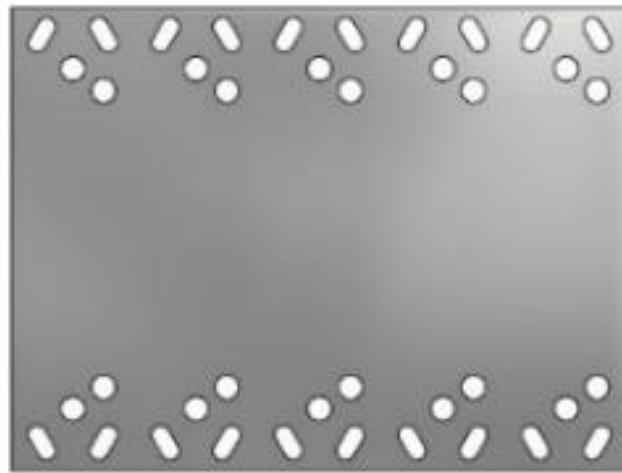


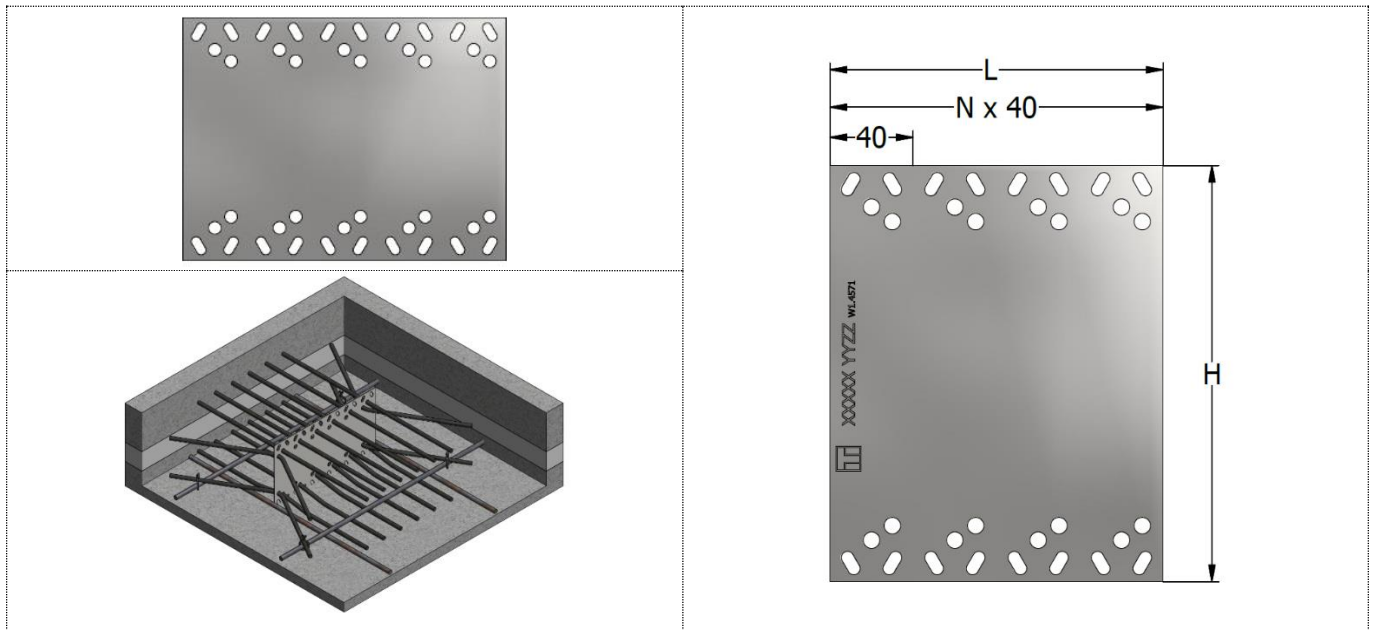
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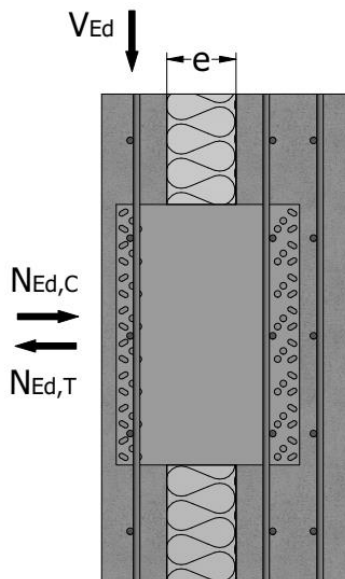
SANDWICH PANEL ANCHOR SYSTEM | **TFA** **SUPPORTING PLATE ANCHOR**



SUPPORTING PLATE ANCHOR "TFA"



Bearing anchor TFA is an anchor made of stainless-steel plate, material W1.4571 (A4 quality) - AISI 316Ti. This anchor can only be used in combination with a TMA manchet anchor or with other TFA plate anchors as bearing anchors. Both ends of the anchors have two rows of round holes and one row of oval holes. Reinforcement bars are inserted in the round holes, and the oval holes are for binding with the concrete. The plate thickness (mm x 10), the height and the length of the anchor are marked on the surface of the anchor for identification. TFA-XX-YYY-ZZZ, XX-plate thickness (mmx10), YYY-height (mm), ZZZ-plate length (mm). E.g.: TFA-10-150-0080 for article no. 44175 –Table 12.



