



HLV

# METAL LIGHT DUTY

**Technical Datasheet**

Update: Jan-23



# HLV Light duty anchors

## Economical sleeve anchor

### Anchor version



HLV  
Pre-setting  
(M5-M12)



HLV  
Through fastening  
(M6-M12)

### Benefits

- Available in a variety of sizes in both pre-setting and through fastening configurations
- Carbon steel grade 4.8, zinc galvanized to min 5µm

### Base material



Concrete  
(non-cracked)

### Static resistance

All data in this section is Hilti technical data and applies to:

- Correct setting (See setting instruction)
- No edge distance and spacing influence
- Minimum base material thickness
- Concrete C 20/25,  $f_{ck,cube} = 25 \text{ N/mm}^2 - 60 \text{ N/mm}^2$

### Anchorage depth

Anchor size	Effective anchorage depth	$h_{ef}$	[mm]	Pre-setting						Through fastening			
				6,5x22/7	8x35/4	10x45/10	12x48/10	12x60/17	16x68/20	8x35/10	10x75/45	12x95/60	16x130/90
				22	35	45	48	60	68	25	30	35	40

### Characteristic resistance

Anchor size	Tension	$N_{Rk}$	[kN]	Pre-setting						Through fastening			
				6,5x22/7	8x35/4	10x45/10	12x48/10	12x60/17	16x68/20	8x35/10	10x75/45	12x95/60	16x130/90
				5,2	7,1	13,0	15,9	21,9	28,3	5,6	8,3	10,5	12,8
	Shear	$V_{Rk}$	[kN]	3,3	5,6	11,4	13,0	13,0	19,7	5,6	8,3	10,5	12,8

### Design resistance

Anchor size			Pre-setting					Through fastening				
			6,5x22/7	8x35/4	10x45/10	12x48/10	12x60/17	16x68/20	8x35/10	10x75/45	12x95/60	16x130/90
Tension	$N_{Rd}$	[kN]	2,5	3,4	6,1	7,5	10,4	13,5	2,7	4,0	5,0	6,1
Shear	$V_{Rd}$	[kN]	1,5	2,6	5,4	6,1	6,1	9,4	2,7	4,0	5,0	6,1

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

Anchor size			Pre-setting					Through fastening				
			6,5x22/7	8x35/4	10x45/10	12x48/10	12x60/17	16x68/20	8x35/10	10x75/45	12x95/60	16x130/90
Tension	$N_{Rec}$	[kN]	1,7	2,4	4,3	5,3	7,4	9,6	1,9	2,8	3,6	4,3
Shear	$V_{Rec}$	[kN]	1,0	1,8	3,8	4,3	4,3	6,7	1,9	2,8	3,6	4,3

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.

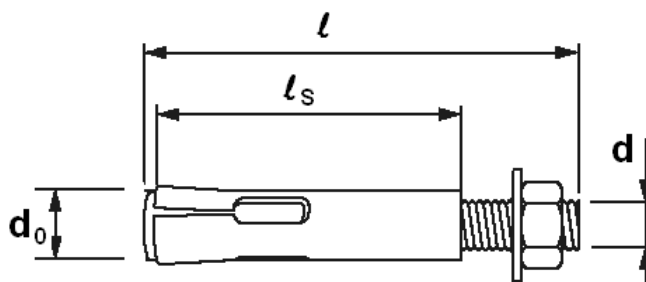
### Materials

#### Material quality

Part	Material
Anchor body	Carbon steel, $f_{uk} \geq 400$ N/mm <sup>2</sup> galvanised to min. 5 $\mu$ m

#### Anchor dimensions

Anchor size			Pre-setting					Through fastening				
			6,5x22/7	8x35/4	10x45/10	12x48/10	12x60/17	16x68/20	8x35/10	10x75/45	12x95/60	16x130/90
Thread size	d	[-]	M5	M6	M8	M10	M12	M6	M8	M10	M12	
Anchor diameter	$d_1$	[mm]	6,5	8	10	12	16	8	10	12	16	
Length of anchor bolt	l	[mm]	39	51	68	76	95	109	47	88	114	152
Length of sleeve	$l_s$	[mm]	22	35	45	48	60	68	35	75	95	130





## Setting information

### Setting details HLV

Anchor size	Pre-setting						Through fastening			
	6,5x22/7	8x35/4	10x45/10	12x48/10	12x60/17	16x68/20	8x35/10	10x75/45	12x95/60	16x130/90
Thread size	M5	M6	M8	M10		M12	M6	M8	M10	M12
Thickness of fixture $t_{fix} \leq$ [mm]	7	4	10	10	17	20	10	45	60	90
Nominal diameter of drill bit $d_o$ [mm]	6,5 (1/4")	8	10	12		16	8	10	12	16
Cutting diameter of drill bit $d_{cut} \leq$ [mm]	6,4	8,45	10,45	12,5		16,5	8,45	10,45	12,5	16,5
Depth of drill hole $h_1 \geq$ [mm]	40	50	65	70	80	100	40	50	55	70
Width across nut flats SW [mm]	8	10	13	17		19	10	13	17	19
Diameter of clearance hole in the fixture $d_f \leq$ [mm]	6	7	9	11	11	14	10	12	14	18
Effective anchorage depth $h_{ef}$ [mm]	22	35	45	48	60	68	25	30	35	40
Max. torque moment $T_{inst}$ [Nm]	2	4	25	40		50	4	25	40	50

### Installation equipment

Anchor size	6,5	8	10	M12	M16
Rotary hammer for setting	TE 2 – TE 16				
Other tools	hammer, torque wrench, blow out pump				

### Setting parameters

Anchor size	Pre-setting						Through fastening			
	6,5x22/7	8x35/4	10x45/10	12x48/10	12x60/17	16x68/20	8x35/10	10x75/45	12x95/60	16x130/90
Minimum base material thickness $h_{min} \geq$ [kN]	80	80	90	100	120	140	80 <sup>a)</sup>	80 <sup>a)</sup>	80 <sup>a)</sup>	80 <sup>a)</sup>
Minimum spacing $s_{min} \geq$ [mm]	200	200	200	200	240	280	200	200	200	200
Minimum edge distance $c_{min} \geq$ [mm]	100	105	135	150	180	210	100	100	105	120

a) In case of deeper embedment than  $h_{ef}$ ,  $h_{min} \geq 2x$  embedment depth.

### Setting instruction

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

Setting instruction	
Pre-setting	
<b>1.</b> 	<b>2. Drilling</b> 
<b>3. Cleaning</b> 	<b>4. Inserting the anchor</b> 
<b>5. Inserting the anchor by hammer</b> 	<b>6. Attaching the belonging washer</b> 
Through fastening	
<b>1.</b> 	<b>2. Drilling</b> 
<b>3. Cleaning</b> 	<b>4. Inserting the anchor by hammer</b> 
<b>5. Attaching the belonging washer</b> 	