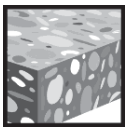
HCA Coil anchor

	Anchor version	Benefits
	HCA 5/8”	- re-usable up to 140 times - high load capacity - big washer: ∅ 34 mm - for temporary external applications



Concrete

Tensile zone

DIBt Approval Reusability

Approvals / certificates

Description	Authority / Laboratory	No. / date of issue
DIBt approval (Reusability)	DIBt, Berlin	Z-21.8-2027 / 2014-05-14

Basic loading data for temporary application

All data in this section applies to
- Correct setting (See setting instruction)
- No edge distance and spacing influence
- Base material as specified in the table

Basic loading data for temporary application in standard and fresh concrete < 28 days old, $f_{ck,cube} \geq 10$ N/mm²:

All data in this section applies to the following conditions:

- Strength class, $f_{ck,cube} \geq 10$ N/mm²
- Only temporary use
- Screw is reusable, before each usage it must be checked according Hilti instruction for use with the suited tube Hilti HRG
- Design resistance are valid for single anchor only
- Design resistance are valid for all load direction and valid for both cracked and non-cracked concrete
- Minimum base material thickness
- No edge distance and spacing influence

Design resistance for all directions in cracked in non-cracked concrete

Anchor			HCA 5/8" x 90	HCA 5/8" x 130
Length in concrete	$h_{nom} \geq$	[mm]	80	115
Design resistance for concrete strength **≥ 10 N/mm²**	F_{Rd} [1)]	[kN]	4	12
Design resistance for concrete strength **≥ 15 N/mm²**	F_{Rd} [1)]	[kN]	5	15
Design resistance for concrete strength **≥ 20 N/mm²**	F_{Rd} [1)]	[kN]	6	18

Materials

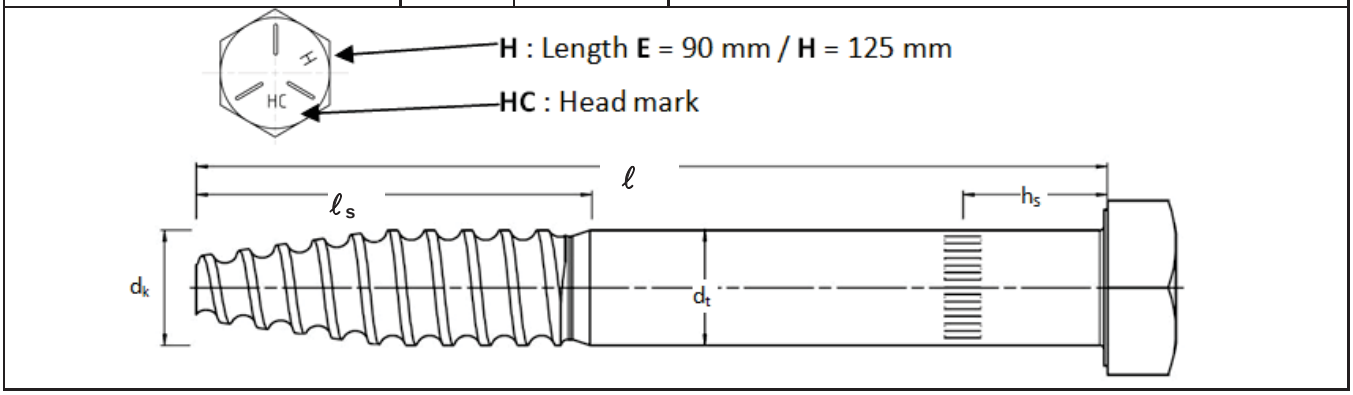
Material quality

Part	Material
Anchor HCA 5/8"	Steel; galvanized; fuk ≥ 850 N/mm2
Coil HCT	Steel; galvanized; 350 N/mm2 ≤ fuk ≤ 800 N/mm2

