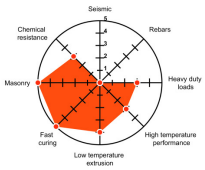
Technical data sheet

KEM HP
Polyester Fast Cure Anchoring Adhesive

KEM HP is a polyester anchoring adhesive for medium to heavy weight applications.
The fast curing formula provides good performances when anchoring threaded rods in uncracked concrete and masonry.
Working temperature: from -40 up to +80°C short period and from -40 up to +50°C long period.



Features

Material

Polyester

Applications

Applications

- Steel constructions
- Wood to concrete fixings
- Industrial construction
- Steel and metal construction (railings, brackets, etc.)
- Anchorages for gates and machines

Suitable for

- Threaded rods in uncracked concrete
- Threaded rods in masonry
- **Suitable base materials:**
  Concrete
  Solid brick
  Honeycomb
  Cell like clay brick
  Light weight honeycomb brick
  Hollow dense aggregate block
  Hollow light aggregate block
  Aerated concrete (partially suitable)
  Solid stone1)
  Wood
  1) For application on natural stone or marble, carry out test and wait 24/48 hours for any reactions

For installation instructions and information please refer to Technical Documents.

Technical Data

KEM HP

References	Name	DB nr. [d_0] [mm]	NOBB nr.	Color of resin	Content	Sanitary texts languages	Storage months	Packaging qty	Pcs./pallet
951040BH00000	KEM HP 951	2604114	60867578	Blue-to-Grey	300	EN, PL, DA, NO, SV, FI	18	12	1152

Spacing, edge distance and member thickness - Concrete

References	Spacing, edge distance and member thickness				
	BFK embedment depths				
	Characteristic spacing - scr,N	min. spacing - smin	Characteristic edge distance - ccr,N	min. edge distance - cmin	Min. member thickness - hmin
KEM HP + M8	240	40	120	40	110
KEM HP + M10	270	50	135	50	120
KEM HP + M12	330	60	165	60	140
KEM HP + M16	380	80	190	80	160
KEM HP + M20	510	100	255	100	220
KEM HP + M24	630	120	315	120	270

Characteristic resistance - Tension - NRk [kN] - Carbon Steel 5.8

References	embedment depth	Characteristic resistance – Carbon steel 5.8
	hef	Tension - N_{Rk}
		Non-cracked concrete
		C20/25
KEM HP + M8	80	17.1
KEM HP + M10	90	22.6
KEM HP + M12	110	33.2
KEM HP + M16	125	50.3
KEM HP + M20	170	85.5
KEM HP + M24	210	126.7

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Characteristic resistance - Shear - VRk [kN]

References	embedment depth	Characteristic resistance	
	hef	Shear - V_{Rk}	
		Static and quasi-static loads	
		Carbon steel 5.8	Stainless steel A4 70
KEM HP + M8	80	9.1	12.8
KEM HP + M10	90	14.5	20.3
KEM HP + M12	110	21.1	29.5
KEM HP + M16	125	39.3	55
KEM HP + M20	170	61.3	85.8
KEM HP + M24	210	88.3	123.6

Design resistance - Tension - NRd [kN] – Carbon steel 5.8

References	embedment depth	Design resistance – Carbon steel 5.8
	hef	Tension - N_{Rd}
		Non-cracked concrete
		C20/25
KEM HP + M8	80	9.5
KEM HP + M10	90	12.6
KEM HP + M12	110	18.4
KEM HP + M16	125	27.9
KEM HP + M20	170	47.5
KEM HP + M24	210	70.4

Design resistance - Shear - VRd [kN]

References	embedment depth	Design resistance	
	hef	Shear - V_{Rd}	
		Static and quasi-static loads	
		Carbon steel 5.8	Stainless steel A4 70
KEM HP + M8	80	7.3	8.2
KEM HP + M10	90	11.6	13
KEM HP + M12	110	16.9	18.9
KEM HP + M16	125	31.4	35.2
KEM HP + M20	170	49	55
KEM HP + M24	210	70.6	79.2

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Permissible resistance - Tension - N [kN] – Carbon steel 5.8

References	embedment depth	Permissible resistance – Carbon steel 5.8
	hef	Tension - N
		Non-cracked concrete
		C20/25
KEM HP + M8	80	6.8
KEM HP + M10	90	9
KEM HP + M12	110	13.2
KEM HP + M16	125	20
KEM HP + M20	170	33.9
KEM HP + M24	210	50.3

Permissible resistance - Shear - V [kN]

References	embedment depth	Permissible resistance	
	hef	Shear - V	
		Static and quasi-static loads	
		Carbon steel 5.8	Stainless steel A4 70
KEM HP + M8	80	5.2	5.9
KEM HP + M10	90	8.3	9.3
KEM HP + M12	110	12	13.5
KEM HP + M16	125	22.4	25.2
KEM HP + M20	170	35	39.3
KEM HP + M24	210	50.4	56.6

