DROP-IN XT

INTERNALLY THREADED SLEEVE ANCHOR

for use in concrete for redundant non structural applications

Features:

- Deformation controlled fixing
- Approved for use in cracked & non-cracked concrete
- Approved for structural applications in non-cracked concrete
- Lipped and smooth versions

Benefits:

- Quick and simple installation
- One anchor for concrete from C20/25 to C50/60
- Suitable for bolts and threaded rod
- Adjustable fixture thickness
- Bolt and stud can be removed for temporary structures

Base material:
Cracked & Non-cracked concrete from C20/25 to C50/60

ETA 22/0455

XT anchor designation			
Drop-in Anchor	Thread size d [mm]	Short version	Lipped version
XT	**08**	**LS**	**L**

Product Range

		Thread Diameter	Outside Diameter	Anchor Length	Internal Thread Length	Drill Hole Diameter	Drill Hole Depth	Fixture Clearance Hole	Installation Torque (Max)	Setting Punch
Product Code		d	D	L	L_{th}	d_o	h_{nom}	d_f	T_{inst}	Reference
Smooth	Lipped	mm	mm	mm	mm	mm	mm	mm	Nm	
TDA08	TDA08L	8	10	30	13	10	33	9	11	TDST08
TDA10S	TDA10LS	10	12	30	13	12	33	12	17	TDST10
TDA10	TDA10L	10	12	40	19	12	43	12	17	TDST10
TDA12	TDA12L	12	16	50	22	16	54	14	38	TDST12

Installation Data

Thread Diameter			M08	M10S	M10	M12
Non-cracked concrete						
Effective Anchorage Depth	h_{ef}	[mm]	30	30	40	50
Minimum Concrete Thickness	h_{min}	[mm]	80	80	80	80
Characteristic Spacing	$S_{cr,N}$	[mm]	200	200	200	250
Characteristic Edge Distance	$C_{cr,V}$	[mm]	150	150	150	150

Load Data

Characteristics

Thread Diameter			M08	M10S	M10	M12
N_{Rk}	Tensile Resistance	[kN]	4.0	4.5	4.5	7.0

Design Resistance

Thread Diameter			M08	M10S	M10	M12
N_{Rd}	Tensile Resistance	[kN]	1.9	2.1	2.5	3.9

Recommended Resistance

Thread Diameter			M08	M10S	M10	M12D
N_{rec}	Tensile Resistance	[kN]	1.4	1.5	1.8	2.8

Includes Partial Safety Factor γ = 1.4 in the absence of national regulations and type of loading Data is for Static and Quasi Static Loads for a single anchor

Steel Limits

Thread Diameter			M08	M10S	M10	M12
Characteristic Shear - with lever arm						
Grade 4.8	$M^0_{Rk,s}$	[Nm]	15.0	30.0	30.0	52.4
Grade 5.8	$M^0_{Rk,s}$	[Nm]	18.8	37.0	37.0	65.6
Grade 8.8	$M^0_{Rk,s}$	[Nm]	30.0	60.0	60.0	104.9
Partial Safety Factor	γ_{MsV}	[-]	1.25			

Fire Loads

Characteristic Resistance for Fire Loads (for threaded rod ≥ 4.8)

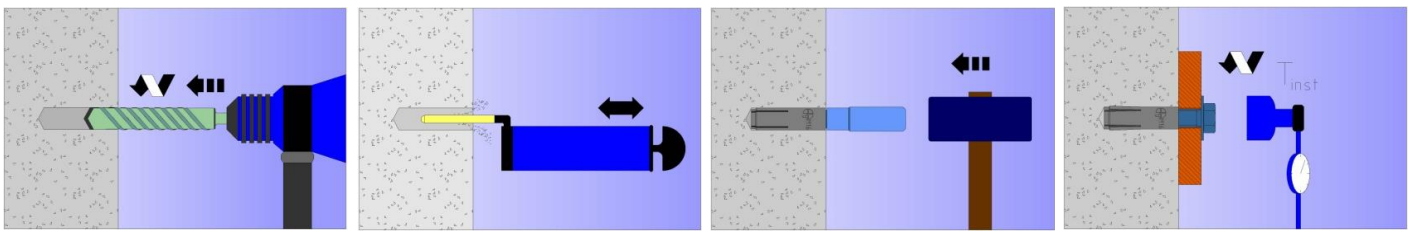
Thread Diameter			M08	M10	M12	M12D
$N_{Rk,s,fi,30}$	R30	[kN]	0.89	0.89	1.13	1.75
$N_{Rk,s,fi,60}$	R60	[kN]	0.89	0.89	1.13	1.75
$N_{Rk,s,fi,90}$	R90	[kN]	0.89	0.89	1.13	1.75
$N_{Rk,s,fi,120}$	R120	[kN]	0.71	0.71	0.90	1.40