Anchor dimensions

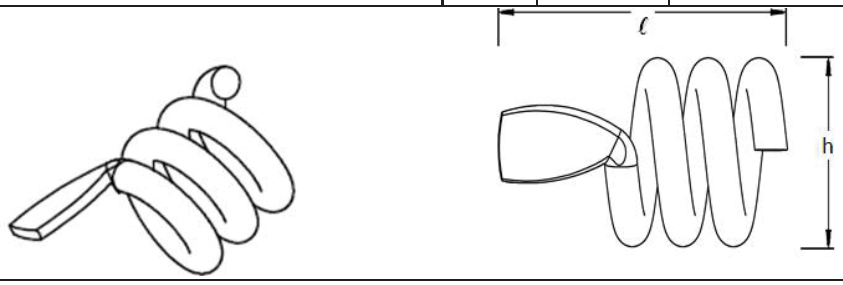
Dimensions and anchor head marks

Anchor			HCA 5/8" x 90	HCA 5/8" x 130
Length in concrete	$h_{nom} \geq$	[mm]	80	115
Anchor length	ℓ	[mm]	90	125
Length of thread	ℓ_s	[mm]	51	
Outer diameter	d_t	[mm]	15,8	
Core diameter	d_k	[mm]	13,1	
Marking for correct installation	h_s	[mm]	20	
Cross section	A_s	[mm^2]	196,1	



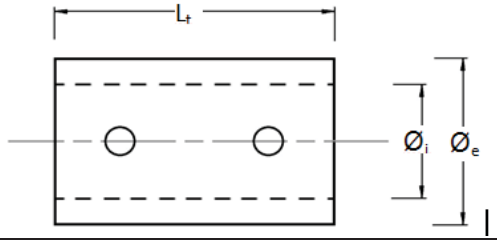
Coil dimensions

Coil			HCT
Length of Coil	ℓ	[mm]	29,3
Height Coil	h	[mm]	15,6



Tube specification

Tube			HRG 16
Inner tube diameter	$Ø_i$	[mm]	15,1
Outer tube diameter	$Ø_e$	[mm]	20,0
Tube length	L_t	[mm]	30,0



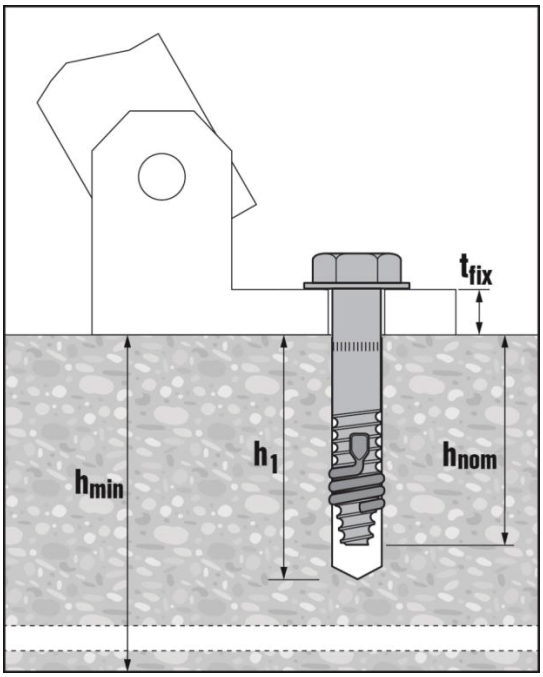
Setting

Installation equipment

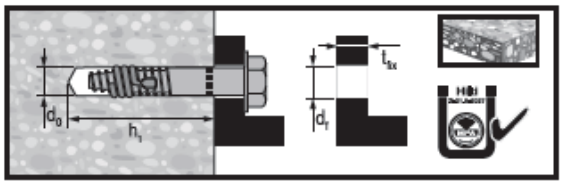
Rotary hammer	TE2… TE80
Other tools	hammer, torque wrench, blow out pump