Masonry - Clay solid brick - fbk ≥ 28 MPa - ρ ≥ 1,6 kg/dm3 EN 771-1

References	permissible tension and shearloads [kN] for a single anchor without effects of distances and spacings						
	embedment depth hef	drill hole d_0	Clay solid brick - fbk ≥ 28 MPa - ρ ≥ 1,6 kg/dm^3 EN 771-1		edge distance Ccr = Cmin	spacing Scr = Smin	max torque Tinst max
			Tension - N	Shear - V			
KEM HP + M8	80	10	0.9	1.6	120	240	6
KEM HP + M10	90	12	0.9	1.9	135	270	10
KEM HP + M12	100	14	0.7	2.6	150	300	10
KEM HP + M16	100	18	1.3	2.6	150	300	10

1kN ≈ 100 kgf
(1) Single anchor without influence from anchor spacing and edge distances
(2) Design method according to EOTA TR054
(3) The recommended loads N and V derive from the characteristic loads on the ETA certification and are inclusive of the partial safety factors γf=1.4 and γm
(4) Values valid for temperature 24°C on the long term and up to 40°C on the short term. For higher temperatures see the certification ETA
(5) For all other cases, more detailed information or different masonry please refer to ETA certification

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Masonry - Clay hollow brick double UNI - fbk ≥ 20 MPa - ρ ≥ 0,9 kg/dm3 EN 771-1

References	permissible tension and shearloads [kN] for a single anchor without effects of distances and spacings							
	Clay hollow brick double UNI - fbk ≥ 20 MPa - ρ ≥ 0,9 kg/dm^3 EN 771-1					edge distance Ccr = Cmin	spacing Scr = Smin	max torque Tinst max
	min embedment depth hef	Stud diameter	drill hole d_0	Tension - N	Shear - V			
KEM HP + BRP Ø12	50	M6 - M8	12	0.3	0.9	100	250	4
KEM HP + BRP Ø15	85	M8 - M10	16	0.3	0.9	100	250	4
KEM HP + BRP Ø20	85	M12 - M16	22	0.4	0.9	120	250	4

1kN ≈ 100 kgf
(1) Single anchor without influence from anchor spacing and edge distances
(2) Design method according to EOTA TR054
(3) The recommended loads N and V derive from the characteristic loads on the ETA certification and are inclusive of the partial safety factors γf=1.4 and γm
(4) Values valid for temperature 24°C on the long term and up to 40°C on the short term. For higher temperatures see the certification ETA
(5) M6 stud not included in ETA certification
(6) For all other cases, more detailed information or different masonry please refer to ETA certification

Masonry - Clay hollow brick - fbk ≥ 6 MPa - ρ ≥ 0,5 kg/dm3 EN 771-1

References	permissible tension- and shearloads [kN] for a single anchor without effects of distances and spacings							
	Clay hollow brick - fbk ≥ 6 MPa - ρ ≥ 0,5 kg/dm^3 EN 771-1 [d_0] [mm]					edge distance Ccr = Cmin [mm]	spacing Scr = Smin	max torque Tinst max
	min embedment depth hef	Stud diameter	drill hole d_0	Tension - N	Shear - V			
KEM HP + BRP Ø12	50	M6 - M8	12	0.1	0.6	100	250	4
KEM HP + BRP Ø15	85	M8 - M10	16	0.1	0.6	100	250	4
KEM HP + BRP Ø20	85	M12 - M16	22	0.1	0.7	120	250	4

1kN ≈ 100 kgf
(1) Single anchor without influence from anchor spacing and edge distances
(2) Design method according to EOTA TR054
(3) The recommended loads N and V derive from the characteristic loads on the ETA certification and are inclusive of the partial safety factors γf=1.4 and γm
(4) Values valid for temperature 24°C on the long term and up to 40°C on the short term. For higher temperatures see the certification ETA
(5) M6 stud not included in ETA certification
(6) For all other cases, more detailed information or different masonry please refer to ETA certification

Installation

Installation parameters - Concrete

References	embedment depth	Installation parameteres				
	hef	Ø drilling - d_0	drilling depth (zyl.) - $h_0 \geq$	Max. fixture hole Ø - df ≤	Wrench size DIN 934 (ISO 4032) - SW [mm]	Max installation torque - Tinst,max
KEM HP + M8	80	10	80	9	13	10
KEM HP + M10	90	12	90	12	17	20
KEM HP + M12	110	14	110	14	19	40
KEM HP + M16	125	18	125	18	24	80
KEM HP + M20	170	24	170	22	30	120
KEM HP + M24	210	28	210	26	36	160

Notes to the load charts of threaded rods on concrete:
1kN ≈ 100 kgf
(1) Single anchor without influence from anchor spacing and edge distances in concrete C20/25
(2) Design Method acc. to EN 1992-4:2018 (γc= 1,5; ψsus= 1)
(3) The design loads Nrd and Vrd derive from the characteristic loads on the ETA certification and are inclusive of the partial safety factors γm
(4) The recommended loads N and V derive from the characteristic loads on the ETA certification and are inclusive of the partial safety factors γf=1.4 and γm
(5) Values valid for temperature 24°C on the long term and up to 40°C on the short term. For higher temperatures see the certification ETA
(6) Value of pure shear with distance from the edge C ≥ 10xhnom
(7) For all other cases and more detailed information please refer to Technical Sheet and ETA certifications

Technical Notes

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