The load on the TFA anchors depends on the dead weight of the façade layer, wind load and the warping caused by the temperature.

Design value of the actions:

$N_{Ed,C}$ – Design value of the compressive load

$N_{Ed,T}$ – Design value of the tensile load

V_{Ed} – Design value of the acting shear load

The allowable load-bearing capacity depends on anchor type, insulation layer thickness (e) and actual horizontal loads.

TFA anchor installation

Concrete quality:

Façade layer \geq C30/37

Load bearing layer \geq C30/37

Reinforcement:

Reinforcing mesh B500B

Rebar reinforcement B500B

Minimum reinforcement for the façade layer

Square reinforcement mesh $>1.88 \text{ cm}^2/\text{m}$

Two layers if the load bearing layer thickness is greater than 100 mm

Table 12

Height H mm	Length L mm	Spacing number N	Thickness 1 mm		Thickness 1.5 mm		Thickness 2 mm	
			Symbol	Product no.	Symbol	Product no.	Symbol	Product no.
125	80	2			TFA-15-125-0080	62561		
	120	3			TFA-15-125-0120	62562		
	160	4			TFA-15-125-0160	62563		
	200	5			TFA-15-125-0200	62564		
	240	6			TFA-15-125-0240	62565		
	600	15			TFA-15-125-0600	64458		
	1200	30			TFA-15-125-1200	44842		
150	40	1	TFA-10-150-0040	44174	TFA-15-150-0040	43455	TFA-20-150-0040	44185
	80	2	TFA-10-150-0080	44175	TFA-15-150-0080	43456	TFA-20-150-0080	44186
	120	3	TFA-10-150-0120	44176	TFA-15-150-0120	43457	TFA-20-150-0120	44187
	160	4	TFA-10-150-0160	44177	TFA-15-150-0160	43458	TFA-20-150-0160	44188
	200	5	TFA-10-150-0200	44178	TFA-15-150-0200	43459	TFA-20-150-0200	44189
	240	6	TFA-10-150-0240	44179	TFA-15-150-0240	43460	TFA-20-150-0240	44190
	280	7	TFA-10-150-0280	44180	TFA-15-150-0280	43461	TFA-20-150-0280	44191
	320	8	TFA-10-150-0320	44181	TFA-15-150-0320	43462	TFA-20-150-0320	44192
	360	9	TFA-10-150-0360	44182	TFA-15-150-0360	43463	TFA-20-150-0360	44193
	400	10	TFA-10-150-0400	44183	TFA-15-150-0400	43464	TFA-20-150-0400	44194
	480	12			TFA-15-150-0480	65789		
	600	15	TFA-10-150-0600	64453	TFA-15-150-0600	64459	TFA-20-150-0600	64464
1200	30	TFA-10-150-1200	44184	TFA-15-150-1200	44063	TFA-20-150-1200	44195	
175	40	1	TFA-10-175-0040	44196	TFA-15-175-0040	43465	TFA-20-175-0040	44207
	80	2	TFA-10-175-0080	44197	TFA-15-175-0080	43466	TFA-20-175-0080	44208
	120	3	TFA-10-175-0120	44198	TFA-15-175-0120	43467	TFA-20-175-0120	44209
	160	4	TFA-10-175-0160	44199	TFA-15-175-0160	43468	TFA-20-175-0160	44210
	200	5	TFA-10-175-0200	44200	TFA-15-175-0200	43469	TFA-20-175-0200	44211
	240	6	TFA-10-175-0240	44201	TFA-15-175-0240	43470	TFA-20-175-0240	44212
	280	7	TFA-10-175-0280	44202	TFA-15-175-0280	43471	TFA-20-175-0280	44213
	320	8	TFA-10-175-0320	44203	TFA-15-175-0320	43472	TFA-20-175-0320	44214
	360	9	TFA-10-175-0360	44204	TFA-15-175-0360	43473	TFA-20-175-0360	44215
	400	10	TFA-10-175-0400	44205	TFA-15-175-0400	43474	TFA-20-175-0400	44216
	440	11			TFA-15-175-0440	65790		
	600	15	TFA-10-175-0600	64454	TFA-15-175-0600	64460	TFA-20-175-0600	64465
	1200	30	TFA-10-175-1200	44206	TFA-15-175-1200	43929	TFA-20-175-1200	43932
	200	40	1	TFA-10-200-0040	44217	TFA-15-200-0040	43475	TFA-20-200-0040
80		2	TFA-10-200-0080	44218	TFA-15-200-0080	43476	TFA-20-200-0080	44229
120		3	TFA-10-200-0120	44219	TFA-15-200-0120	43477	TFA-20-200-0120	44230
160		4	TFA-10-200-0160	44220	TFA-15-200-0160	43478	TFA-20-200-0160	44231
200		5	TFA-10-200-0200	44221	TFA-15-200-0200	43479	TFA-20-200-0200	44232
240		6	TFA-10-200-0240	44222	TFA-15-200-0240	43480	TFA-20-200-0240	44233
280		7	TFA-10-200-0280	44223	TFA-15-200-0280	43481	TFA-20-200-0280	44234
300		7					TFA-20-200-0300	44473
320		8	TFA-10-200-0320	44224	TFA-15-200-0320	43482	TFA-20-200-0320	44235
360		9	TFA-10-200-0360	44225	TFA-15-200-0360	43483	TFA-20-200-0360	44236
400		10	TFA-10-200-0400	44226	TFA-15-200-0400	43484	TFA-20-200-0400	44237
440		11					TFA-20-200-0440	65707
600		15	TFA-10-200-0600	64455	TFA-15-200-0600	64461	TFA-20-200-0600	64466
1200		30	TFA-10-200-1200	44227	TFA-15-200-1200	43930	TFA-20-200-1200	43933
225	40	1	TFA-10-225-0040	44238	TFA-15-225-0040	43485	TFA-20-225-0040	44249
	80	2	TFA-10-225-0080	44239	TFA-15-225-0080	43486	TFA-20-225-0080	44250
	120	3	TFA-10-225-0120	44240	TFA-15-225-0120	43487	TFA-20-225-0120	44251
	160	4	TFA-10-225-0160	44241	TFA-15-225-0160	43488	TFA-20-225-0160	44252
	200	5	TFA-10-225-0200	44242	TFA-15-225-0200	43489	TFA-20-225-0200	44253
	240	6	TFA-10-225-0240	44243	TFA-15-225-0240	43490	TFA-20-225-0240	44254
	280	7	TFA-10-225-0280	44244	TFA-15-225-0280	43491	TFA-20-225-0280	44255
	320	8	TFA-10-225-0320	44245	TFA-15-225-0320	43492	TFA-20-225-0320	44256

