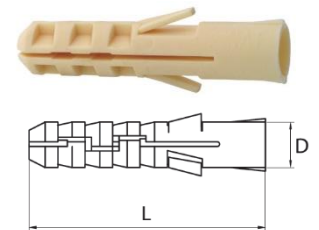


## ULTRA

### EXPANSION SLEEVES

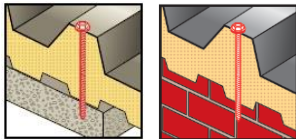


#### PRODUCT DESCRIPTION

Expansion sleeves made of high quality nylon.

#### APPLICATION

Designed for mounting sandwich panels in soft solid materials such as aerated concrete, brick in combination with GTR W SP screws.



#### LENGTH OF SCREWS

Fastener	Dimensions D x L [mm]
ULTRA	10 x 50

## TECHNICAL APPROVAL KOT-2017-0022

### INSTALLATION PARAMETERS

Fastener type	Base	Min fastener age depth [mm]	Min hole depth, [mm]	Initial hole diameter [mm]
GTR W SP + MN or ULTRA	Concrete Full brick Hollow brick Silikat Cellular concrete	50	55	10

Base		Concrete <sup>1)</sup>	Full brick <sup>2)</sup>	Hollow brick <sup>3)</sup>	Silikat <sup>4)</sup>	Cellular concrete <sup>5)</sup>	
Anchorage depth [mm]		50	50	50	50	50	
Thickness of sandwich panel <sup>6)</sup> metal lining [mm]	Characteristic load for shear [kN]	0,50	1,74	1,74	1,74	1,74	
		0,55	1,74	1,74	1,74	1,74	
		0,63	2,34	2,34	2,34	2,34	
		0,75	2,45	2,45	2,45	2,45	
		0,88	2,45	2,45	2,45	2,45	
		1,00	2,45	2,45	2,45	2,45	
	for pull-out [kN]	0,50	2,05	1,90	1,55	1,00	1,00
		0,55	2,05	1,90	1,55	1,00	1,00
		0,63	2,05	1,90	1,55	1,00	1,00
		0,75	2,05	1,90	1,55	1,00	1,00
		0,88	2,05	1,90	1,55	1,00	1,00
		1,00	2,05	1,90	1,55	1,00	1,00
Max. head displacement u <sup>7)</sup> depending on the sandwich panel thickness in [mm]	30	1,0	1,0	1,0	1,0	1,0	
	40	1,0	1,0	1,0	1,0	1,0	
	50	1,0	1,0	1,0	1,0	1,0	
	60	1,5	1,5	1,5	1,5	1,5	
	70	1,5	1,5	1,5	1,5	1,5	
	80	1,5	1,5	1,5	1,5	1,5	
	90	2,0	2,0	2,0	2,0	2,0	
	100	2,0	2,0	2,0	2,0	2,0	
	120	2,0	2,0	2,0	2,0	2,0	
	≥140	2,0	2,0	2,0	2,0	2,0	

<sup>1)</sup> concrete class  $\geq$  C20/25 in accordance with standard PN-EN 206+A1:2016

<sup>2)</sup> full brick class  $\geq$  15 in accordance with standard PN-EN 771-1+A1:2015

<sup>3)</sup> hollow brick class  $\geq$  15 in accordance with standard PN-EN 771-1+A1:2015

<sup>4)</sup> hollow silica brick class  $\geq$  15 in accordance with standard PN-EN 771-2+A1:2015

<sup>5)</sup> cellular concrete with a density  $\geq$  600 and strength classes  $\geq$  7 in accordance with standard PN-EN 771-4+A1:2015

<sup>6)</sup> stell class S280GD, S320GD lub S350GD in accordance with standard PN-EN 10346:2011

<sup>7)</sup> from screw axes measured screw head displacement, resulting from the displacement of the outer face of the sandwich panels by thermal expansion (e.g. caused by solar radiation).

## OTHER FEATURES

BASE MATERIAL:

*CONCRETE, FULL BRICK, HOLLOW BRICK, SILIKAT, CELLULAR  
CONCRETE*

INITIAL HOLE DIAMETER:

*10,0 mm*



KDWU



ZKP