

Section 1. PRODUCT DESCRIPTION

DOUBLE SLEEVE ANCHOR – LTP

Double sleeve anchor LTP comprises a threaded pin screwed into expansion cone nut with female thread at one end, two steel drop-in sleeves with notch over a part of their length and hexagonal nut and washer. Corrosion protection is ensured by galvanized zinc coating. Fixing is executed by tightening the nut with adequate torque which causes sliding of two sleeves over the expansion cone, pulling notched portions of the sleeve apart, and creates a permanent anchorage. The anchor is perfect for machine and equipment medium duty fixings, for fixing of static load bearing structural steel components, frames, railings, balustrades, etc.



Recommended for substrates:

- non-cracked reinforced and non-reinforced concrete of C20/25 ÷ C50/60 strength class

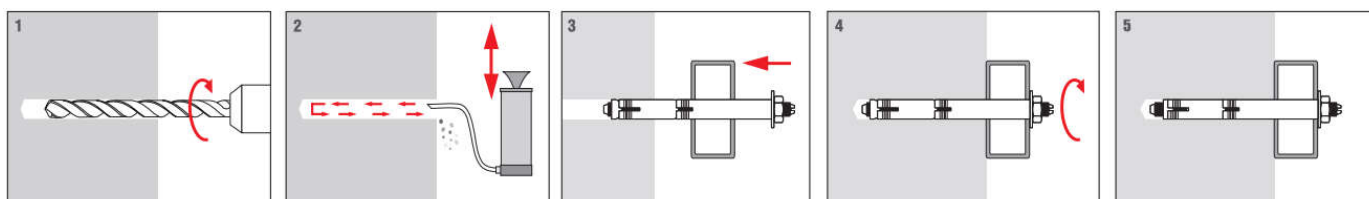
Advantages:

- fast and simple installation by driving the anchor and tightening
- ready to carry full capacity instantly
- delivered as factory integrated with nut and washer

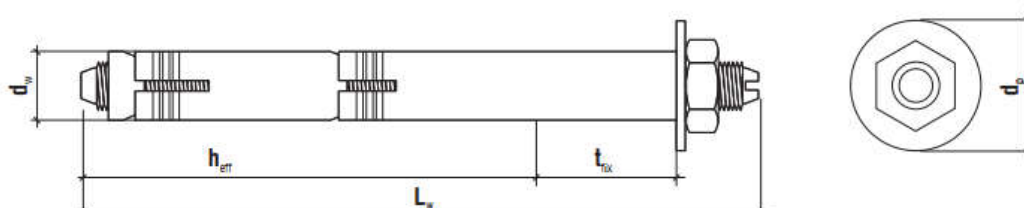
Steel anchors hold National Technical Assessment: ITB-KOT-2018/0377 Rev. 1

Section 2. METHOD OF INSTALLATION

1. Original mechanical anchors delivered by the manufacturer can be used only
2. Before installation check whether parameters of the substrate (where anchors are to be installed) conform to parameters of the substrate used in testing, based on which characteristic loading resistances of connections were determined
3. Install anchors so that reinforcement of the substrate is not damaged
4. Before installation, indicate the drilling points where anchors are to be installed in accordance with installation guidelines
5. Then drill the holes in accordance with the parameters selected (diameter and depth of the hole), perpendicularly to the substrate
6. Clean holes with SCF brush (3x) and blow out clean with PCF pump (3x)
7. Drive anchor into the hole by light hits of a hammer and then tighten the nut by applying an adequate torque (T_{inst}) using torque wrench
8. Note that after the anchor is expanded, the washer under the nut should be pressed against the fixed member



