

INFORMATION

The torque controlled Heavy Duty Anchor Countersunk is a zinc plated high performance anchor for use in cracked/non-cracked concrete and structural applications such as:

- Columns
- Guard rails
- Façades
- Staircases
- Silo installation
- Machines
- Cantilever beams

BASE MATERIAL

- Concrete C20/25 to C50/60
- Cracked Concrete
- Non-Cracked Concrete

FEATURES

- High Performance
- Wide Range Of Sizes
- Fast And Secure Installation
- Through Fixing
- Three way Expansion Sleeve
- Zinc Plated Min. 5µm
- Close Spacing And Edge Distance
- Reaction To Fire Class A1
- Fire Resistant Loading

APPROVALS

European Technical Assessment
Option 1 Cracked Concrete



ETA-07/0331
Fire Resistance



ETA-07/0331

RELATED PRODUCTS

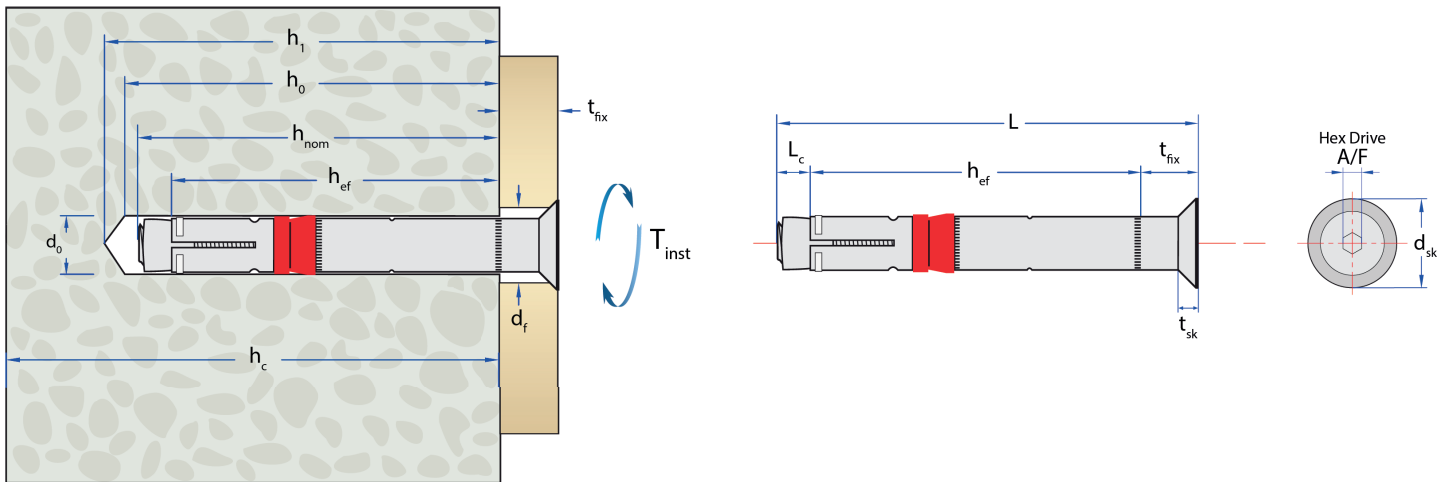


SDS+ Drill Bits



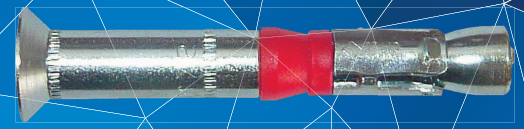
Hole Cleaning Pump

RANGE AND LOAD DATA



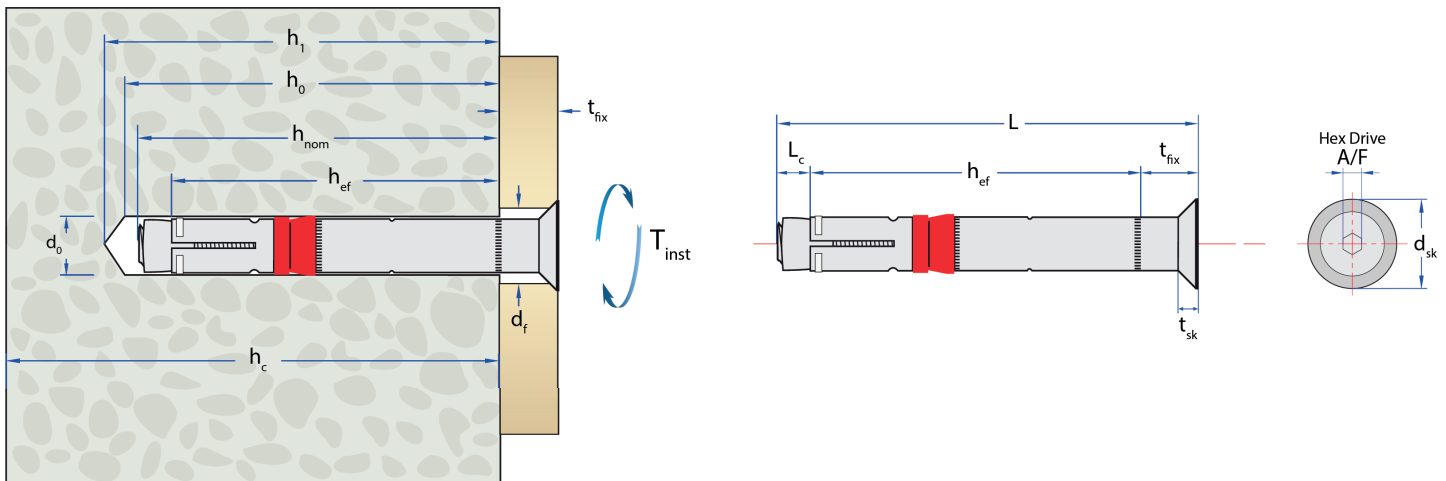
For combined loads, variations in structure thickness, reduced spacing and edge calculations download the free **Anchor Calculation Program** from www.jcpfixings.co.uk

