

## Section 1. PRODUCT DESCRIPTION

### FRAME PLUG WITH HEX/COUNTERSUNK HEAD SCREW AND TX DRIVE – KPS-FAST 8 K - D/KPS-FAST 8 S - D

Sleeves of frame plugs are made of polyamide with a specially shaped steel screw type K (hex head) or S (countersunk head) for fixing of members to all substrate types. The screws are made of steel with non-electrolytically applied zinc flake coating SQ Ceramic. The plastic sleeve is expanded by screwing in the specific screw which presses the sleeve against the wall of the drilled hole. Frame plugs are characterized by very high resistance and problem-free installation in various materials. Plugs with hex head (K) are mostly used for fixing of metal members, and plugs with countersunk head (S) mostly for fixing of wood members. The sleeve is pre-assembled with the screw.

Substrates on which frame plug KPS-FAST 8 K-D /KPS-FAST 8 S-D can be installed according to ETAG 020:

- Category A – concrete
- Category B – solid clay brick and sand-lime brick
- Category C – hollow clay and sand-lime brick, porous block
- Category D – lightweight concrete blocks, autoclaved aerated concrete

Frame plugs hold European Technical Assessment: ETA-12/0272



KPS-FAST 8 S-D

KPS-FAST 8 K-D

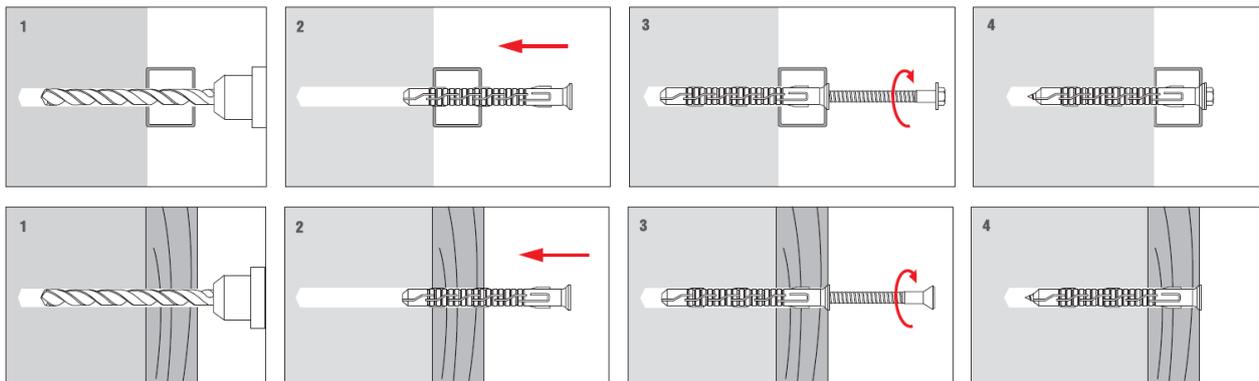


THE DIAMETER OF THE SCREW'S CORE IS REDUCED



## Section 2. METHOD OF INSTALLATION

1. Original frame plugs delivered by the manufacturer can be used only
2. Before installation identify a substrate into which the plug will be installed and compare loads which the plug will carry to resistance values given in Product Data Sheet or European Technical Assessment
3. Select an adequate length of the plug so that expansion zone is in the construction material of the wall (thickness of member being fixed matches max. usable length of the plug –  $t_{fix}$ )
4. Use proper method of drilling according to a substrate type (holes in brickwork substrate made of hollow or autoclaved aerated concrete blocks should be drilled using a drill without impact)
5. Diameter of drilled holes should match diameter of the plugs used
6. Drilled holes in substrates of solid materials should be deeper by min. 10mm compared to the plug anchorage depth
7. Clean the holes in solid materials from drilling dust and debris with a back and forth motion of the drill at a reduced speed
8. Then insert the plug into a drilled hole, and drive the screw until it completely penetrates the sleeve
9. Forceful tightening of the screw can result in its failure which is not covered by the manufacturer's warranty
10. Installation shall be executed in temperature from -20°C to +40°C. (this applies to substrate temperature)



### Section 3. TECHNICAL DATA

TECHNICAL PARAMETERS		
Parameter	Unit	Value
Plug diameter	$d_k$ [mm]	8
Hole/drill diameter	$d_o$ [mm]	8
Effective anchorage depth	$h_{eff}$ [mm]	50/70
Drilled hole depth	$h_o$ [mm]	60/80
Drive type	[-]	(TX-30/SW-10)/(TX-30)*
Use categories	[-]	A B C D
Sleeve material	[-]	PA – polyamide
Screw material	[-]	Steel with non-electrolytically applied zinc flake coating SQ Ceramic
European Technical Assessment	[-]	ETA-12/0272

\*for KPS-FAST 8 K-D/KPS-FAST 8 S-D

\*\*cracked concrete

<sup>1)</sup> According to EN 771-1

<sup>2)</sup> According to EN 771-2

<sup>3)</sup> According to EN 771-3

<sup>4)</sup> According to EN 771-4

<sup>5)</sup> Polish clay brick; (L x W x H) = 250 x 120 x 65 mm

<sup>6)</sup> German clay brick MZ Rd 2.0/20; (L x W x H) = 250 x 120 x 65 mm

<sup>7)</sup> For example Kalksandstein KS NF 20-2.0 Vollstein according to DIN 106; (L x W x H) = 250 x 115 x 71 mm

