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TDS | 2049.1

VINYLESTER BIS-V420

VINYLESTER INJECTION SYSTEM
WITH ETA ASSESSMENT

Vinylester

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VINYLESTER BIS-V420

VINYLESTER INJECTION SYSTEM WITH ETA APPROVAL FOR POST INSTALLED REBAR.

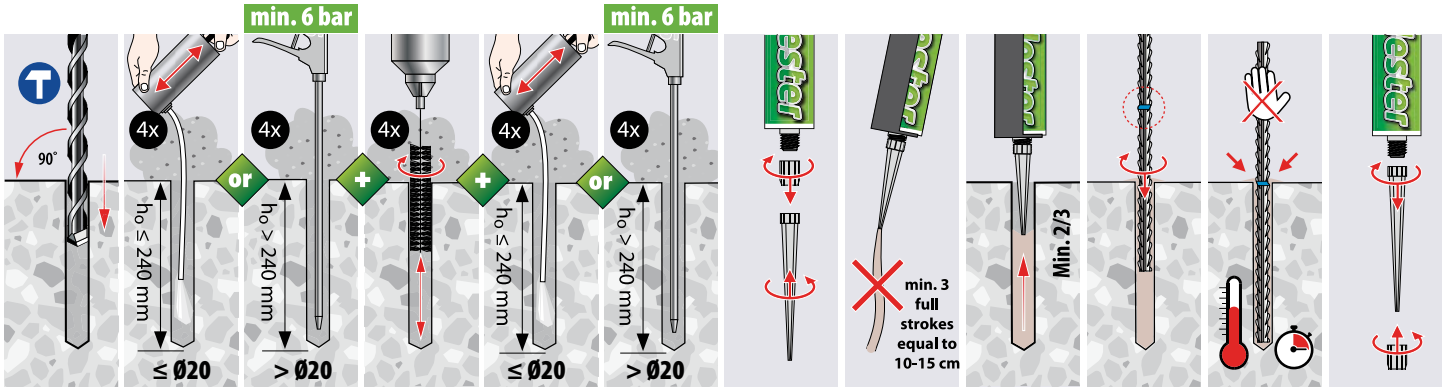
USE CONDITIONS

- Installation in Non-Cracked Concrete C20/25 to C50/60
- In dry and wet holes
- Not to be installed in flooded holes.
- Fire rated

TYPICAL APPLICATIONS

- Infrastructure construction (Roads, Viaducts, Sound barriers, Crash barriers, Harbours, High rise construction, Steel construction)

INSTALLATION PROCEDURES



CURING TIMES

Temperature[1]	°C	-10[2]	-5	0	+5	+10	+20	+30	+35	+40
Processing Working Time		90 min	90 min	45 min	25 min	15 min	6 min	4 min	2 min	1.5 min
Curing Time Dry Holes		24 h	14 h	7 h	2 h	80 min	45 min	25 min	20 min	15 min
Curing Time Wet Holes		48 h	28 h	14 h	4 h	160 min	90 min	50 min	40 min	30 min

[1] Concrete temperature [2] Cartridge temperature must be at least +15 °C

25/0541

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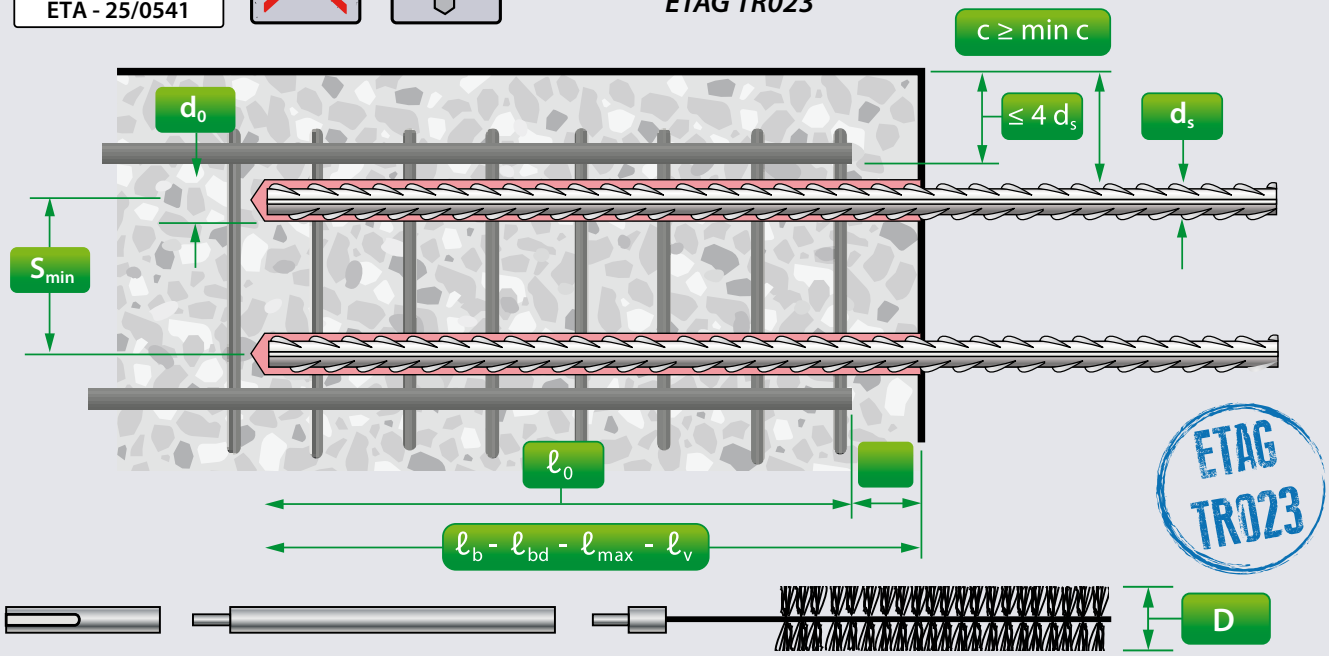
Specification Data for the use in Uncracked Concrete and Hammer/Air Drilled Holes according to EC2 and ETAG TR023