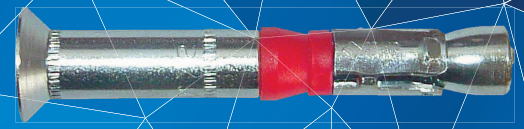




RANGE AND LOAD DATA

RANGE DATA													
Part Number	Size of Thread	Minimum Structure Thickness	Drill Hole Diameter	Min Hole Depth	Fixture Clearance Hole	Cone Length	Effective Embedment Depth	Max Fixture Thickness	Countersunk Thickness	Total Length	CSK Bolt Hexagon Drive	Countersunk Diameter	Tightening Torque
		h_c	d_0	h_1	d_f	L_c	h_{ef}	t_{fix}	t_{sk}	L	A/F	d_{sk}	T_{inst}
		mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	Nm
SLSK10/10	M6	100	10	65	12	10	50	10	3.9	70	4	18	10
SLSK10/25								25		85			
SLSK10/45								45		105			
SLSK12/10	M8	120	12	80	14	11	60	10	5.0	81	5	20	25
SLSK12/25								25		96			
SLSK12/50								50		121			
SLSK15/10	M10	140	15	95	17	14	71	10	5.7	95	6	25	55
SLSK15/25								25		110			
SLSK15/50								50		135			
SLSK18/20	M12	160	18	105	20	16	80	20	6.7	116	8	30	70
SLSK18/40								40		136			





NON-CRACKED CONCRETE

Performance Data (C20/25 non-cracked concrete)												
Size Of Thread	Effective Embedment Depth (h_{ef})	Minimum Concrete Thickness (h_{min})	Characteristic Resistance		Design Resistance		Approved Resistance		Design Spacing (s)		Design Edge Distance (c)	
			Tensile (N_{Rk})	Shear (V_{Rk})	Tensile (N_{Rd})	Shear (V_{Rd})	Tensile (N_{Ra})	Shear (V_{Ra})	Tensile	Shear	Tensile	Shear
-	mm	mm	kN	kN	kN	kN	kN	kN	mm	mm	mm	mm
M6	50	100	16.0	18.0	10.6	14.4	7.5	10.2	200	60	110	160
M8	60	120	20.0	30.0	13.3	24.0	9.5	17.1	200	100	130	240
M10	71	140	30.2	48.0	20.1	38.4	14.3	27.4	360	200	180	360
M12	80	160	36.1	72.2	24.0	48.1	17.1	34.3	400	240	200	410

CRACKED CONCRETE

Performance Data (C20/25 cracked concrete)												
Size Of Thread	Effective Embedment Depth (h_{ef})	Minimum Concrete Thickness (h_{min})	Characteristic Resistance		Design Resistance		Approved Resistance		Design Spacing (s)		Design Edge Distance (c)	
			Tensile (N_{Rk})	Shear (V_{Rk})	Tensile (N_{Rd})	Shear (V_{Rd})	Tensile (N_{Ra})	Shear (V_{Ra})	Tensile	Shear	Tensile	Shear
-	mm	mm	kN	kN	kN	kN	kN	kN	mm	mm	mm	mm
M6	50	100	5.0	18.0	3.3	14.4	2.3	10.2	50	140	50	230
M8	60	120	12.0	33.4	8.0	22.2	5.7	15.8	80	180	60	320
M10	71	140	16.0	43.0	10.6	28.6	7.5	20.4	110	220	70	380
M12	80	160	25.7	51.5	17.1	34.3	12.2	24.5	240	240	120	410

