

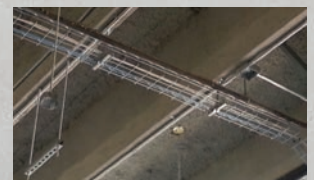
SA PLUS LIP DROP-IN ANCHOR



ICCONS
Serious Connections®

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APPROVED FOR USE IN CRACKED AND UNCRACKED CONCRETE



National Code
Compliant



ETA
13/0371
Approved



Cracked
Concrete
Approved



Fire
Rated
Fasteners



ZINC INTERNAL

For multiple use non-structural applications

SA PLUS LIP DROP-IN ANCHOR is a single piece internally threaded expansion anchor suitable for solid base material and hollow core concrete available in a carbon steel clear zinc plated finish.

The anchor is set by displacement of the pre-assembled expander cone to enable full expansion of the anchor body. The anchor must be set with the correct ICCONS® setting tools (see page 2).

The lip feature ensures the anchor will mount flush with the concrete surface for consistency. The internal thread is suitable for machined bolts or threaded rod.

NEW

Part No.	Description	mm	mm	mm	qty	qty
DLPM1025-A	M10 x 25mm Lip Drop-in Anchor Approved	12	27	M10	50	500

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Lip Drop-in Setting Tool

For use with Lip Drop-in Anchors.

Use of Setting Tool is necessary for the correct installation of Drop-in Anchors.



Part No.	Description	qty
DLST1030	M10 x 25mm & M10 x 30mm Setting Tool - Soft Grip	1



SDS PLUS Drill Bits & Setting Tool

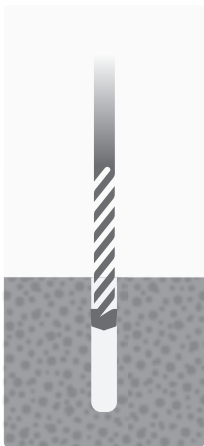
For use with Lip Drop-in Anchors.

Setting Tool kit for use with M10x25 Lip Drop-in Anchors.

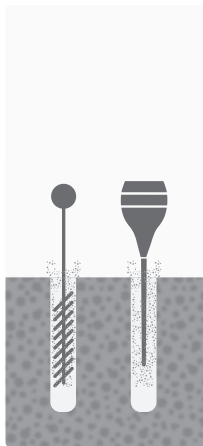


Part No.	Part No.	Description	qty
DLSDS1245		12 x 45mm SDS Drill Bit for M10 x 25mm and M10 x 30mm Lip Drop-in Anchors	1
	DLSDS-ST1030	SDS Setting Tool Kit for 10 x 25mm and 10 x 30mm Lip Drop-in included 1 x 45mm Drill Bit, 1 x Setting Tool Adaptor	1

INSTALLATION



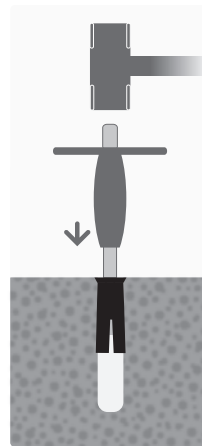
With the correct diameter drill bit, drill a hole to the correct depth.



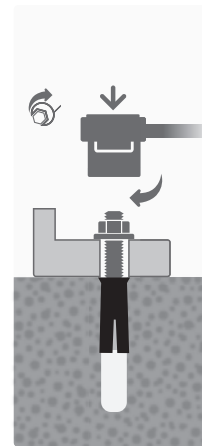
Clean dust and other material from the hole. Blow dust from the hole.



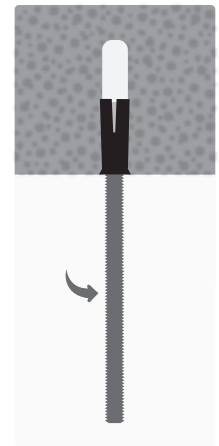
Push in Lip Drop-in by hand or by hammer blows, anchor should be flush to concrete surface.



Set the Lip Drop-in with setting tool. The Lip Drop-in is installed correctly if the setting tool pin is completely inside the anchor.



Place fixture in position and insert machined bolt and tighten until firm (do not exceed recommended torque).



For threaded rod installations wind in rod until firm, do not over tighten.

INSTALLATION DATA SA PLUS LIP DROP-IN ANCHOR

M10 x 25mm		
Nominal Drill diameter	d_0	12
Internal Thread Diameter	M	10
Depth of Drill Hole	h_1	27
Distance b/w anchor and prestressing steel	a_p	50

(FOR HOLLOW CORE SLABS ONLY)			
		M10 x 25mm	
Effective anchor depth	h_{ef}		25
Maximum thread depth	$L_{s,max}$		12
Minimum thread depth	$L_{s,min}$		10
Fixture clearance hole	d_f		12
Maximum installation torque	T_{inst}		15

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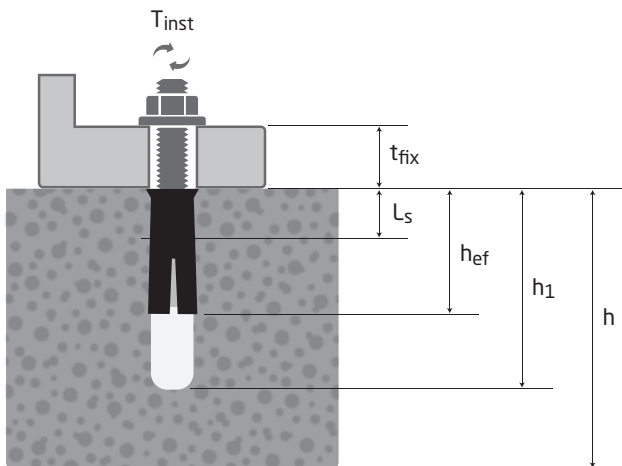
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MATERIAL SPECIFICATIONS

