



# 680

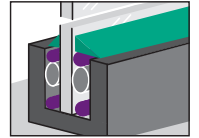


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# Anker Kleber

Composite grout based on vinyl ester resin

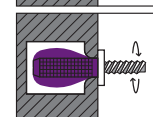
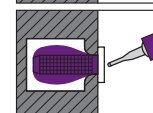
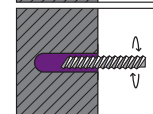
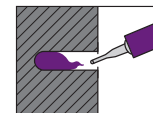


## Technical data sheet

Version: 07-2024

### Tests:

- Tested according to ETA-17/0679 and ETA-17/0680
- Tested in accordance with DIN 18008-4
- Tested according to ÖNORM B 3716-3, suitable for glass parapet bonding
- Test report according to ift GUIDELINE DI-02/1 No. 17-003701-PR1



## 1. Mechanical Properties

Basis	Vinyl ester resin
Relative density/comp. A (colour: white)	1.60 - 1.80 g/ml
Relative density/comp. B (colour: black)	1.50 - 1.70 g/ml
Shelf life	12 months cool and dry in original packaging
Recommended storage temperature	+5 to +30 °C (store in dark conditions)
Colour	Grey
Packaging	280 ml and 400 ml cartridge

## 2. Properties

The 680 Anker Kleber is a 2-component high-performance composite grout based on vinyl ester resin with a short curing time. It is styrene-free and can be used with solid or hollow material. Suitable for non-cracked concrete, with threaded rods from M8 to M24 and for rebars from ø8mm to ø32mm. With cracked concrete, suitable for use with threaded rods from M10 to M20. Also suitable for stone, perforated stone and cavity material in various applications. Can also be used for building renovation and construction applications with reinforcing bars. Approved for the bonding of glass balustrades and for use when touching the edge of laminated glass and laminated safety glass. The permissible variable anchoring depth allows a high degree of flexibility. Maximum anchoring depth up to twenty times the nominal diameter of the threaded rod. Can be used in dry, wet concrete and with water-flooded hole (only with threaded rod!). The adhesive also cures reliably under water.



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## 3. Processing

**General instructions:** The expiry date of the material must be observed, otherwise the stated mechanical properties of the product can no longer be guaranteed. Observe the ambient temperature and substrate temperature.

- The parts to be fastened must be free of dirt, grease, oil or other foreign matter.
- Start injecting grout from the bottom of the borehole. Slowly pull the static mixer out of the borehole during extrusion. Make sure that the colour of the material is uniform. Air inclusions must be avoided.
- The borehole must be filled with injection grout to approximately ¾ of its depth.
- Rotate in the part to be anchored within the pot life. The borehole must be completely filled with grout in the process.
- Excess material must be removed immediately. If needed, hold in place with a suitable tool. Processing must comply with ETA-17/0679 or 17/680.
- Do not move the steel parts until the curing time has elapsed.

### Processing and curing times

Concrete temperature	°C	-10	-5	0	+5	+10	+15	+20	+25	+30	+35	+40
<b>Max. pot life</b>	<b>Min.</b>	<b>105</b>	<b>65</b>	<b>45</b>	<b>25</b>	<b>16</b>	<b>11.5</b>	<b>7.5</b>	<b>5</b>	<b>3</b>	<b>2</b>	<b>1</b>
<b>Min. curing time for dry concrete</b>	<b>Hrs.</b>	<b>22</b>	<b>13</b>	<b>7</b>	<b>1.5</b>	<b>1</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
	<b>Min.</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>45</b>	<b>40</b>	<b>35</b>	<b>30</b>	<b>25</b>	<b>20</b>
<b>Min. curing time for boreholes filled with water</b>	<b>Hrs.</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>3</b>	<b>2</b>	<b>1.5</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
	<b>Min.</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>80</b>	<b>70</b>	<b>60</b>	<b>50</b>	<b>40</b>

### Using the cartridge

- Unscrew and remove the cap
- Remove the yellow seal
- Screw the static mixer onto the cartridge.
- Insert the cartridge into the applicator gun. **IMPORTANT:** Not suitable for cartridge guns without a push rod!
- Press out 680 Anker Kleber until a homogeneous grey material escapes.
- Discard the first bead.

