

## Section 1. PRODUCT DESCRIPTION

### FRAME PLUG WITH HEX/COUNTERSUNK HEAD SCREW AND TX DRIVE – KPR-FAST 10 K/KPS-FAST 10 S

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 on all substrate types. Screws are made of zinc-plated or hot-dip galvanized hardened steel or stainless steel A4. Frame plugs are characterized by very high resistance and problem-free installation in various materials. Plugs with hex head (K) are used for fixing of metal members, and plugs with countersunk head (S) for fixing of wood members. The sleeve is pre-assembled with the screw.

Substrates on which frame plug KPR-FAST 10 K/KPS-FAST 10 S 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

For assembling façade systems the frame plug has a sufficient resistance of at least 90 minutes (R90), if the permissible design load for a single plug is  $N_{Rk} < 0.8$  kN (without permanent longitudinal axial load).



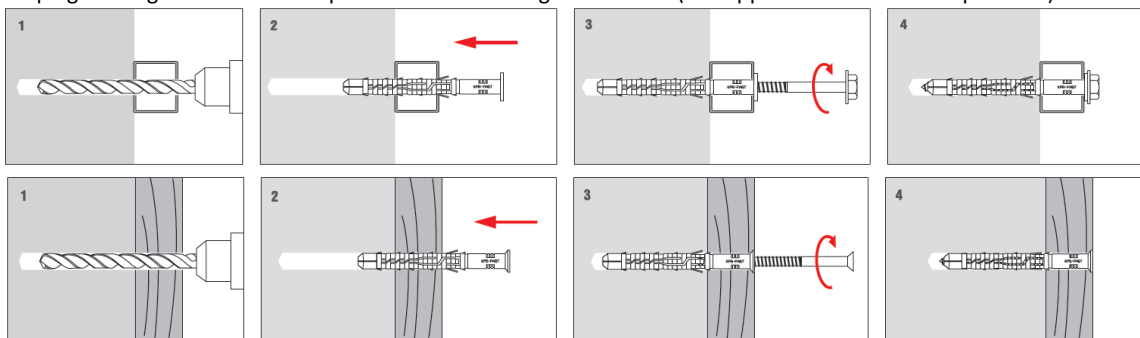
KPR-FAST 10 K KPS-FAST 10 S



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

## Section 2. METHOD OF INSTALLATION

1. Original frame plugs delivered by the manufacturer can be used only
2. Before installation identify a substrate on 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 of drillings 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. While the plug is being installed the temperature should be higher than 0°C (this applies to substrate temperature)



## Section 3. TECHNICAL DATA

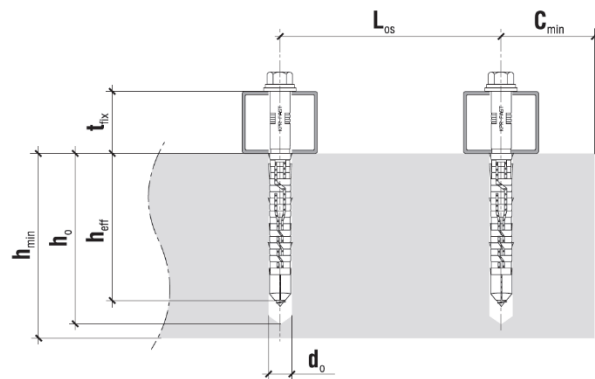
**PRODUCT DATA SHEET – KPR-FAST 10 K/KPS-FAST 10 S**

| TECHNICAL PARAMETERS          |                |                              |
|-------------------------------|----------------|------------------------------|
| Parameter                     | Unit           | Value                        |
| Plug diameter                 | $d_k$ [mm]     | 10                           |
| Hole/drill diameter           | $d_o$ [mm]     | 10                           |
| Effective anchorage depth     | $h_{eff}$ [mm] | 70                           |
| Drilled hole depth            | $h_o$ [mm]     | 80                           |
| Drive type                    | [-]            | (TX-40/SW-13)/(TX-40)*       |
| Use categories                | [-]            | A B C D                      |
| Sleeve material               | [-]            | PA – polyamide               |
| Screw material                | [-]            | Hot-dip galvanized steel, A4 |
| European Technical Assessment | [-]            | ETA-12/0272                  |