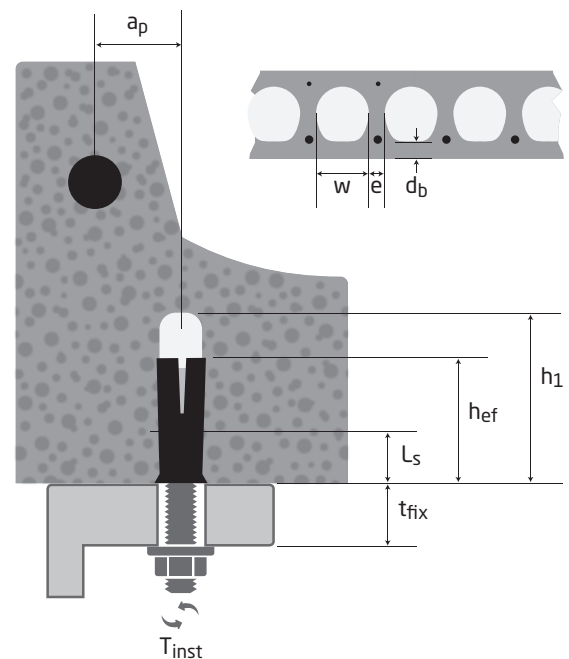
Anchor Component	Steel
Body M10	Steel C1015 or EN 10277:2008
Expansion Cone	Steel C1006-C1008
Retaining Disc	Paper or plastic

SA plus - For use in concrete
C20/25 to C50/60



SA plus Lip Drop-in		
h	=	thickness of member
h_1	=	minimum hole depth
h_{ef}	=	effective anchorage depth
t_{fix}	=	fixture thickness
L_s	=	length of thread inside the anchor
T_{inst}	=	max. installation torque

SA plus - For use in precast prestressed
hollow core slabs ($w/e \leq 4.2$)
With flange thickness ≥ 35 mm and
concrete C45/55 to C50/60



SA plus Lip Drop-in		
h_1	=	minimum hole depth
h_{ef}	=	effective anchorage depth
t_{fix}	=	fixture thickness
L_s	=	length of thread inside the anchor
T_{inst}	=	max. installation torque
a_p	=	distance between plug and reinforcement
w	=	core width
e	=	web thickness
d_b	=	bottom flange thickness

SA PLUS LIP DROP-IN ANCHOR



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Minimum thickness of concrete member, spacing and edge distance

Apolo Drop-in anchor SA plus			Size M10-25
Minimum thickness of member	h_{min}	[mm]	100
Minimum spacing	s_{min}	[mm]	130
Minimum edge distance	c_{min}	[mm]	140

Minimum thickness, spacing and edge distance of precast prestressed hollow core slabs

Apolo Drop-in anchor SA plus			Size M10-25
Minimum thickness of member	h_{min}	[mm]	200
Minimum spacing	s_{min}	[mm]	180
Minimum edge distance	c_{min}	[mm]	150

Design Data in accordance with AS 5216:2018

Apolo Drop-in anchor SA plus - Any load direction				Size M10-25
Characteristic resistance in concrete C20/25 - C50/60	F_{Rk}^0	[kN]	$\geq Rod 4.6$	2.5
Installation safety factor	γ_{inst}	[-]		1.2
Characteristic spacing	s_{cr}	[mm]		220
Characteristic edge distance	c_{cr}	[mm]		110
Design resistance in concrete C20/25 - C50/60	F_{Rd}^0	[kN]	$\geq Rod 4.6$	1.4 ⁽¹⁾

1) Load in any direction

Design Data for use in precast prestressed hollow core slabs with bottom flange thickness $\geq 35mm$

Apolo Drop-in anchor SA plus - Any load direction				Size M10-25
Characteristic resistance in concrete C45/55 - C50/60	F_{Rk}	[kN]		4.0
Installation safety factor	γ_{inst}	[-]		1.2
Spacing	$s_{cr} = s_{min}$	[mm]		180
Edge distance	$c_{cr} = c_{min}$	[mm]		150
Design resistance in concrete C45/55 - C50/60	F_{Rd}	[kN]	$\geq Rod 4.6$	2.2 ⁽¹⁾

1) Load in any direction

Characteristic values of resistance under fire exposure in any direction for use in concrete C20/25 to C50/60 (NOT for use in prestressed hollow slabs)

Apolo Drop-in anchor SA plus - Fire resistance class				Size M10-25	
R30	Characteristic resistance	$F_{Rk,fi}$	[kN]	$\geq Steel 4.6$	0.6
R60	Characteristic resistance	$F_{Rk,fi}$	[kN]	$\geq Steel 4.6$	0.5
R90	Characteristic resistance	$F_{Rk,fi}$	[kN]	$\geq Steel 4.6$	0.4
R120	Characteristic resistance	$F_{Rk,fi}$	[kN]	$\geq Steel 4.6$	0.3

Apolo Drop-in anchor SA plus - Spacing and edge distance under fire exposure				Size M10-25
R30 - R120	Spacing distance	$s_{cr,fi}$	mm	160
R30 - R120	Spacing distance	$c_{cr,fi}$	mm	80

The edge distance shall be $\geq 300mm$, in case of fire attack from more than one side

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