Setting details

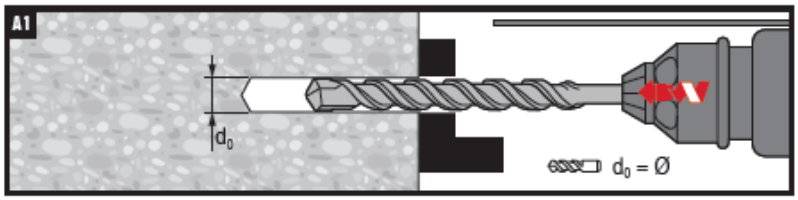
Anchor			HCA 5/8" x 90	HCA 5/8" x 130
Length in concrete	$h_{nom} \geq$	[mm]	80	115
Nominal diameter of drill bit	d_0	[mm]	16	
Cutting diameter of drill bit	$d_{cut} \leq$	[mm]	16,5	
Diameter of clearance hole in the fixture	d_f	[mm]	18	
Wrench size (H-type)	SW	[mm]	24	
Thickness of fixture	t_{fix}	[mm]	0 .. 10	
Depth of drill hole	$h_1 \geq$	[mm]	95 - t_{fix}	135 - t_{fix}
Torque moment	T_{min}	[Nm]	180	

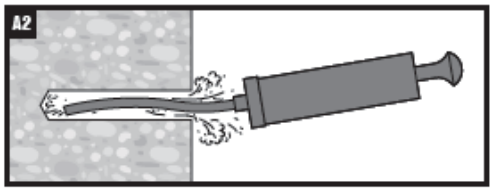


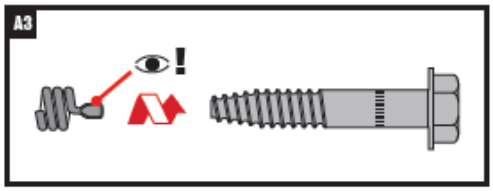
Setting instruction

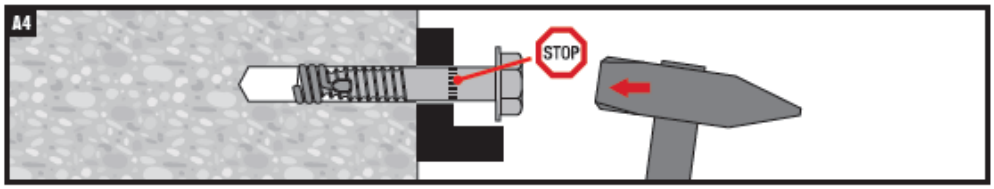


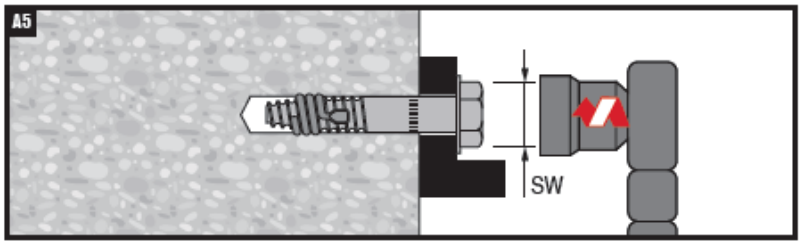
HCA	Ø d_0 [mm]	t_{fix} [mm]	h_1 [mm]	d_f [mm]
16 x 90	16	0....10	95 – t_{fix}	18
16 x 130		0....10	135 – t_{fix}	