INSTALLATION DIMENSIONS

Rebar Size	d_s		Ø10	Ø12	Ø16	Ø20	Ø24
Hole Diameter	d_o	[mm]	14	16	20	25	32
Min. Anchorage Depth	$\ell_{b,\,min}$	[mm]	213	255	340	425	510
Min. Lap Length	$\ell_{0,\,min}$	[mm]	300	300	360	425	540
Design Anchorage Length	ℓ_{bd}	[mm]	473	567	756	945	1134
Min. Anchorage Depth	$\ell_{,\,max}$	[mm]	1000	1200	1600	2000	2000
Min. Spacing	d_o	[mm]	50	60	80	100	120
Required Volume per cm Embedment Depth	V_s	[ml/cm]	0.90	1.06	1.36	2.12	4.22

STEEL BRUSH & PISTON PLUG DIMENSIONS

Rebar Size	d_s		Ø10	Ø12	Ø16	Ø20	Ø24
Brush Diameter	D	[mm]	16	18	22	27	34
Min. Brush Diameter	D_{min}	[mm]	14.5	16.5	20.5	25.5	32.5
Piston Plug	#	[-]	14	16	20	25	32

PERFORMANCE DATA[1)]

1) **Performance Data:** Loads in kN for a single Rebar Dowel in Compressed Air Cleaned Holes and Concrete C20/C25. Temperature 50°C/80°C for long/short term. No influence of Edge- or Centre to Centre Distances.
2) **Ultimate Bond Resistance:** Valid for all drilling methods for good conditions. For all other bond conditions multiply by 0.7
3) **Rebar Yield Strength** 500 N/mm².
4) Rebar Safety Factor γM = 1.15 (Steel)

25/0541

MIN. CONCRETE COVER

Drilling Method		d_s [mm]	Without Drilling Guide [mm]	With Drilling Guide [mm]
Hammer Drilling	HD	<25	30 + 0.06·ℓv ≥ 2ds	30 + 0.02·ℓv ≥ 2ds
		=25	40 + 0.06·ℓv ≥ 2ds	40 + 0.02·ℓv ≥ 2ds
Air Drilling	AD	<25	50 + 0.08·ℓv	50 + 0.02·ℓv
		=25	60 + 0.08·ℓv	60 + 0.02·ℓv

DESIGN VALUES OF ULTIMATE BOND RESISTANCE[2)] F_{bd} in n/mm²

Rebar	Concrete Class								
	C12/15	C16/20	C20/25	C25/30	C30/37	C35/45	C40/50	C45/55	C50/60
Ø8 - 25 mm	1.6	2.0	2.3	2.7	3.0	3.4	3.7	4.0	4.3

25/0541

DESIGN RESISTANCE DRY/WET HOLES

Embedment Depth ℓ,b	Ø10	Ø12	Ø16	Ø20	Ø24
113					
142	10.3				
170	12.3	14.7			
190	13.7	16.5			
198	14.3	17.2			
213	15.4	18.5			
227	16.4	19.7	26.2		
255	18.4	22.1	29.5		
284	20.5	24.6	32.8	41.0	
298	21.5	25.8	34.5	43.1	
312	22.5	27.1	36.1	45.1	
340	24.6	29.5	39.3	49.1	59.0
354	25.6	30.7	40.9	51.2	61.4
397	28.7	34.4	45.9	57.4	68.8
425	30.7	36.9	49.1	61.4	73.7
454	32.8	39.4	52.5	65.6	78.7
468	33.8	40.6	54.1	67.6	81.2
482	34.1	41.8	55.7	69.7	83.6
520		45.1	60.1	75.1	90.2
532		46.1	61.5	76.9	92.3
595		49.2	68.8	86.0	103.2
681			78.7	98.4	118.1
728			84.2	105.2	126.2
800			87.4	115.6	138.7
932				134.7	161.6
1000				136.6	173.4
1100					190.8
1200					196.7
1400					
1600					
2000					
Design Yield Load[4)]	**34.1**	**49.2**	**87.4**	**136.6**	**196.7**

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