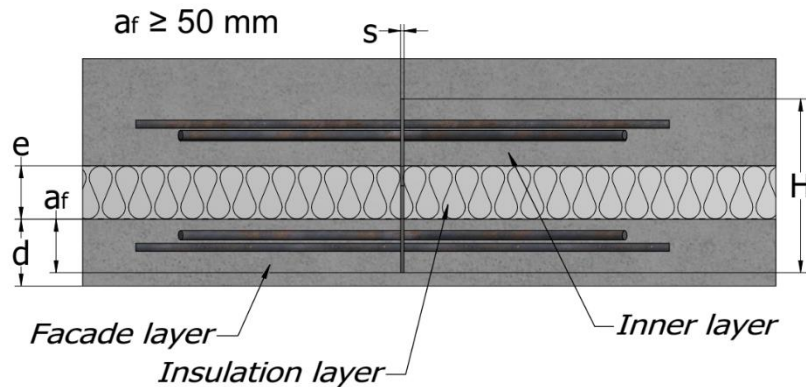
Height H mm	Length L mm	Spacing number N	Thickness 1 mm		Thickness 1.5 mm		Thickness 2 mm	
			Symbol	Product no.	Symbol	Product no.	Symbol	Product no.
	360	9	TFA-10-225-0360	44246	TFA-15-225-0360	43493	TFA-20-225-0360	44257
	400	10	TFA-10-225-0400	44247	TFA-15-225-0400	43494	TFA-20-225-0400	44258
	440	11					TFA-20-225-0440	64235
	520	13					TFA-20-225-0520	65791
	600	15	TFA-10-225-0600	64456	TFA-15-225-0600	64462	TFA-20-225-0600	64467
	1200	30	TFA-10-225-1200	44248	TFA-15-225-1200	43931	TFA-20-225-1200	43934
260	40	1	TFA-10-260-0040	44259	TFA-15-260-0040	44270	TFA-20-260-0040	43935
	80	2	TFA-10-260-0080	44260	TFA-15-260-0080	44271	TFA-20-260-0080	43936
	120	3	TFA-10-260-0120	44261	TFA-15-260-0120	44272	TFA-20-260-0120	43937
	160	4	TFA-10-260-0160	44262	TFA-15-260-0160	44273	TFA-20-260-0160	43938
	200	5	TFA-10-260-0200	44263	TFA-15-260-0200	44274	TFA-20-260-0200	43939
	240	6	TFA-10-260-0240	44264	TFA-15-260-0240	44275	TFA-20-260-0240	43940
	280	7	TFA-10-260-0280	44265	TFA-15-260-0280	44276	TFA-20-260-0280	43941
	320	8	TFA-10-260-0320	44266	TFA-15-260-0320	44277	TFA-20-260-0320	43942
	360	9	TFA-10-260-0360	44267	TFA-15-260-0360	44278	TFA-20-260-0360	43943
	400	10	TFA-10-260-0400	44268	TFA-15-260-0400	44279	TFA-20-260-0400	43944
	480	12					TFA-20-260-0480	63073
	600	15	TFA-10-260-0600	64457	TFA-15-260-0600	64463	TFA-20-260-0600	64468
1200	30	TFA-10-260-1200	44269	TFA-15-260-1200	44280	TFA-20-260-1200	43945	
280	80	2					TFA-20-280-0080	61368
	120	3					TFA-20-280-0120	61369
	160	4					TFA-20-280-0160	46943
	200	5					TFA-20-280-0200	49796
	225	5					TFA-20-280-0225	44474
	240	6					TFA-20-280-0240	46601
	280	7			TFA-15-280-0280	63568	TFA-20-280-0280	61370
	320	8					TFA-20-280-0320	46604
	360	9					TFA-20-280-0360	46600
	400	10					TFA-20-280-0400	62514
	600	15					TFA-20-280-0600	64469
1200	30					TFA-20-280-1200	49797	
300	80	2					TFA-20-300-0080	44064
	120	3					TFA-20-300-0120	62531
	160	4					TFA-20-300-0160	44065
	200	5					TFA-20-300-0200	44066
	220	5					TFA-20-300-0220	46490
	240	6					TFA-20-300-0240	62532
	280	7					TFA-20-300-0280	46491
	320	8					TFA-20-300-0320	62545
	360	9					TFA-20-300-0360	62546
	400	10					TFA-20-300-0400	62547
	600	15					TFA-20-300-0600	64470
1200	30					TFA-20-300-1200	48664	
360	160	4					TFA-20-360-0160	64366
	200	5					TFA-20-360-0200	64370
	225	5					TFA-20-360-0225	44427
	240	6					TFA-20-360-0240	64368
	320	8					TFA-20-360-0320	64371
360	9					TFA-20-360-0360	64365	

