Wkręt-met Sp. z o.o. ul. Wincentego Witosa 170/176
Kuźnica Kiedrzyńska PL 42-233 Mykanów, Polska
tel. +48 34 377 71 00, fax. +48 34 328 01 73 Infolinia: 801 477 477, www.wkret-met.com

PRODUCT DATA SHEET – KPR-FAST 12 K-D

Section 1. *PRODUCT DESCRIPTION*

FRAME PLUG WITH HEX HEAD SCREW AND TX DRIVE – KPR-FAST 12 K-D

Sleeves of frame plugs are made of polyamide with a specially shaped steel screw type K (hex 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. The sleeve is pre-assembled with the screw.

Substrates on which frame plug KPR-FAST 12K-D can be installed according to EAD 330284-00-0604:

- ***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

POLSKI PRODUCENT



THE DIAMETER OF THE SCREW'S CORE IS REDUCED

SUPER QUALITY SQ CERAMIC

100% pure material nylon

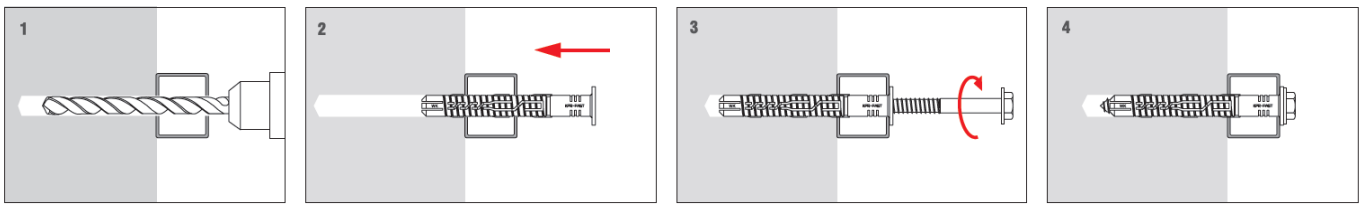
EUROPEJSKA APROBATA TECHNICZNA

KPR-FAST 12 K-D



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. 10 mm 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)



All rights reserved The sheet may be disclosed only in the form as delivered. No part (contents such as text, graphics, logos, figures, pictures, and any other data) given in this document may be modified or published whatsoever in part, without prior authorisation. Any trademarks, graphic symbols, trade names, logos and other data are protected by copyright and are property of their owner.
Created: 2013-10-16 Updated: 2024-11-12

Section 3. *TECHNICAL DATA*

TECHNICAL PARAMETERS		
Parameter	*Unit*	*Value*
Plug diameter	d_k [mm]	12
Hole/drill diameter	d_0 [mm]	12
Effective anchorage depth	h_{eff} [mm]	70
Drilled hole depth	h_0 [mm]	80
Drive type	[-]	TX-40/SW-13
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

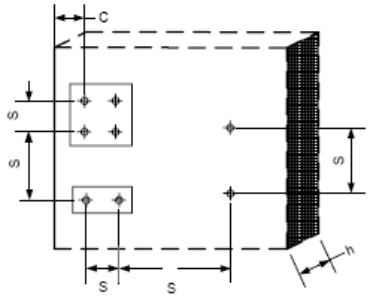
RESISTANCE					
Use categories	Substrate type	Density	Compressive strength	Characteristic resistance [kN/pcs.]	**Design resistance [kN/pcs]**
		[kg/dm^3]	[N/mm^2]	KPR-FAST 12K-D	**KPR-FAST 12K-D**
A	Concrete C12/15	≥ 2,25	$f_{c,cyl}$ ≥ 12	3,5**	**1,94****
A	Concrete ≥ C16/20	≥ 2,30	$f_{c,cyl}$ ≥ 16	5,0**	**2,77****
B	Clay brick [1),5)]	≥ 1,70	≥ 10	2,5	**1**
B	Clay brick [1),5)]	≥ 1,70	≥ 20	3,5	**1,4**
B	Clay brick [1),6)]	≥ 2,00	≥ 10	3,5	**1,4**
B	Clay brick [1),6)]	≥ 2,00	≥ 20	3,5	**1,4**
B	Calcium silicate brick [2),7)]	≥ 2,00	≥ 20	3,5	**1,4**
C	Perforated ceramic brick [1),11)]	≥ 1,20	≥ 12	2,0	**0,8**
C	Calcium silicate hollow block [2),12)]	≥ 1,60	≥ 12	3,0	**1,2**
D	Hollow lightweight aggregate concrete element [3), 13)]	≥ 0,80	≥ 2	2,0	**0,8**
D	Autoclaved aerated concrete AAC 2 [4)]	≥ 0,35	≥ 2	0,75	**0,375**
D	Autoclaved aerated concrete AAC 7 [4)]	≥ 0,65	≥ 6,5	3,0	**1,5**

** *cracked concrete*
[1)] According to EN 771-1
[2)] According to EN 771-2
[3)] According to EN 771-3
[4)] According to EN 771-4
[5)] Polish clay brick; (L x W x H) = 250 x 120 x 65 mm
[6)] German clay brick MZ Rd 2.0/20; (L x W x H) = 250 x 120 x 65 mm
[7)] For example Kalksandstein KS NF 20-2.0 Vollstein according to DIN 106; (L x W x H) = 250 x 115 x 71 mm
[8)] For example Porotherm 18.8; (L x W x H) = 468 x 188 x 238 mm
[9)] For example Porotherm 25 P+W; (L x W x H) = 250 x 373 x 238 mm
[10)] For example MAX 250; (L x W x H) = 250 x 373 x 238 mm
[11)] For example HLZ Rd1 1.2/12 according to DIN 105; (L x W x H) = 308 x 240 x 238 mm
[12)] For example KSL-R(P)8DF Lochstein according to DIN 106; (L x W x H) = 498 x 115 x 245 mm
[13)] For example Hbl 2/0.8 Leichtbetonhohlstein according to DINV 18 151-100; (L x W x H) = 365 x 247 x 238 mm
[14)] For example TeknoAmerBlok PK17,8; (L x W x H) = 178 x 390 x 190 mm
[15)] For example TeknoAmerBlok PK19; (L x W x H) = 190 x 390 x 190 mm