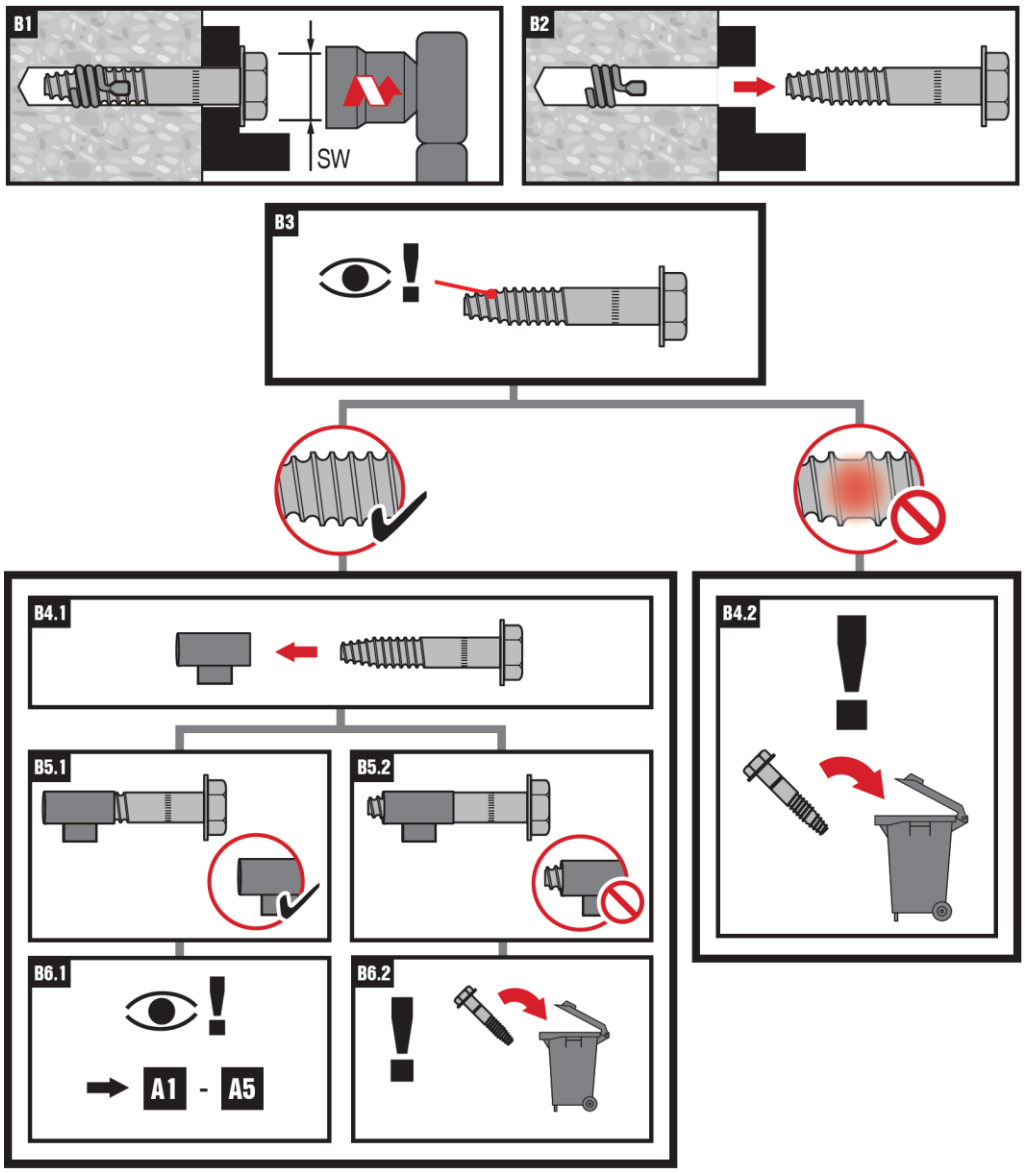






HCA [mm]	SW [mm]	t_{fix} [mm]	T_{min} [Nm]
Ø 16	24	10	180

Setting instruction for re-use in temporary use



Before re-use of the coil anchor HCA 5/8" the wear shell be proven with the tube HRG 16:
- the anchor is not visible on the back side of the tube
- the anchor thread shell not damaged

Setting parameters

Minimum thickness of concrete member, minimum edge distance and spacing

Anchor			HCA 5/8” x 90	HCA 5/8” x 130
Length in concrete	$h_{nom} \geq$	[mm]	80	115
Minimum thickness of concrete member	h_{min}	[mm]	200	200
Minimum spacing	s_{min}	[mm]	125	550
Minimum edge distance (load direction 1)	$c_{1,min}$	[mm]	150	350
Minimum edge distance (load direction 2)	$c_{2,min}$	[mm]	200	500