	105.0	128.0

*Tension and shear loads 4.1.3 apply to correctly installed anchors; C20/25 concrete; threaded rod, steel grade 8.8; holes drilled with a hammer drill; anchors not affected by anchor spacing or concrete edge influence; anchor in-service temperature range of -40°C to +70°C. Recommended loads include partial safety factor and an overall partial safety factor for action of 1.4. The partial safety factor for action depends on the type of loading and shall be taken from national regulations. All anchor failure modes and the entire relevant product European Technical Assessment must be considered during anchor design. Loads are applicable for the given effective embedment depth and concrete member thickness.

Installation process



Find out how we can support you

Would you like to find out more about any of the solutions described in this brochure?
Or would you like to discuss how we could help you find the best possible solution for your project? Get in touch today!

Other countries

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