



# HKV FLUSH ANCHOR

**Technical Datasheet**

Update: Jan-23





# HKV Flush anchors

## Economical manual set flush anchor

### Anchor version



HKV  
(M6-M16)

### Benefits

- Simple and well proven
- Approved, tested and confirmed by every day jobsite experience
- Reliable setting thanks to simple visual check
- Versatile
- For medium-duty fastening with bolts or threaded rods
- Available in various materials and sizes for maximized coverage of possible applications

### Base material



Concrete  
(non-cracked)

### Basic loading data (for a single anchor)

#### All data in this section applies to:

- Correct setting (See setting instruction)
- No edge distance and spacing influence
- Concrete as specified in the table
- Minimum base material thickness
- Concrete C 20/25,  $f_{ck,cube} = 25 \text{ N/mm}^2$
- Screw or rod with steel grade 5.8 (carbon steel) and / or A4-70 (stainless steel)

#### Effective anchorage depth

Anchor size	Metric		M6	M8	M10	M10	M12	M16
	Imperial		1/4	5/16	3/8	3/8	1/2	-
Effective anchorage depth	$h_{ef}$	[mm]	25	30	30	40	50	65

#### Characteristic resistance

Anchor size	Metric			M6	M8	M10	M10	M12	M16
	Imperial			1/4	5/16	3/8	3/8	1/2	-
Tension	HKV	$N_{Rk}$	[kN]	4,2	5,9	5,9	9,1	12,7	26,5
Shear	HKV	$V_{Rk}$	[kN]	5,0	8,6	10,0	11,0	18,3	33,8

#### Design resistance

Anchor size	Metric			M6	M8	M10	M10	M12	M16
	Imperial			1/4	5/16	3/8	3/8	1/2	-
Tension	HKV	$N_{Rd}$	[kN]	2,8	3,9	3,9	6,1	8,5	17,6
Shear	HKV	$V_{Rd}$	[kN]	5,0	8,6	8,0	8,0	14,6	27,0

### Recommended loads <sup>a)</sup>

Anchor size	Metric			M6	M8	M10	M10	M12	M16
	Imperial			1/4	5/16	3/8	3/8	1/2	-
Tension	HKV	N <sub>Rec</sub>	[kN]	2,0	2,8	2,8	4,3	6,0	12,6
Shear	HKV	V <sub>Rec</sub>	[kN]	2,9	4,9	5,7	5,7	10,5	19,3

a) With overall partial safety factor for action  $\gamma = 1,4$ . The partial safety factors for action depend on the type of loading and shall be taken from national regulations

### Materials

#### Mechanical properties

Anchor size	Metric			M6	M8	M10	M10	M12	M16
	Imperial			1/4	5/16	3/8	3/8	1/2	-
Nominal tensile strength	f <sub>uk</sub>	[N/mm <sup>2</sup> ]		570	570	570	570	570	640
Yield strength	f <sub>yk</sub>	[N/mm <sup>2</sup> ]		460	460	460	460	460	510
<b>Properties for metric anchors versions</b>									
Stressed cross-section	A <sub>s</sub>	[mm <sup>2</sup> ]		20,7	26,7	32,7	32,7	60,1	105
Moment of resistance	W	[mm <sup>3</sup> ]		32,3	54,6	82,9	82,9	184	431
Char. bending resistance for rod or bolt with 5.8 steel grade	M <sup>0</sup> <sub>Rk,s</sub>	[Nm]		7,6	18,7	37,4	37,4	65,5	167
<b>Properties for imperial anchors versions</b>									
Stressed cross-section	A <sub>s</sub>	[mm <sup>2</sup> ]		17,3	27,46	39,9	39,9	70,6	-
Moment of resistance	W	[mm <sup>3</sup> ]		28,2	55,8	97,4	97,4	229,8	
Char. bending resistance for rod or bolt with 5.8 steel grade	M <sup>0</sup> <sub>Rk,s</sub>	[Nm]		10,4	16,5	23,9	24,5	42,4	

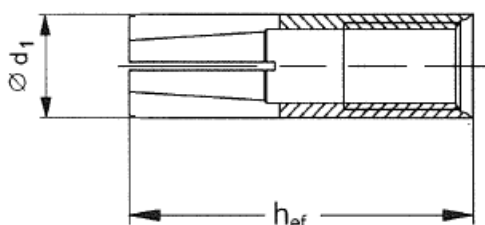
#### Material quality

Part	Material
Anchor body	Steel Fe/Zn5 galvanized to min. 5 $\mu$ m
Expansion plug	Steel material