Table 13

Height H mm	Length L mm	Spacing number N	Thickness 3 mm	Product no.
			Symbol	
150	40	1	TFA-30-150-0040	43717
	80	2	TFA-30-150-0080	43718
	130	3	TFA-30-150-0130	43719
	160	4	TFA-30-150-0160	43720
	300	7	TFA-30-150-0300	43721
	330	8	TFA-30-150-0330	43724
	340	8	TFA-30-150-0340	43722
	360	9	TFA-30-150-0360	43725
	380	9	TFA-30-150-0380	43723
	400	10	TFA-30-150-0400	43726
175	40	1	TFA-30-175-0040	43727
	80	2	TFA-30-175-0080	43728
	130	3	TFA-30-175-0130	43729
	160	4	TFA-30-175-0160	43730
	300	7	TFA-30-175-0300	43731
	330	8	TFA-30-175-0330	43734
	340	8	TFA-30-175-0340	43732
	360	9	TFA-30-175-0360	43735
	380	9	TFA-30-175-0380	43733
	400	10	TFA-30-175-0400	43736
200	80	2	TFA-30-200-0080	65792
	120	3	TFA-30-200-0120	65793
	160	4	TFA-30-200-0160	65794
	200	5	TFA-30-200-0200	65795
	240	6	TFA-30-200-0240	65796
	280	7	TFA-30-200-0280	65797
	320	8	TFA-30-200-0320	65798
	360	9	TFA-30-200-0360	65799
	400	10	TFA-30-200-0400	63891
225	80	2	TFA-30-225-0080	65800
	120	3	TFA-30-225-0120	65801
	160	4	TFA-30-225-0160	65802
	200	5	TFA-30-225-0200	65803
	240	6	TFA-30-225-0240	65804
	400	10	TFA-30-225-0400	48986
	440	11	TFA-30-225-0440	65805
	480	12	TFA-30-225-0480	65806
260	80	2	TFA-30-260-0080	48670
	120	3	TFA-30-260-0120	48666
	160	4	TFA-30-260-0160	48667
	200	5	TFA-30-260-0200	63857
	220	5	TFA-30-260-0220	48668
	240	6	TFA-30-260-0240	48669
	280	7	TFA-30-260-0280	65751
	360	9	TFA-30-260-0360	65752
	400	10	TFA-30-260-0400	48410
	280	40	1	TFA-30-280-0040
80		2	TFA-30-280-0080	60718
120		3	TFA-30-280-0120	60719
160		4	TFA-30-280-0160	46944
200		5	TFA-30-280-0200	60720
240		6	TFA-30-280-0240	49520
280		7	TFA-30-280-0280	60721
320		8	TFA-30-280-0320	60722
360		9	TFA-30-280-0360	46945

Height H mm	Length L mm	Spacing number N	Thickness 3 mm	Product no.
			Symbol	
	400	10	TFA-30-280-0400	46636
300	40	1	TFA-30-300-0040	43737
	80	2	TFA-30-300-0080	43738
	120	3	TFA-30-300-0120	48243
	130	3	TFA-30-300-0130	43739
	160	4	TFA-30-300-0160	43740
	200	5	TFA-30-300-0200	48242
	240	6	TFA-30-300-0240	60668
	280	7	TFA-30-300-0280	46292
	300	7	TFA-30-300-0300	43741
	320	8	TFA-30-300-0320	48244
	330	8	TFA-30-300-0330	43744
	340	8	TFA-30-300-0340	43742
	360	9	TFA-30-300-0360	43745
	380	9	TFA-30-300-0380	43743
	400	10	TFA-30-300-0400	43746
440	11	TFA-30-300-0440	65807	
600	15	TFA-30-300-0600	64471	
1200	30	TFA-30-300-1200	60021	
335	40	1	TFA-30-335-0040	43747
	80	2	TFA-30-335-0080	43748
	130	3	TFA-30-335-0130	43749
	160	4	TFA-30-335-0160	43750
	300	7	TFA-30-335-0300	43751
	330	8	TFA-30-335-0330	43754
	340	8	TFA-30-335-0340	43752
	360	9	TFA-30-335-0360	43755
	380	9	TFA-30-335-0380	43753
	400	10	TFA-30-335-0400	43756
350	80	2	TFA-30-350-0080	47002
	120	3	TFA-30-350-0120	46528
	160	4	TFA-30-350-0160	47003
	200	5	TFA-30-350-0200	46529
	240	6	TFA-30-350-0240	65808
	280	7	TFA-30-350-0280	47032
	320	8	TFA-30-350-0320	47004
	360	9	TFA-30-350-0360	47005
	400	10	TFA-30-350-0400	46530
	600	15	TFA-30-350-0600	64472
1200	30	TFA-30-350-1200	49803	
360	240	6	TFA-30-360-0240	60786
	280	7	TFA-30-360-0280	64367
	320	8	TFA-30-360-0320	64369
	360	9	TFA-30-360-0360	64364
370	80	2	TFA-30-370-0080	65809
	120	3	TFA-30-370-0120	65810
	160	4	TFA-30-370-0160	65811
	200	5	TFA-30-370-0200	65812
	240	6	TFA-30-370-0240	65813
	280	7	TFA-30-370-0280	65814
	320	8	TFA-30-370-0320	65815
	400	10	TFA-30-370-0400	65816
375	120	3	TFA-30-375-0120	64403
	160	4	TFA-30-375-0160	64402
	200	5	TFA-30-375-0200	64404
	240	6	TFA-30-375-0240	64405