<sup>8)</sup> For example Porotherm 18.8; (L x W x H) = 468 x 188 x 238 mm

<sup>9)</sup> For example Porotherm 25 P+W; (L x W x H) = 250 x 373 x 238 mm

<sup>10)</sup> For example MAX 250; (L x W x H) = 250 x 373 x 238 mm

<sup>11)</sup> For example HLZ Rd1 1.2/12 according to DIN 105; (L x W x H) = 308 x 240 x 238 mm

<sup>12)</sup> For example KSL-R(P)8DF Lochstein according to DIN 106; (L x W x H) = 498 x 115 x 245 mm

<sup>13)</sup> For example Hbl 2/0.8 Leichtbetonhohlstein according to DINV 18 151-100; (L x W x H) = 365 x 247 x 238 mm

<sup>14)</sup> For example TeknoAmerBlok PK17,8; (L x W x H) = 178 x 390 x 190 mm

<sup>15)</sup> For example TeknoAmerBlok PK19; (L x W x H) = 190 x 390 x 190 mm

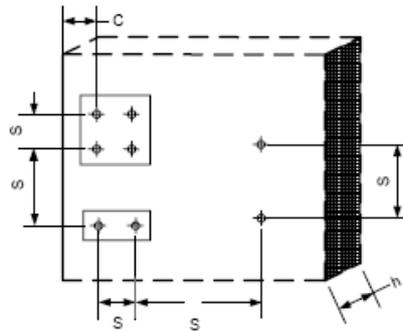
RESISTANCE					
Use categories	Substrate type	Density [kg/dm <sup>3</sup> ]	Compressive strength [N/mm <sup>2</sup> ]	Characteristic resistance [kN/pcs]	
				$h_{eff}=50$ mm	$h_{eff}=70$ mm
A	Concrete C12/15	$\geq 2,25$	$f_{c,cyl} \geq 12$	2,5**	3,0**
A	Concrete $\geq$ C16/20	$\geq 2,30$	$f_{c,cyl} \geq 16$	3,5**	4,5**
B	Clay brick <sup>1),6)</sup>	$\geq 2,00$	$\geq 10$	3,0	2,5
B	Clay brick <sup>1),6)</sup>	$\geq 2,00$	$\geq 20$	3,0	3,0
B	Calcium silicate brick <sup>2),7)</sup>	$\geq 2,00$	$\geq 20$	3,0	3,0
C	Perforated ceramic brick <sup>1),9)</sup>	$\geq 0,80$	$\geq 15$	-	1,2
C	Perforated ceramic brick <sup>1),10)</sup>	$\geq 0,80$	$\geq 15$	-	1,2
C	Calcium silicate hollow block <sup>2),12)</sup>	$\geq 1,60$	$\geq 12$	-	2,5
D	Hollow lightweight aggregate concrete element <sup>3),13)</sup>	$\geq 0,80$	$\geq 2$	-	2,0
D	Autoclaved aerated concrete AAC 2 <sup>4)</sup>	$\geq 0,35$	$\geq 2$	-	0,9
D	Autoclaved aerated concrete AAC 7 <sup>4)</sup>	$\geq 0,65$	$\geq 6,5$	-	2,0

**PRODUCT DATA SHEET – KPS-FAST 8 K - D/KPS-FAST 8 S - D**

MINIMUM THICKNESS OF MEMBER, EDGE DISTANCE AND SPACING IN CONCRETE						
ANCHOR TYPE	Base material	Minimum thickness of member	Characteristic edge distance	Characteristic spacing	Minimum edge distance	Minimum spacing
		$h_{min}$ [mm]	$C_{cr,N}$ [mm]	$S_{cr,N}$ [mm]	$C_{min}$ [mm]	$S_{min}$ [mm]
KPR-FAST 8/50*	Concrete $\geq$ C16/20	100	70	70	50	50
KPS-FAST 8/50*	Concrete $\geq$ C12/15	100	100	95	70	70
KPR-FAST 8/70**	Concrete $\geq$ C16/20	100	100	80	60	60
KPS-FAST 8/70**	Concrete $\geq$ C12/15	100	140	115	80	80