Section 3. TECHNICAL DATA



PRODUCT DATA SHEET – LTP

TABLE 1. TECHNICAL PARAMETERS AND INSTALLATION DATA

Parameters			Anchor size				
			M10	M12	M14	M16	M20
Anchor diameter	d_w	[mm]	10	12	14	16	20
Hole diameter	d_o	[mm]	10	12	14	16	20
Fixed member hole diameter	d_f	[mm]	12	14	16	18	22
Min. anchorage depth	h_{eff}	[mm]	60	65	70	85	100
Min. hole depth	h_o	[mm]	70	75	90	105	120
Min. substrate thickness	h_{min}	[mm]	120	130	140	170	200
Min. spacing between anchors	s_{min}	[mm]	180	195	210	255	300
Min. distance from substrate edge	c_{min}	[mm]	90	98	105	128	150
Torque	T_{inst}	[Nm]	15	30	50	80	120
National Technical Assessment	[-]	[-]	ITB-KOT-2018/0377 Rev. 1				

TABLE 2. RESISTANCE

Type	Min. anchorage depth	Non-cracked concrete C20/25	
		Characteristic pull-out strength	Characteristic shear strength
	h_{eff} [mm]	$N_{R,k}$ [kN]	$V_{R,k}$ [kN]
LTP-10	60	1.5	1.5
LTP-12	65	3.0	23.0
LTP-14	70	9.5	31.0
LTP-16	85	13.0	40.0
LTP-20	100	20.0	63.0

*Recommended partial safety factor of:
2.52 (pull-out) / 1.25 (shear)

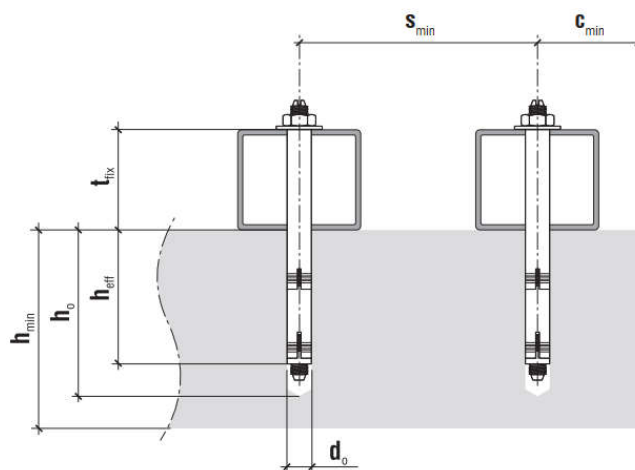


TABLE 3. SELECTION TABLE

Product code	Anchor diameter and length	Max. thickness of fixed member	Thread	Nut head type	Pieces per pack
	$d_w \times L_w$ [mm]	t_{fix} [mm]	[-]	[-]	[pcs.]
LTP-10100	10 x 100	22	M6	SW-10	20
LTP-10150	10 x 150	72	M6	SW-10	20
LTP-12100	12 x 100	12	M8	SW-13	40
LTP-12120	12 x 120	32	M8	SW-13	30
LTP-12150	12 x 150	62	M8	SW-13	30
LTP-12180	12 x 180	92	M8	SW-13	20
LTP-12200	12 x 200	112	M8	SW-13	15
LTP-12250	12 x 250	162	M8	SW-13	10
LTP-12330	12 x 330	242	M8	SW-13	15
LTP-14100	14 x 100	7	M10	SW-17	25
LTP-14180	14 x 180	87	M10	SW-17	15
LTP-14200	14 x 200	107	M10	SW-17	8
LTP-14250	14 x 250	157	M10	SW-17	6
LTP-14330	14 x 330	237	M10	SW-17	10
LTP-16120	16 x 120	5	M12	SW-19	20
LTP-16200	16 x 200	85	M12	SW-19	8
LTP-16250	16 x 250	135	M12	SW-19	5
LTP-16330	16 x 330	215	M12	SW-19	10
LTP-20180	20 x 180	47	M16	SW-24	8
LTP-20200	20 x 200	67	M16	SW-24	10
LTP-20250	20 x 250	117	M16	SW-24	10

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Section 4. REMARKS

1. All previous versions of this Product Data Sheet shall cease to be valid
2. Data given in this Product Data Sheet is in accordance with current knowledge and published in good faith. KLIMAS Sp. z o.o. is not responsible for correctness and quality of the fixing if recommendations regarding method of use and installation are not followed.