### Preliminary work and borehole cleaning according to ETA specifications

- Drill the borehole according to the dimensioning specifications.
- Clean the borehole of drilling dust, concrete fragments, oil, grease and all other impurities prior to grout injection. Cleaning must be carried out using a suitable pump or oil-free compressed air. Brush out the borehole using a suitable steel brush. Clear resistance must be felt on the brush during cleaning, otherwise the diameter of the brush is too small.
- Clean compact materials, e.g., concrete/solid stone, as follows: blow out drill hole 4x , brush 4x and blow out 4x.
- Clean non compact materials, e.g., perforated bricks, as follows: blow out drill hole 4x , brush 2x and blow out 4x.

## 4. Consumption (280ml cartridges)

The listed amounts were calculated from the theoretical volume to fill boreholes or perforated sleeves minus the volume of the threaded rods. An additional quantity is included in this calculation. The actual number may vary depending on the substrate.

Fastening in concrete or solid brick			Fastening in perforated brick		
Threaded rod size	Borehole ø [mm] x depth h[mm]	Quantity with 2/3 filling	Threaded rod size	Screen sleeve ø [mm] x length [mm]	Number of filled screen sleeves
M8	10x90	-56	M8	12x80	-28
M10	12x95	-37	M8	15x85	-16
M12	14x115	-25	M10	15x85	-16
M16	18x130	-16	M12	15x85	-16
M20	24x175	-6	M12	20x85	-10
M24	28x215	-3	M16	20x85	-9



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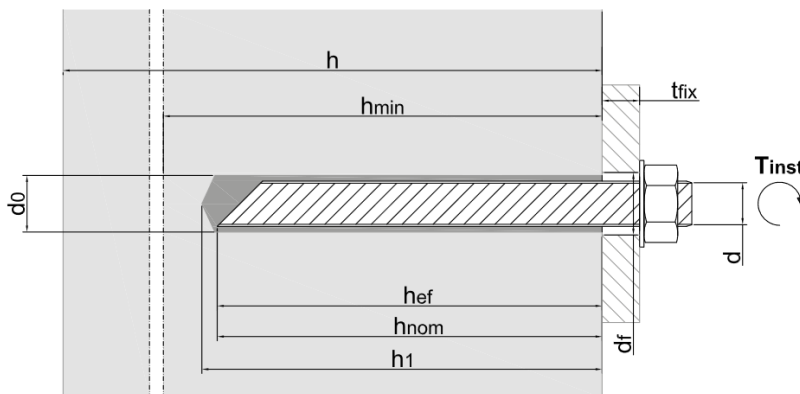
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## 5. Installation guide values

Anchor	Setting parameter				
	Drilling diameter $d_0$	Embedment depth $h_{ef}$ min / max	Edge distance $C_{min}$	Anchor spacing $S_{min}$	Torque $T_{inst}$
	mm	mm	mm	mm	Nm
M8	10	60 / 160	40	40	10
M10	12	70 / 200	40	40	20
M12	14	80 / 240	40	40	40
M16	18	100 / 320	50	50	80
M20	24	120 / 400	60	60	130
M24	28	145 / 480	80	80	200



$d$  [mm] Threaded rod diameter  
 $h_{min}$  [mm] Minimum wall thickness  
 $d_0$  [mm] drill hole diameter  
 $h_1$  [mm] drill hole depth +5mm  
 $h_{ef}$  [mm] effective anchor depth

$d_f$  [mm] attached part drill hole diameter  
 $t_{fix}$  [mm] Thickness of attachment part  
 $T_{inst}$  [Nm] Torque when anchoring  
 $h_{norm}$  [mm] embedment depth