Height H mm	Length L mm	Spacing number N	Thickness 3 mm	Product no.
			Symbol	
	280	7	TFA-30-375-0280	64400
	320	8	TFA-30-375-0320	64401
	360	9	TFA-30-375-0360	64406
400	120	3	TFA-30-400-0120	64248
	320	8	TFA-30-400-0320	64249



ANCHOR HEIGHT

The anchor height depends on the minimum façade layer embedment depth $a_f \geq 50$ mm and insulation layer thickness (e) – Table 14. For larger embedment depths, greater than 50 mm, the anchor dimension "HW" must be chosen accordingly.

$$H \geq 2 \cdot a_f + e$$

Table 14

e mm \ H mm	30	40	50	60	70	80	90	100	110	120	160	180	200	240
H = 150 s = 1.5														
H = 175 s = 1.5														
H = 200 s = 1.5														
H = 200 s = 2.0														
H = 225 s = 1.5														
H = 225 s = 2.0														
H = 260 s = 2.0														
H = 260 s = 3.0														
H = 280 s = 3.0														
H = 300 s = 3.0														
H = 350 s = 3.0														

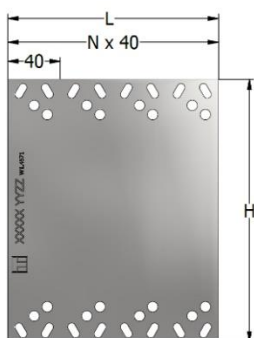
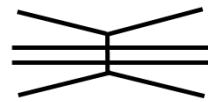
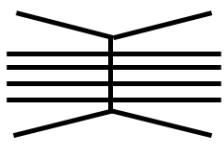
EMBEDDED DEPTH OF ANCHOR

The minimum embedment depth for the TFA plate anchor is approximately 50 mm. A larger embedment depth can determine an increase of the load-bearing capacity or a higher safety factor to prevent concrete fracture. The use of the plate anchor is not limited based on the outer layer thickness.

ANCHORING IN CONCRETE

The reinforcement bars used for anchoring the plate anchor are inserted in the round holes of both ends of the anchor. The anchoring bars are installed in the façade layer and the inner layer. The number and the length of the anchoring bars depend on the plate anchor length – Table 15.

Table 15

Plate anchor TFA	Anchor length L mm	Symbol	Anchoring bars B500B L = 400 mm
	80		2 x 4 bars with diameter 6 mm
	120		2 x 5 bars with diameter 6 mm
	160, 200, 240, 280		2 x 6 bars with diameter 6 mm
	320, 360, 400		2 x 7 bars with diameter 6 mm

LENGTH OF THE PLATE ANCHOR – TFA

The length of the TFA plate anchor depends on the load and the insulation layer thickness, indicated in the tables.

The permitted load Q_{adm} (kN) on the plate anchor with thickness $s = 1.5, 2.0, 3.0$ mm for a three-layer sandwich panel, façade layer thickness $d \leq 80$ mm ($N=4.2kN$)

Table 16

s mm	L mm	e mm	30	40	50	60	70	80	90	100	110	120	150	180	200	240
			1.5	40	2.3	1.8	1.3	1.0	0.8							
2.0	40				1.8	1.5	1.2	0.9	0.7	0.6	0.4					
3.0	40												1.2	1.1	1.0	0.7
1.5	80	5.4	5.1	4.8	4.5	3.9	3.2	2.5	1.9	1.3	0.5					
2.0	80				7.0	6.1	5.1	4.3	3.7	3.1	2.5	2.2	2.0	1.7		
3.0	80											4.6	4.4	4.2	3.5	
1.5	120	8.5	8.1	7.7	7.4	6.9	6.3	5.7	5.1	3.6	2.6					
2.0	120				10.2	9.5	8.8	8.2	7.4	6.5	5.7	5.2	4.7	4.2		
3.0	120											6.6	6.3	6.0	5.1	
1.5	160	11.5	11.1	10.7	10.3	9.8	9.3	8.7	7.9	6.8	5.1					
2.0	160				14.5	13.6	12.6	11.7	11.1	10.4	9.8	9.1	8.4	7.7		
3.0	160											9.4	9.0	8.5	7.2	
1.5	200	14.6	14.2	13.7	13.3	12.8	12.3	11.7	10.8	9.6	7.8					
2.0	200				19.3	18.3	17.2	16.2	15.3	14.4	13.5	12.6	11.7	10.3		
3.0	200											13.0	12.4	11.7	10.0	
1.5	240	17.7	17.3	16.8	16.3	15.7	15.2	14.7	13.8	12.5	10.6					
2.0	240				23.3	22.4	21.6	20.8	19.7	18.6	17.5	16.3	15.2	13.5		
3.0	240											17.4	16.6	15.7	13.8	
1.5	280	20.8	20.3	19.8	19.3	18.8	18.2	17.7	16.7	15.1	13.7					
2.0	280				27.3	26.5	25.8	25.0	23.9	22.6	21.5	20.1	18.7	17.0		
3.0	280											22.6	21.5	20.4	17.5	
1.5	320	23.9	23.4	22.9	22.4	21.7	21.2	20.6	19.7	18.5	16.9					
2.0	320				31.2	31.0	30.7	30.5	28.8	27.2	25.6	23.9	22.2	20.0		
3.0	320											28.7	27.3	25.9	22.5	
1.5	360	26.9	26.5	26.0	25.5	24.8	24.3	23.5	22.6	21.5	20.0					
2.0	360				35.5	35.3	35.0	34.8	33.1	31.4	29.7	27.9	26.2	24.0		
3.0	360											35.5	33.8	32.0	28.0	
1.5	400	30.0	29.6	29.1	28.6	27.9	27.2	26.4	25.5	24.5	23.1					
2.0	400				39.4	39.3	39.1	38.9	37.3	35.5	33.8	31.9	30.1	28.0		
3.0	400											43.2	41.1	39.0	34.0	