In the absence of other national regulations the partial safety for resistance under fire exposure = 1.0

Spacing	[mm]	$S_{cr,N,fi}$	4 x h_{ef}
Edge Distance	[mm]	$C_{cr,N,fi}$	2 x h_{ef}

The design method covers anchors with a fire attack from one side only. In the case of a fire attack from more than one side the edge distance shal be ≥ 300mm

XT anchor installation



DROP-IN XT – INTERNALLY THREADED SLEEVE ANCHOR

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- Approved for structural applications in non-cracked concrete
- Lipped and smooth versions

Benefits:

- Quick and simple installation
- One anchor for concrete from C20/25 to C50/60
- Suitable for bolts and threaded rod
- Adjustable fixture thickness
- Bolt and stud can be removed for temporary

Base material:
Non-cracked concrete from C20/25 to C50/60

ETA 22/0153

ETA 22/0153 for M12 + M16 only

designation:			
Drop-In Anchor	Thread Size d [mm]	Short version	Lipped version
XT	08	LS	L

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MASONMATE® FIXINGS FOR MASONRY

Product Range

Product Code		Thread Diameter	Outside Diameter	Anchor Length	Internal Thread Length	Drill Hole Diameter	Drill Hole Depth	Fixture Clearance Hole	Installation Torque (Max)	Setting Punch
		d	D	L	L_{th}	d_o	h_{nom}	d_f	T_{inst}	Reference
Smooth	Lipped	mm	mm	mm	mm	mm	mm	mm	Nm	
TDA08	TDA08L	8	10	30	13	10	33	9	8	TDST08
TDA10	TDA10L	10	12	40	17	12	43	12	15	TDST10
TDA12	TDA12L	12	15	50	21	15	54	14	35	TDST12
TDAD12	TDAD12L	12	16	50	21	16	54	14	35	TDST12
TDA16	TDA16L	16	20	65	30	20	70	18	60	TDST16
TDA20	TDA20L	20	25	80	30	25	85	22	120	TDST20

Installation Data

Thread Diameter			M08	M10	M12	M12D	M16	M20
Non-cracked concrete								
Effective Anchorage Depth	h_{ef}	[mm]	30	40	50	50	65	80
Minimum Concrete Thickness	h_{min}	[mm]	100	100	100	100	120	160
Characteristic Spacing	$S_{cr,N,ucr}$	[mm]	210	280	350	350	455	560
Characteristic Edge Distance	$C_{cr,V,ucr}$	[mm]	105	140	175	175	227	280
Minimum Spacing	s_{min}	[mm]	41	54	68	68	88	108
Minimum Edge Distance	c_{min}	[mm]	41	54	68	68	88	108

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MASONMATE® FIXINGS FOR MASONRY

Steel Limits

Characteristic Tensile Steel limits

Thread Diameter			M08	M10	M12	M12D	M16	M20
Grade 4.8	$N_{Rk,s}$	[kN]	14.6	23.2	33.7	33.7	62.8	98.0
Partial Safety Factor	γ_{MsN}	[-]	1.5					
Grade 5.8	$N_{Rk,s}$	[kN]	18.3	29.0	42.2	42.2	78.5	122.5
Partial Safety Factor	γ_{MsN}	[-]	1.5					
Grade 8.8	$N_{Rk,s}$	[kN]	29.3	46.4	67.4	67.4	125.6	196
Partial Safety Factor	γ_{MsN}	[-]	1.5					