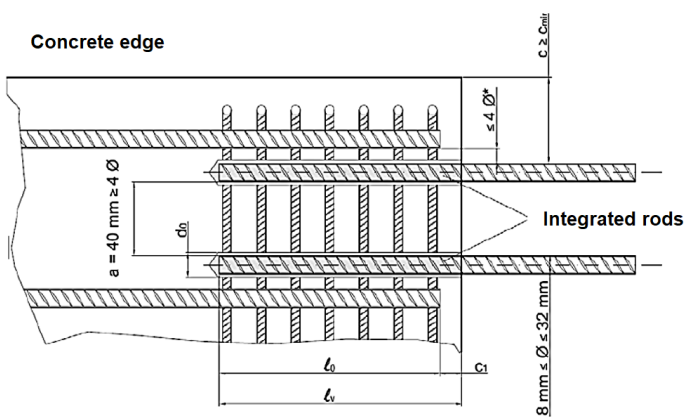
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Anchor	Setting parameter				
	Drilling diameter $d_0$	Brush diameter	Minimum anchoring depth	Minimum anchoring depth - overlap joint	Maximum anchoring depth
Reinforcing steel	mm	mm	mm	mm	mm
ø8mm	12	14	115	200	400
ø10mm	14	16	145	200	500
ø12mm	16	18	170	200	600
ø14mm	18	20	200	210	700
ø16mm	20	22	230	240	800
ø20mm	25	27	285	300	1000
ø25mm	30	32	355	375	1000
ø28mm	35	37	400	420	1000
ø32mm	40	42	455	480	1000





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## 6. Load data

Before using the 680 Anker Kleber, it is advisable to have the anchorage dimensioned by suitable technical personnel.

ETA - 17/0679	Cracked concrete C20/25 - M10 - M20					
Threaded rod: $\geq 5.8/A4-70$	M8	M10	M12	M16	M20	M24
min. edge distance $C_{min}$ [mm]	40	40	40	50	60	80
min. centre distance $S_{min}$ [mm]	40	40	40	50	60	80
Attachment part thickness $t_{fix}$ [mm]	0-1500	0-1500	0-1500	0-1500	0-1500	0-1500
<b>Load data at +24°C in cracked concrete C20/25</b>						
Threaded rod: $\geq 5.8/A4-70$		M10	M12	M16	M20	
Effective anchor depth $h_{ef}$ MIN [mm]		70	80	100	120	
Average max. tensile load $N_{Rum}$ [kN]		27.8	33.9	47.5	62.4	
Average max. transverse load $V_{Rum}$ [kN]		18.1	26.3	48.9	76.2	
Permissible tensile load $N_{rec}$ [kN]		9.1	12.2	17.1	22.5	
Permissible transverse load $V_{rec}$ [kN]		8.6	12.5	23.3	34.4	
Threaded rod: $\geq 5.8/A4-70$		M10	M12	M16	M20	
Effective anchor depth $h_{ef}$ MED [mm]		90	110	125	170	
Average max. tensile load $N_{Rum}$ [kN]		30.2	43.8	66.3	104.4	
Average max. transverse load $V_{Rum}$ [kN]		18.1	26.3	48.9	76.2	
Permissible tensile load $N_{rec}$ [kN]		11.7	17.8	23.9	33.8	
Permissible transverse load $V_{rec}$ [kN]		8.6	12.5	23.3	36.2	
Threaded rod: $\geq 5.8/A4-70$		M10	M12	M16	M20	
Effective anchor depth $h_{ef}$ MAX [mm]		200	240	320	400	
Average max. tensile load $N_{Rum}$ [kN]		46.4	67.4	125	203	
Average max. transverse load $V_{Rum}$ [kN]		27.8	40.4	75	121.8	
Permissible tensile load $N_{rec}$ [kN]		22.1	32.1	59.5	79.5	
Permissible transverse load $V_{rec}$ [kN]		13.2	19.2	35.7	58	