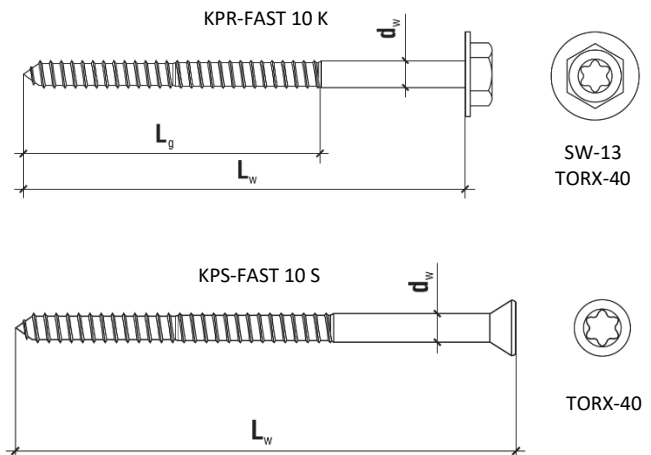
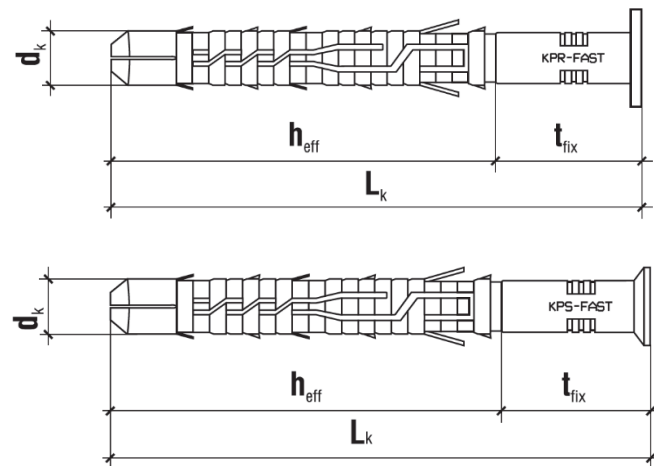
\*for KPR-FAST 10 K/KPS-FAST 10 S

| RESISTANCE     |                                  |                               |                                |            |
|----------------|----------------------------------|-------------------------------|--------------------------------|------------|
| Use categories | Substrate type                   | Density [kg/dm <sup>3</sup> ] | Characteristic resistance [kN] |            |
|                |                                  |                               | KPR-FAST K                     | KPS-FAST S |
| A              | Concrete C12/15                  | ≥ 2,25                        | 3,0*                           |            |
| A              | Concrete C16/20                  | ≥ 2,30                        | 4,0*                           |            |
| B              | Solid clay brick                 | ≥ 2,00                        | 3,5                            |            |
| B              | Solid sand-lime brick            | ≥ 2,00                        | 3,5                            |            |
| C              | Hollow sand-lime block           | ≥ 1,60                        | 2,5                            |            |
| C              | Hollow brick                     | ≥ 1,20                        | 2,0                            |            |
| C              | Porotherm 25                     | ≥ 0,80                        | 0,9                            |            |
| C              | MAX 250                          | ≥ 0,80                        | 0,9                            |            |
| D              | Lightweight concrete blocks      | ≥ 0,80                        | 1,5                            |            |
| D              | Autoclaved aerated concrete AAC2 | ≥ 0,35                        | 0,6                            |            |
| D              | Autoclaved aerated concrete AAC7 | ≥ 0,65                        | 1,5                            |            |

\*cracked concrete



| INSTALLATION PARAMETERS     |                          |                         |                     |
|-----------------------------|--------------------------|-------------------------|---------------------|
| Substrate type              | Min. substrate thickness | Min. distance from edge | Min. axial distance |
|                             | $h_{min}$ [mm]           | $C_{min}$ [mm]          | $L_{os}$ [mm]       |
| Concrete C12/15             | 100                      | 80                      | 80                  |
| Concrete C16/20             | 100                      | 60                      | 60                  |
| Solid clay brick            | 120                      | 100                     | 200                 |
| Solid sand-lime brick       | 120                      | 100                     | 200                 |
| Hollow brick                | 180                      | 100                     | 200                 |
| Autoclaved aerated concrete | 100                      | 100                     | 200                 |