Characteristic Shear Steel limits

Shear - without lever arm								
Grade 4.8	$V_{Rk,s}$	[kN]	7.3	11.6	16.9	16.9	31.4	49.0
Grade 5.8	$V_{Rk,s}$	[kN]	9.2	14.5	21.1	21.1	39.3	61.3
Grade 8.8	$V_{Rk,s}$	[kN]	14.6	23.2	33.7	33.7	62.8	98
Factor of Ductility	k_7	[-]	0.8					

Shear - with lever arm

Grade 4.8	$M^0_{Rk,s}$	[Nm]	15.0	29.9	52.4	52.4	133.3	259.8
Grade 5.8	$M^0_{Rk,s}$	[Nm]	18.8	37.4	65.6	65.6	166.6	324.8
Grade 8.8	$M^0_{Rk,s}$	[Nm]	30.0	59.9	104.9	104.9	266.6	519.7
Partial Safety Factor	γ_{MsV}	[-]	1.25					

Fire Loads

Characteristic Tensile Resistance for Fire Loads

Thread Diameter			M08	M10	M12	M12D	M16	M20
$N_{Rk,s,fi,30}$	R30	[kN]	-	-	1.7	1.7	3.1	-
$N_{Rk,s,fi,60}$	R60	[kN]	-	-	1.3	1.3	2.40	-
$N_{Rk,s,fi,90}$	R90	[kN]	-	-	1.1	1.0	2.0	-
$N_{Rk,s,fi,120}$	R120	[kN]	-	-	0.8	0.8	1.6	-

Characteristic Shear Resistance without lever arm for Fire Loads

Thread Diameter			M08	M10	M12	M12D	M16	M20
$V_{Rk,s,fi,30}$	R30	[kN]	-	-	1.7	1.7	3.1	-
$V_{Rk,s,fi,60}$	R60	[kN]	-	-	1.3	1.3	2.4	-
$V_{Rk,s,fi,90}$	R90	[kN]	-	-	1.1	1.1	2.0	-
$V_{Rk,s,fi,120}$	R120	[kN]	-	-	0.8	0.8	1.6	-

Characteristic Shear Resistance with lever arm for Fire Loads

Thread Diameter			M08	M10	M12	M12D	M16	M20
$M^0_{Rk,s,fi,30}$	R30	[Nm]	-	-	3.9	3.9	9.3	-
$M^0_{Rk,s,fi,60}$	R60	[Nm]	-	-	2.9	2.9	7.0	-
$M^0_{Rk,s,fi,90}$	R90	[Nm]	-	-	2.5	2.5	6.0	-
$M^0_{Rk,s,fi,120}$	R120	[Nm]	-	-	1.9	1.9	4.6	-

In the absence of other national regulations the partial safety for resistance under fire exposure = 1.0

Load Data

Non-Cracked Concrete
Characteristic Resistance

Thread Diameter			M08	M10	M12	M12D	M16	M20
N_{Rk}	Tensile Resistance	[kN]	8.3	12.8	17.9	17.9	26.5	30.0

Design Resistance

Thread Diameter			M08	M10	M12	M12D	M16	M20
N_{Rd}	Tensile Resistance	[kN]	4.6	7.1	11.9	11.9	14.7	16.7

Recommended Resistance

Thread Diameter			M08	M10	M12	M12D	M16	M20
N_{rec}	Tensile Resistance	[kN]	3.3	5.1	8.5	8.5	10.5	11.9

Includes Partial Safety Factor γ = 1.4 in the absence of national regulations and type of loading Data is for Static and Quasi Static Loads for a single anchor

Increasing Factors

Thread Diameter		M08	M10	M12	M12D	M16	M20
Ψc C30/37	[-]	1.22					
Ψc C40/50	[-]	1.41					
Ψc C50/60	[-]	1.55					

When using increasing factors care must be taken not to exceed steel limits

Spacing & Edge Distances

Spacing	[mm]	$S_{cr,N,fi}$	-	-	200	200	260	-
Edge Distance	[mm]	$C_{cr,N,fi}$	-	-	100	100	130	-

The design method covers anchors with a fire attack from one side only. In the case of a fire attack from more than one side the edge distance shal be ≥ 300mm

XT anchor installation