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ETA - 17/0679	Uncracked concrete C20/25 - M8 - M24					
<b>Threaded rod: <math>\geq 5.8/A4-70</math></b>	<b>M8</b>	<b>M10</b>	<b>M12</b>	<b>M16</b>	<b>M20</b>	<b>M24</b>
min. edge distance $C_{min}$ [mm]	40	40	40	50	60	80
min. centre distance $S_{min}$ [mm]	40	40	40	50	60	80
Attachment part thickness $t_{fix}$ [mm]	0-1500	0-1500	0-1500	0-1500	0-1500	0-1500
<b>Load data at +24°C in uncracked concrete C20/25</b>						
<b>Threaded rod: <math>\geq 5.8/A4-70</math></b>	<b>M8</b>	<b>M10</b>	<b>M12</b>	<b>M16</b>	<b>M20</b>	<b>M24</b>
Effective anchor depth $h_{ef MIN}$ [mm]	60	70	80	100	120	145
Average max. tensile load $N_{Rum}$ [kN]	19	30.2	43.8	67.5	88.7	117.8
Average max. transverse load $V_{Rum}$ [kN]	11.4	18.1	26.3	48.9	76.2	110.4
Permissible tensile load $N_{rec}$ [kN]	9	12	17	24	31.6	41.9
Permissible transverse load $V_{rec}$ [kN]	5.4	8.6	12.5	23.3	36.3	52.5
<b>Threaded rod: <math>\geq 5.8/A4-70</math></b>	<b>M8</b>	<b>M10</b>	<b>M12</b>	<b>M16</b>	<b>M20</b>	<b>M24</b>
Effective anchor depth $h_{ef MED}$ [mm]	80	90	110	125	170	210
Average max. tensile load $N_{Rum}$ [kN]	19	30.2	43.8	81.6	127	184
Average max. transverse load $V_{Rum}$ [kN]	11.4	18.1	26.3	48.9	76.2	110.4
Permissible tensile load $N_{rec}$ [kN]	9	14.3	20.8	33.6	49.8	72.9
Permissible transverse load $V_{rec}$ [kN]	5.4	8.6	12.5	23.3	36.3	52.5
<b>Threaded rod: <math>\geq 5.8/A4-70</math></b>	<b>M8</b>	<b>M10</b>	<b>M12</b>	<b>M16</b>	<b>M20</b>	<b>M24</b>
Effective anchor depth $h_{ef MAX}$ [mm]	160	200	240	320	400	480
Average max. tensile load $N_{Rum}$ [kN]	29.2	46.4	67.4	125	203	293
Average max. transverse load $V_{Rum}$ [kN]	17.5	27.8	40.4	75	121.8	175.8
Permissible tensile load $N_{rec}$ [kN]	13.9	22.1	32.1	59.5	96.6	139.5
Permissible transverse load $V_{rec}$ [kN]	8.3	13.2	19.2	35.7	58	83.7
<b>Solid brick masonry</b>						
<b>Threaded rod: <math>\geq 4.6/A2-70/A4-70</math></b>	<b>M8</b>	<b>M10</b>	<b>M12</b>	<b>M16</b>		
Permissible tensile load $N_{rec}$ [kN]	2	2.6	2.8	4		
Permissible transverse load $V_{rec}$ [kN]	3	3.4	3.9	4.2		
<b>Perforated brick with screen sleeve</b>						
<b>Threaded rod: <math>\geq 4.6/A2-70/A4-70</math></b>	<b>M8</b>	<b>M10</b>	<b>M12</b>			
Permissible tensile load $N_{rec}$ [kN]	0.9	0.9	0.9			
Permissible transverse load $V_{rec}$ [kN]	2	2	2.5			
<b>Wood/glued laminated timber</b>						
<b>Threaded rod: <math>\geq 4.6/A2-70/A4-70</math></b>	<b>M8</b>	<b>M10</b>	<b>M12</b>	<b>M16</b>		
Permissible tensile load $N_{rec}$ [kN]	3.2	4.2	6.1	10.7		
Permissible transverse load $V_{rec}$ [kN]	Depending on the planning and execution of wood constructions, these values need to be determined by a structural engineer.					



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## 7. Accessories

- Static mixer (280ml)
- Static mixer (400ml)
- Mixing pipe extension 1000mm
- Screen sleeve 12 x 50 mm - PU: 5 pcs./bag
- Screen sleeve 15 x 85 mm - PU: 5 pcs./bag
- Screen sleeve 15 x 100 mm - PU: 5 pcs./bag
- Screen sleeve 15 x 135 mm - PU: 5 pcs./bag
- Screen sleeve 20 x 85 mm - PU: 5 pcs./bag
- Blow-out pump

## 8. Safety instructions

Please refer to the current EC safety data sheets. Data sheets are available at any time from our website at [www.ramsauer.eu](http://www.ramsauer.eu).

## 9. Application notes

Good ventilation must be ensured during processing and curing. Before processing, always check the expiry date, the load-bearing capacity and outside temperature. Setting or readjustment is only possible during the pot life! Ensure a uniformly grey adhesive mix. Generally well suited for use with natural stone. Depending on the type, thickness and capillary activity of the stone, resin can escape around the adhesive. However, this does not impair the adhesive strength.

## 10. Liability for defects

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