The permitted load Q_{adm} (kN) on the plate anchor with thickness $s = 1.5, 2.0, 3.0$ mm for a three-layer sandwich panel, façade layer thickness $d = 90$ mm ($N = 5.8kN$)

Table 17

s mm	e mm		30	40	50	60	70	80	90	100	110	120	150	180	200	240	
	L mm																
1.5	40		1.9	1.6	1.0	0.5											
2.0						1.5	1.2	0.9	0.6								
3.0							2.8	2.5	2.1	1.8	1.6	1.4	1.2	0.7	0.5		
1.5	80		5.0	4.6	4.3	3.8	3.2	2.7	1.9	0.9							
2.0						6.0	5.3	4.5	3.8	3.2	2.5	1.8					
3.0							6.0	5.6	5.3	4.9	4.7	4.4	4.1	3.5	3.2	2.3	1.6
1.5	120		8.0	7.8	7.1	6.7	6.2	5.5	4.8	4.0	2.4	1.0					
2.0						8.7	8.2	7.7	7.2	6.3	5.3	4.4	3.1				
3.0							8.8	8.3	7.8	7.3	6.9	6.5	6.1	5.2	4.6	4.2	2.5
1.5	160		11.2	10.8	10.2	9.6	9.1	8.5	7.8	6.8	5.5	3.3					
2.0						12.9	12.1	11.3	10.5	9.8	9.2	8.5	5.8				
3.0							13.0	12.2	11.3	10.5	10.0	9.4	8.9	7.6	6.7	6.0	5.4
1.5	200		14.3	13.7	13.2	12.6	12.1	11.5	10.8	9.7	8.3	6.1					
2.0						18.3	17.1	15.8	14.6	13.7	12.9	12.0	9.0				
3.0							18.4	17.2	16.0	14.8	14.0	13.3	12.5	10.6	9.5	8.5	7.5
1.5	240		17.5	16.8	16.2	15.7	15.0	14.5	13.8	12.7	11.3	9.0					
2.0						22.8	21.9	20.9	20.0	18.8	17.7	16.5	12.0				
3.0							25.0	23.3	21.7	20.0	19.0	18.0	17.0	14.9	13.0	11.5	10.4
1.5	280		20.6	20.0	19.4	18.7	18.0	17.4	16.8	15.1	14.0	12.0					
2.0						26.8	26.8	25.1	24.3	23.0	21.8	20.5	15.5				
3.0							33.0	30.8	28.7	26.5	25.2	23.8	22.5	19.2	17.0	15.0	13.5
1.5	320		23.5	23.0	22.5	21.8	21.1	20.5	19.7	18.5	17.1	15.2					
2.0						30.8	30.4	29.9	29.5	27.9	26.2	24.6	18.5				
3.0							42.0	39.3	36.7	34.0	32.2	32.2	28.5	24.6	21.5	19.2	17.3
1.5	360		26.6	26.2	25.5	24.9	24.0	23.5	22.6	21.5	20.1	18.5					
2.0						35.0	34.7	34.5	34.2	32.4	30.6	28.8	21.5				
3.0							52.3	49.0	45.8	42.5	40.2	37.8	35.5	30.8	27.0	24.0	21.6
1.5	400		29.8	29.2	28.5	28.0	27.3	26.4	25.5	24.5	23.0	21.5					
2.0						39.0	38.8	38.5	38.3	36.5	34.6	32.8	26.4				
3.0							60.0	57.2	54.3	51.5	48.8	46.2	43.5	37.5	32.8	29.5	26.5

The permitted load Q_{adm} (kN) on the plate anchor with thickness $s = 1.5, 2.0, 3.0$ mm for a three-layer sandwich panel, façade layer thickness $d = 100$ mm ($N = 6.8$ kN)