\* $h_{eff}=50$  mm / \*\* $h_{eff}=70$ mm

**Scheme of edge distance and spacing in concrete**



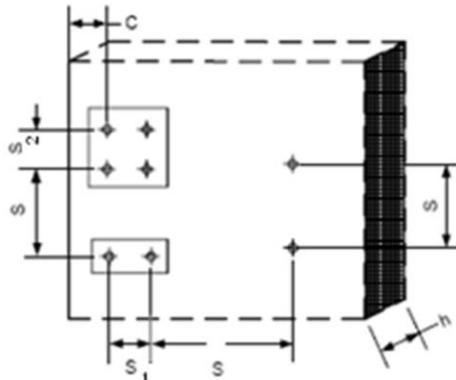
MINIMUM THICKNESS OF MEMBER, EDGE DISTANCE AND SPACING IN MASONRY							
ANCHOR DIAMETER	Base material	Type of element	Single anchor			Anchor group <sup>1)</sup>	
			Minimum thickness of member	Minimum edge distance	Minimum spacing	Minimum spacing	Minimum spacing
			$h_{min}$ [mm]	$C_{min}$ [mm]	$S_{min}$ [mm]	$S_{min1}$ <sup>2)</sup> [mm]	$S_{min2}$ <sup>3)</sup> [mm]
Ø8	masonry made of ceramic, calcium silicate and lightweight aggregate concrete elements	solid	120	100	100	100	200
		perforated or hollow	180	100	100	100	200
	masonry made of autoclaved aerated concrete elements	-	100	100	100	100	200

<sup>1)</sup> the design method valid for single anchor and anchor groups with two or four anchors

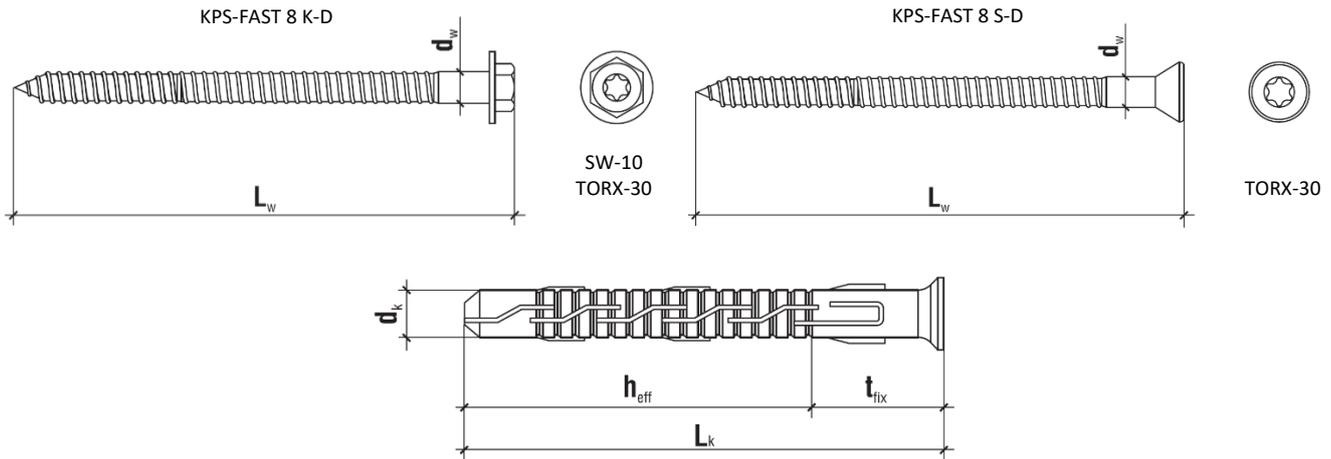
<sup>2)</sup> in direction perpendicular to free edge

<sup>3)</sup> in direction parallel to free edge

**Schemat rozmieszczenia łączników w podłożu murowym**



**PRODUCT DATA SHEET – KPS-FAST 8 K - D/KPS-FAST 8 S - D**



<b>SELECTION TABLE – KPS-FAST 8 K-D</b>					
Product code	Sleeve diameter and length	Screw diameter and length	Max. usable length	Drive type	Number of pieces in a box
Steel with non-electrolytically applied zinc flake coating SQ Ceramic	$d_k \times L_k$ [mm]	$d_w \times L_w$ [mm]	$t_{fix}$ [mm]	[-]	[pcs]
KPS-FAST-08080K-D**	8x80	6x85	10/30*	TX-30/SW-10	50
KPS-FAST-08100K-D**	8x100	6x105	30/50*	TX-30/SW-10	50
KPS-FAST-08120K-D**	8x120	6x125	50/70*	TX-30/SW-10	50
KPS-FAST-08140K-D**	8x140	6x145	70/90*	TX-30/SW-10	50

\* $h_{eff}=50$  mm/ $h_{eff}=70$  mm

\*\* product available on request

<b>SELECTION TABLE – KPS-FAST 8 S</b>					
Product code	Sleeve diameter and length	Screw diameter and length	Max. usable length	Drive type	Number of pieces in a box
Steel with non-electrolytically applied zinc flake coating SQ Ceramic	$d_k \times L_k$ [mm]	$d_w \times L_w$ [mm]	$t_{fix}$ [mm]	[-]	[pcs]
KPS-FAST-08080S-D**	8x80	6x85	10/30*	TX-30	50
KPS-FAST-08100S-D**	8x100	6x105	30/50*	TX-30	50
KPS-FAST-08120S-D**	8x120	6x125	50/70*	TX-30	50
KPS-FAST-08140S-D**	8x140	6x145	70/90*	TX-30	50

\*for  $h_{eff}=50$  mm/ $h_{eff}=70$  mm

\*\* product available on request



#### 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.