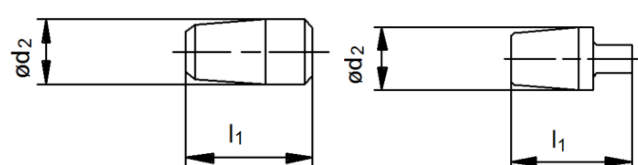
#### Anchor dimension

Anchor size	Metric			M6	M8	M10	M10	M12	M16
	Imperial			1/4	5/16	3/8	3/8	1/2	-
Effective anchorage depth	h <sub>ef</sub>	[mm]		25	30	30	40	50	65
<b>Dimensions for metric anchors versions</b>									
Anchor diameter	d <sub>1</sub>	[mm]		7,9	9,95	11,8	11,95	14,9	19,75
Diameter of cone bolt	d <sub>2</sub>	[mm]		5,1	6,5	8,2	8,2	10,3	13,8
Length of expansion sleeve	l <sub>1</sub>	[mm]		10	12	12	16	20	29
<b>Dimensions for imperial anchors versions</b>									
Anchor diameter	d <sub>1</sub>	[mm]		7,9	9,9	11,9	11,95	15,85	-
Diameter of cone bolt	d <sub>2</sub>	[mm]		5,1	6,35	8,2	7,86	10,2	-
Length of expansion sleeve	l <sub>1</sub>	[mm]		10	12	12	16,2	20	-

#### Anchor body



#### Expansion plugs

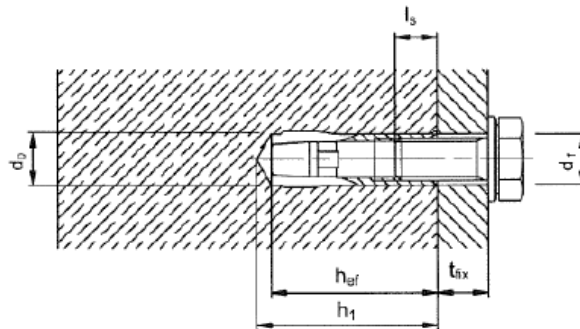


## Setting information

### Setting details

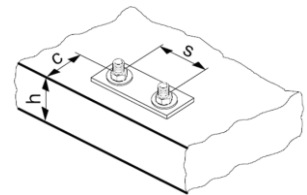
Anchor size	Metric	M6	M8	M10	M10	M12	M16
	Imperial	1/4	5/16	3/8	3/8	1/2	-
Effective anchorage depth	$h_{ef}$ [mm]	25	30	30	40	50	65
Nominal diameter of drill bit <sup>a)</sup>	$d_0$ [mm]	8	10	12	12	15 (16)	20
Cutting diameter of drill bit <sup>a)</sup>	$d_{cut} \leq$ [mm]	8,45	10,5	13 (12,5)	12,5	15,5 (16,5)	20,5
Depth of drill hole	$h_1 \geq$ [mm]	27	33	33	43	54	70
Diameter of clearance hole in the fixture	$d_f \leq$ [mm]	7	9	12	12	14	18
Torque moment	$T_{inst}$ [Nm]	4	8	15	15	35	60
Screwing depth	$l_{s,min}$ [mm]	6	8	10	10	12	16
	$l_{s,max}$ mm	10	12	10,5	15,5	20,0	25,5

a) Values in brackets are applicable for imperial anchor versions



### Setting parameters

Anchor size	Metric	M6	M8	M10	M10	M12	M16
	Imperial	1/4	5/16	3/8	3/8	1/2	-
Minimum base material thickness	$h_{min} \geq$ [mm]	100	100	100	100	100	130
Minimum spacing	$s_{min} \geq$ [mm]	200	200	200	200	200	260
Minimum edge distance	$c_{min} \geq$ [mm]	150	150	150	150	150	195



**Installation equipment**

Anchor size	Metric	M6	M8	M10	M10	M12	M16
	Imperial	1/4	5/16	3/8	3/8	1/2	-
Rotary hammer for setting	TE 1 – TE 30					TE 16 – TE 50	
	TE 1 – TE 30						-
Other tools	hammer, torque wrench, blow out pump						
<b>Metric anchors versions</b>							
Machine setting tool	HSD-M	6x25/30	8x25/30	10x25/30	10x40	12x50	16x65
Hand setting tool	HSD-G	6x25/30	8x25/30	10x25/30	10x40	12x50	16x65
<b>Imperial anchors versions</b>							
Machine setting tool	HSD-M	1/4x25	5/16x30	3/8x30	3/8x40	1/2x50	-
Hand setting tool	HSD-G	1/4x25	5/16x30	3/8x30	3/8x40	1/2x50	-

**Setting instruction**

\*For detailed information on installation see instruction for use given with the package of the product.

Setting instruction	
<p><b>1. Drilling</b></p>	<p><b>2. Cleaning</b></p>
<p><b>3. Inserting the anchor</b></p>	<p><b>4. Setting tools</b></p>
<p><b>5. Inserting the tools</b></p>	<p><b>6. Inserting the tools</b></p>
<p><b>7. Attaching the belonging washer</b></p>	<p><b>8.</b></p>