FIRE RESISTANCE DATA

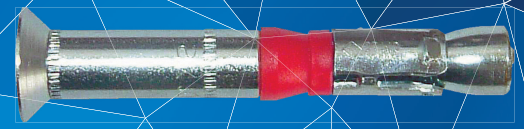


Fire Resistance Data (C20/25 to C50/60 cracked or non-cracked concrete)*											
Size Of Thread	Effective Embedment Depth (h_{ef})	Minimum Concrete Thickness (h_{min})	Design Resistance				Approved Resistance				
			Tensile ($N_{Rd,fi}$) or Shear ($V_{Rd,fi}$) (kN)**				Tensile ($N_{Ra,fi}$) or Shear ($V_{Ra,fi}$) (kN)				
-	mm	mm	30min (R30)	60min (R60)	90min (R90)	120min (R120)	30min (R30)	60min (R60)	90min (R90)	120min (R120)	
M6	50	100	1.0	0.8	0.6	0.4	0.71	0.57	0.42	0.28	
M8	60	120	1.9	1.5	1.0	0.8	1.35	1.07	0.71	0.57	
M10	71	140	4.3	3.2	2.1	1.5	3.07	2.28	1.50	1.07	
M12	80	160	6.3	4.6	3.0	2.0	4.50	3.28	2.14	1.42	

* The determination covers anchors with a fire attack from one side only. If the fire attack is from more than one side, the design method may be taken only, if the edge distance of the anchor is $c \geq 300$ mm and $\geq 2 h_{ef}$.

**For combined loads, use Anchor Calculation Program.





SUPPLEMENTARY DATA

Influence Of Concrete Strength (Cracked/Non-cracked Concrete)					
Concrete strength		C20/25	C30/37	C40/50	C50/60
Cylinder	N/mm ²	20	30	40	50
Cube	N/mm ²	25	37	50	60
Factor	-	1.0	1.22	1.41	1.55

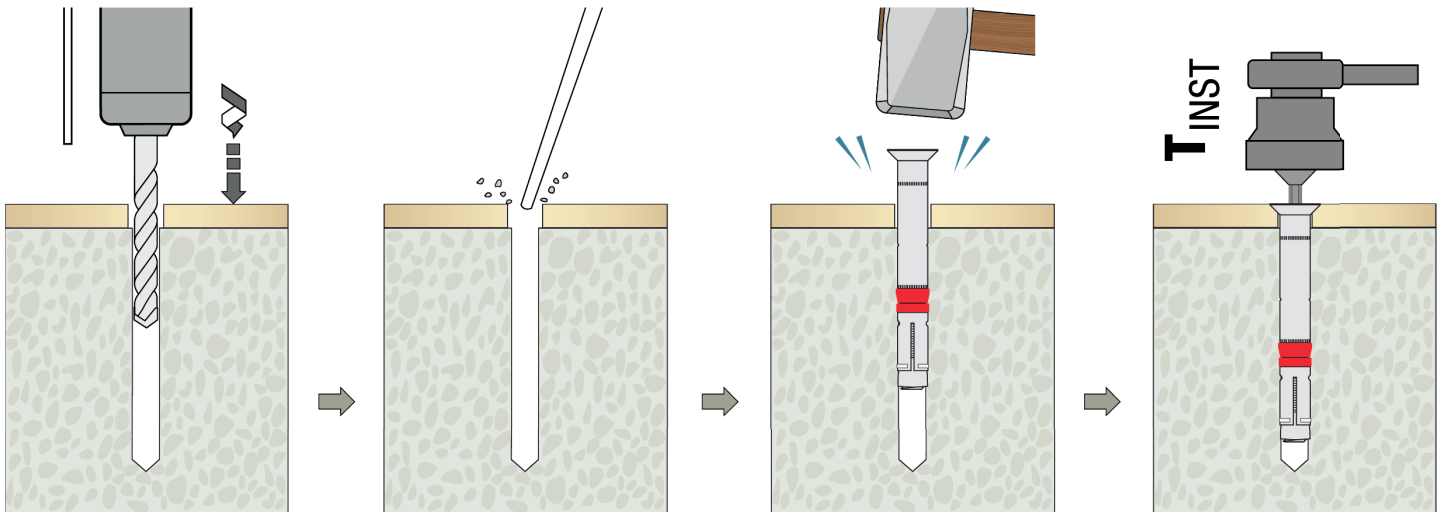
Important Note:
When using concrete factors ensure that loads do not exceed Steel Design Resistance.

Steel Failure						
Size Of Thread	Tensile Resistance			Shear Resistance		
	Characteristic Resistance (N _{Rk,s})	Design Resistance (N _{Rd,s})*	Approved Resistance (N _{Ra,s})	Characteristic Resistance (V _{Rk,s})	Design Resistance (V _{Rd,s})**	Approved Resistance (V _{Ra,s})
-	kN	kN	kN	kN	kN	kN
M6	16.0	10.6	7.5	18	14.4	10.2
M8	29.0	19.3	13.7	30	24.0	17.1
M10	46.0	30.6	21.8	48	38.4	27.4
M12	67.0	44.6	31.8	73	58.4	41.7

* A partial safety factor (γ_{MS}) equal to 1.5 is included.

** A partial safety factor (γ_{MS}) equal to 1.25 is included.

INSTALLATION INSTRUCTIONS



-Position fixture and drill correct diameter hole to corresponding depth

-Clean hole by blowing to remove drilling debris and dust

-Insert anchor through fixture into concrete and lightly hammer into concrete

-Tighten with torque wrench to recommended torque