**PRODUCT DATA SHEET – KPR-FAST 10 K/KPS-FAST 10 S**

| SELECTION TABLE – KPR-FAST 10 K |                     |                     |                                      |                                      |                       |             |                           |
|---------------------------------|---------------------|---------------------|--------------------------------------|--------------------------------------|-----------------------|-------------|---------------------------|
| Product code                    |                     |                     | Sleeve diameter and length           | Screw diameter and length            | Max. usable length    | Drive type  | Number of pieces in a box |
| Blue zinc                       | Stainless steel A4  | Hot-dip galvanized  | d <sub>k</sub> x L <sub>k</sub> [mm] | d <sub>w</sub> x L <sub>w</sub> [mm] | t <sub>fix</sub> [mm] | [-]         | [pcs]                     |
| KPR-FAST-10080K                 | KPR-FAST-10080K-A4* | KPR-FAST-10080K-00* | 10x80                                | 7x85                                 | 10                    | TX-40/SW-13 | 50                        |
| KPR-FAST-10100K                 | KPR-FAST-10100K-A4* | KPR-FAST-10100K-00* | 10x100                               | 7x105                                | 30                    | TX-40/SW-13 | 50                        |
| KPR-FAST-10120K                 | KPR-FAST-10120K-A4* | KPR-FAST-10120K-00* | 10x120                               | 7x125                                | 50                    | TX-40/SW-13 | 50                        |
| KPR-FAST-10140K                 | KPR-FAST-10140K-A4* | KPR-FAST-10140K-00* | 10x140                               | 7x145                                | 70                    | TX-40/SW-13 | 50                        |
| KPR-FAST-10160K                 | KPR-FAST-10160K-A4* | KPR-FAST-10160K-00* | 10x160                               | 7x165                                | 90                    | TX-40/SW-13 | 50                        |
| KPR-FAST-10180K                 | KPR-FAST-10180K-A4* | KPR-FAST-10180K-00* | 10x180                               | 7x185                                | 110                   | TX-40/SW-13 | 25                        |
| KPR-FAST-10200K                 | KPR-FAST-10200K-A4* | KPR-FAST-10200K-00* | 10x200                               | 7x205                                | 130                   | TX-40/SW-13 | 25                        |
| KPR-FAST-10230K                 | KPR-FAST-10230K-A4* | KPR-FAST-10230K-00* | 10x230                               | 7x235                                | 160                   | TX-40/SW-13 | 25                        |
| KPR-FAST-10260K                 | KPR-FAST-10260K-A4* | KPR-FAST-10260K-00* | 10x260                               | 7x265                                | 190                   | TX-40/SW-13 | 25                        |
| KPR-FAST-10300K                 | KPR-FAST-10300K-A4* | KPR-FAST-10300K-00* | 10x300                               | 7x305                                | 230                   | TX-40/SW-13 | 25                        |

\*on request and to order

| SELECTION TABLE – KPS-FAST 10 S |                     |                     |                                      |                                      |                       |            |                           |
|---------------------------------|---------------------|---------------------|--------------------------------------|--------------------------------------|-----------------------|------------|---------------------------|
| Product code                    |                     |                     | Sleeve diameter and length           | Screw diameter and length            | Max. usable length    | Drive type | Number of pieces in a box |
| Blue zinc                       | Stainless steel A4  | Hot-dip galvanized  | d <sub>k</sub> x L <sub>k</sub> [mm] | d <sub>w</sub> x L <sub>w</sub> [mm] | t <sub>fix</sub> [mm] | [-]        | [pcs]                     |
| KPS-FAST-10080S                 | KPS-FAST-10080S-A4* | KPS-FAST-10080S-00* | 10x80                                | 7x85                                 | 10                    | TX-40      | 50                        |
| KPS-FAST-10100S                 | KPS-FAST-10100S-A4* | KPS-FAST-10100S-00* | 10x100                               | 7x105                                | 30                    | TX-40      | 50                        |
| KPS-FAST-10120S                 | KPS-FAST-10120S-A4* | KPS-FAST-10120S-00* | 10x120                               | 7x125                                | 50                    | TX-40      | 50                        |
| KPS-FAST-10140S                 | KPS-FAST-10140S-A4* | KPS-FAST-10140S-00* | 10x140                               | 7x145                                | 70                    | TX-40      | 50                        |
| KPS-FAST-10160S                 | KPS-FAST-10160S-A4* | KPS-FAST-10160S-00* | 10x160                               | 7x165                                | 90                    | TX-40      | 50                        |
| KPS-FAST-10180S                 | KPS-FAST-10180S-A4* | KPS-FAST-10180S-00* | 10x180                               | 7x185                                | 110                   | TX-40      | 25                        |
| KPS-FAST-10200S                 | KPS-FAST-10200S-A4* | KPS-FAST-10200S-00* | 10x200                               | 7x205                                | 130                   | TX-40      | 25                        |
| KPS-FAST-10230S                 | KPS-FAST-10230S-A4* | KPS-FAST-10230S-00* | 10x230                               | 7x235                                | 160                   | TX-40      | 25                        |
| KPS-FAST-10260S                 | KPS-FAST-10260S-A4* | KPS-FAST-10260S-00* | 10x260                               | 7x265                                | 190                   | TX-40      | 25                        |
| KPS-FAST-10300S                 | KPS-FAST-10300S-A4* | KPS-FAST-10300S-00* | 10x300                               | 7x305                                | 230                   | TX-40      | 25                        |

\*on request and to order



#### 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.