All rights reserved The sheet may be disclosed only in the form as delivered. No part (contents such as text, graphics, logos, figures, pictures, and any other data) given in this document may be modified or published whatsoever in part, without prior authorisation. Any trademarks, graphic symbols, trade names, logos and other data are protected by copyright and are property of their owner.

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 12	Concrete ≥ C16/20	100	100	85	100	100
	Concrete ≥ C12/15	100	140	120	140	140

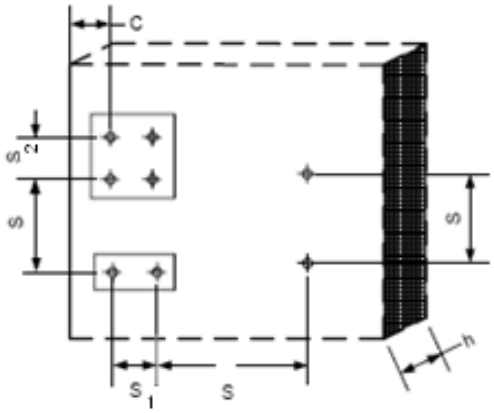
Scheme of edge distance and spacing in concrete



MINIMUM THICKNESS OF MEMBER, EDGE DISTANCE AND SPACING IN MASONRY							
ANCHOR DIAMETER	Base material	Type of element	Single anchor			Anchor group [1]	
			Minimum thickness of member	Minimum edge distance	Minimum spacing	Minimum spacing	Minimum spacing
			h_{min} [mm]	c_{min} [mm]	s_{min} [mm]	s_{min1} [2] [mm]	s_{min2} [3] [mm]
Φ12	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

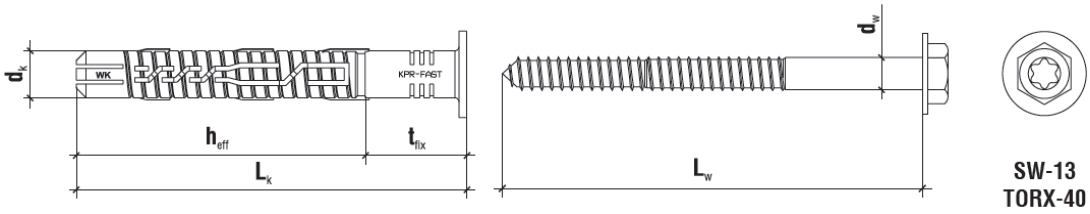
[1] the design method valid for single anchor and anchor groups with two or four anchors
[2] in direction perpendicular to free edge
[3] in direction parallel to free edge

Scheme of edge distance and spacing in masonry



All rights reserved The sheet may be disclosed only in the form as delivered. No part (contents such as text, graphics, logos, figures, pictures, and any other data) given in this document may be modified or published whatsoever in part, without prior authorisation. Any trademarks, graphic symbols, trade names, logos and other data are protected by copyright and are property of their owner.
Created: 2013-10-16 Updated: 2024-11-12

PRODUCT DATA SHEET – KPR-FAST 12 K-D



SELECTION TABLE – KPR-FAST 12 K-D					
Product code	Sleeve diameter and length	Screw diameter and length	Max. usable length	Drive type	Number of pieces in a box
	d_k x L_k [mm]	d_w x L_w [mm]	t_{fix} [mm]	[-]	[pcs.]
KPR-FAST-12080K-D*	12x80	8x85	10	TX-40/SW-13	25
KPR-FAST-12100K-D*	12x100	8x105	30	TX-40/SW-13	25
KPR-FAST-12120K-D*	12x120	8x125	50	TX-40/SW-13	25
KPR-FAST-12140K-D*	12x140	8x145	70	TX-40/SW-13	25
KPR-FAST-12160K-D*	12x160	8x165	90	TX-40/SW-13	25
KPR-FAST-12180K-D*	12x180	8x185	110	TX-40/SW-13	25
KPR-FAST-12200K-D*	12x200	8x205	130	TX-40/SW-13	25
KPR-FAST-12230K-D*	12x230	8x235	160	TX-40/SW-13	25
KPR-FAST-12260K-D*	12x260	8x265	190	TX-40/SW-13	25
KPR-FAST-12300K-D*	12x300	8x305	230	TX-40/SW-13	20
KPR-FAST-12330K-D*	12x330	8x335	260	TX-40/SW-13	20
KPR-FAST-12360K-D*	12x360	8x365	290	TX-40/SW-13	20

*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. Wkręt-met 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.*

All rights reserved The sheet may be disclosed only in the form as delivered. No part (contents such as text, graphics, logos, figures, pictures, and any other data) given in this document may be modified or published whatsoever in part, without prior authorisation. Any trademarks, graphic symbols, trade names, logos and other data are protected by copyright and are property of their owner.
Created: 2013-10-16 Updated: 2024-11-12