Table 18

s mm	e mm		30	40	50	60	70	80	90	100	110	120	150	180	200	240			
	L mm																		
1.5	40	L mm	1.6	1.2	0.5														
2.0							1.4	1.0	0.6	0.2									
3.0								2.1	1.9	1.7	1.5	1.3	1.2	1.0	0.6	0.5			
1.5	80	L mm	4.7	4.4	3.5	3.4	2.7	1.9	1.2	0.2									
2.0							5.0	4.5	3.9	3.4	2.8	2.1	1.6						
3.0								5.1	4.7	4.4	4.0	3.8	3.6	3.3	2.7	2.5	2.1	0.6	
1.5	120	L mm	7.8	7.4	6.9	6.4	5.7	5.0	4.2	3.3	1.4								
2.0							7.8	7.3	6.8	6.2	5.5	4.7	2.9	2.8					
3.0								7.9	7.3	6.8	6.3	5.9	5.7	5.4	4.6	4.0	3.5	3.4	
1.5	160	L mm	10.9	10.4	9.8	9.3	8.6	7.9	7.2	6.1	4.8	2.3							
2.0							11.8	11.1	9.5	9.5	9.0	8.5	8.0	5.3	2.2				
3.0								11.9	11.1	9.5	9.5	9.0	8.5	8.0	6.8	6.0	5.3	4.8	
1.5	200	L mm	14.0	13.4	12.8	12.3	11.6	10.9	10.2	9.0	7.6	5.0							
2.0							16.9	15.9	14.8	13.7	12.9	12.1	11.3	8.4	5.0				
3.0								17.0	15.9	14.8	13.7	12.9	12.1	11.3	9.9	8.7	7.7	6.4	
1.5	240	L mm	17.0	16.5	15.8	15.3	14.6	13.9	13.2	12.0	10.5	8.0							
2.0							22.5	21.3	20.0	18.8	17.7	16.7	15.7	11.6	8.0				
3.0								24.5	22.6	20.8	18.9	18.1	17.4	15.7	13.6	12.0	10.7	9.6	
1.5	280	L mm	20.1	19.6	19.0	18.3	17.6	16.8	16.1	14.9	13.4	11.0							
2.0							26.3	25.9	25.3	24.8	23.1	21.5	19.8	15.0	11.0				
3.0								32.4	31.2	30.1	25.0	23.6	22.3	21.0	18.1	16.0	14.2	12.8	
1.5	320	L mm	23.2	22.7	22.1	21.3	20.6	19.8	19.0	17.8	16.4	14.0							
2.0							30.6	30.1	29.5	29.0	27.3	25.7	24.0	18.1	14.0				
3.0								41.8	38.6	35.4	32.2	30.5	28.9	27.2	23.2	20.4	18.2	16.5	
1.5	360	L mm	26.2	25.7	25.1	24.5	23.6	22.7	22.0	20.7	19.4	17.2							
2.0							34.6	34.3	34.0	33.7	31.8	29.9	28.0	22.0	17.2				
3.0								52.0	48.2	44.5	40.7	38.5	36.3	34.1	29.4	25.8	23.0	20.7	
1.5	400	L mm	29.4	28.8	28.2	27.4	26.7	25.8	24.8	23.6	22.4	20.4							
2.0							38.7	38.4	38.0	37.7	35.8	34.0	32.1	25.8	20.4				
3.0								60.0	56.6	53.2	49.8	47.1	44.5	41.9	36.1	31.7	28.3	25.4	

The permitted load Q_{adm} (kN) on the plate anchor with thickness $s = 1.5, 2.0, 3.0$ mm for a three-layer sandwich panel, façade layer thickness $d = 110$ mm and $d = 120$ mm ($N = 9.4$ kN)

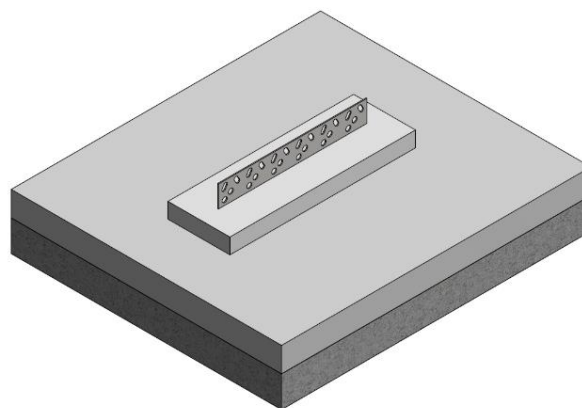
Table 19

s mm	e mm		30	40	50	60	70	80	90	100	110	120	150	180	210	240
	L mm															
1.5	40															
2.0	40															
3.0	40															
1.5	80															
2.0	80															
3.0	80															
1.5	120		4.0	3.8	3.3	2.6	2.5	2.4	2.0	2.0						
2.0	120					2.6	2.5	2.4	2.1	2.0	2.0	1.9	1.5			
3.0	120					2.6	2.5	2.5	2.5	2.3	2.2	2.0	1.7	1.7	1.5	1.1
1.5	160		9.7	8.9	8.0	7.0	6.7	6.3	5.7	4.8	3.2	0.3				
2.0	160					7.1	6.7	6.3	5.9	5.5	5.2	4.8	3.5			
3.0	160					7.1	6.7	6.3	6.0	5.6	5.3	4.9	4.1	3.8	3.3	3.0
1.5	200		13.5	12.8	12.3	11.5	10.6	9.8	9.0	7.8	5.0	3.0				
2.0	200					12.1	11.4	10.6	9.9	9.3	8.8	8.2	6.5			
3.0	200					12.1	11.4	10.6	10.0	9.4	8.8	8.2	7.1	6.4	5.6	5.0
1.5	240		16.5	16.0	15.1	14.3	13.5	12.8	12.0	10.5	8.6	5.8				
2.0	240					18.0	16.8	15.7	14.5	13.8	13.2	12.3	9.8			
3.0	240					18.0	17.0	16.0	15.0	14.1	13.3	12.4	10.5	9.3	8.5	7.5
1.5	280		19.7	19.0	18.4	17.6	16.5	15.7	15.0	13.5	11.6	9.0				
2.0	280					25.4	23.8	22.2	20.5	19.5	18.5	17.3	13.1			
3.0	280					25.4	23.8	22.2	20.5	19.5	18.5	17.4	15.0	13.0	12.0	10.5
1.5	320		22.5	22.1	21.5	20.5	19.7	18.5	17.9	16.5	14.6	12.0				
2.0	320					29.9	29.1	28.3	27.5	25.9	24.2	22.6	16.1			
3.0	320					34.0	31.8	29.7	27.5	26.1	24.6	23.2	20.0	17.5	15.8	14.0
1.5	360		25.9	25.2	24.5	23.6	22.7	21.6	20.8	19.5	17.6	15.2				
2.0	360					34.0	33.5	33.1	32.6	30.7	28.7	26.8	20.0			
3.0	360					44.0	41.2	38.3	35.5	33.7	31.8	30.0	26.0	22.8	20.3	18.0
1.5	400		29.0	28.3	27.6	26.8	25.8	24.7	23.7	22.3	20.6	18.4				
2.0	400					38.0	37.6	37.2	36.8	34.8	32.8	30.8	24.0			
3.0	400					55.0	51.5	48.0	44.5	42.2	39.8	37.5	32.5	28.4	25.5	22.5

Permissible distance "S" (m) between the plate anchor TFA and the anchorage centre (fulcrum) for anchor with thickness $s = 1.5, 2.0, 3.0$ mm for a three or four-layer sandwich panel with façade layer thickness $d \leq 120$ mm

Table 20

s mm	e mm		30	40	50	60	70	80	90	100	110	120	150	180	210	240		
	L mm																	
1.5	40	L	1.5	2.3	3.2													
2.0						3.6	3.6	3.7	4.2									
3.0							3.6	3.6	3.7	4.2	4.6	5.1	5.6	7.0	8.4	9.8	11.2	
1.5	80	L	2.0	3.3	3.5	3.6	3.6	3.7	4.2	4.6	5.1	5.6						
2.0						3.6	3.6	3.7	4.2	4.6	5.1	5.6						
3.0							3.6	3.6	3.7	4.2	4.6	5.1	5.6	7.0	8.4	9.8	11.2	
1.5	120	L	2.0	3.3	3.5	3.6	3.6	3.7	4.2	4.6	5.1	5.6						
2.0						3.6	3.6	3.7	4.2	4.6	5.1	5.6	7.0					
3.0							3.6	3.6	3.7	4.2	4.6	5.1	5.6	7.0	8.4	9.8	11.2	
1.5	160	L	2.0	3.3	3.5	3.6	3.6	3.7	4.2	4.6	5.1	5.6						
2.0						3.6	3.6	3.7	4.2	4.6	5.1	5.6	7.0					
3.0							3.6	3.6	3.7	4.2	4.6	5.1	5.6	7.0	8.4	9.8	11.2	
1.5	200	L	2.0	3.3	3.5	3.6	3.6	3.7	4.2	4.6	5.1	5.6						
2.0						3.6	3.6	3.7	4.2	4.6	5.1	5.6	7.0					
3.0							3.6	3.6	3.7	4.2	4.6	5.1	5.6	7.0	8.4	9.8	11.2	
1.5	240	L	2.0	3.3	3.5	3.6	3.6	3.7	4.2	4.6	5.1	5.6						
2.0						3.6	3.6	3.7	4.2	4.6	5.1	5.6	7.0					
3.0							3.6	3.6	3.7	4.2	4.6	5.1	5.6	7.0	8.4	9.8	11.2	
1.5	280	L	2.0	3.3	3.5	3.6	3.6	3.7	4.2	4.6	5.1	5.6						
2.0						3.6	3.6	3.7	4.2	4.6	5.1	5.6	7.0					
3.0							3.6	3.6	3.7	4.2	4.6	5.1	5.6	7.0	8.4	9.8	11.2	
1.5	320	L	2.0	3.3	3.5	3.6	3.6	3.7	4.2	4.6	5.1	5.6						
2.0						3.6	3.6	3.7	4.2	4.6	5.1	5.6	7.0					
3.0							3.6	3.6	3.7	4.2	4.6	5.1	5.6	7.0	8.4	9.8	11.2	
1.5	360	L	2.0	3.3	3.5	3.6	3.6	3.7	4.2	4.6	5.1	5.6						
2.0						3.6	3.6	3.7	4.2	4.6	5.1	5.6	7.0					
3.0							3.6	3.6	3.7	4.2	4.6	5.1	5.6	7.0	8.4	9.8	11.2	
1.5	400	L	2.0	3.3	3.5	3.6	3.6	3.7	4.2	4.6	5.1	5.6						
2.0						3.6	3.6	3.7	4.2	4.6	5.1	5.6	7.0					
3.0							3.6	3.6	3.7	4.2	4.6	5.1	5.6	7.0	8.4	9.8	11.2	



The maximum permissible values for the distance between the plate anchor and the anchorage centre in the sandwich panel is indicated in the table above (Table 20). When this value is exceeded, the mobility of the plate anchor must be ensured by applying an extra strip of insulation in the anchor zone. This increases the insulation layer thickness, allowing S to be greater than specified in the table.

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