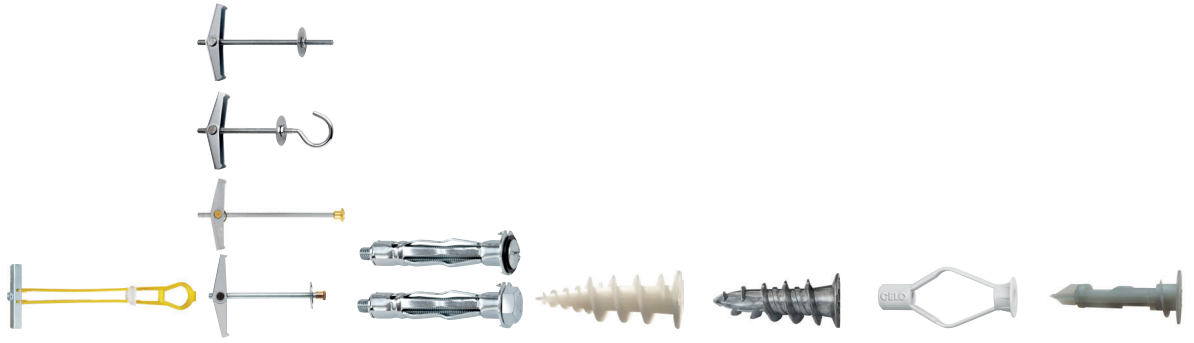


CELO

Cavity fixings



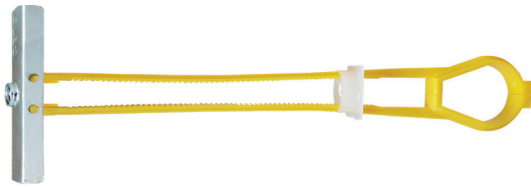


	BT plus	FK	HRM	GKD	GKDZ	HR	TPL
Material/s	Steel Nylon and PS	Steel	Steel	Nylon with glass-fibre	Zinc die casting	Nylon	Nylon with glass-fibre
Suitable for panel building material 	✓	✓	✓	✓ (only plasterboard)	✓ (only plasterboard)	✓	✓ (only plasterboard)
Suitable for hollow bricks with large chambers 	✓	✗	✓	✗	✗	✗	✗
BEST NYLON QUALITY 	✗	✗	✗	✓	✗	✓	✓
Suitable panel thickness	10-70 mm	1-65 mm	3-45 mm	9-12,5 mm	min. 9 mm	3-16 mm	9-15 mm
Performance 							
Type of screw	metric screw 	✗	metric screw 	chipboard screw 	wood or chipboard screw metric screw 	wood or chipboard screw 	special screw
Suitable for screw diameter	M4, M5, M6, M8	M3, M4	M4, M5, M6, M8	3,0 - 4,0	4,5 and M4	3,5 and 4,0	3,7
Mounting accessories	✗	✗	 Installation plier MZA	✗	✗	✗	✗
Available as blister 	✓	✓	✓	✓	✓	✓	✗
Page	3	5	7	10	10	13	15

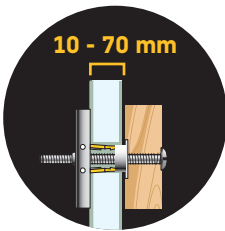
Cavity plug universal BT plus



Advantages



Specialised cavity plug for high load values – quick and easy



Universal: usable for board thicknesses from 10-70 mm



Very good load values, suitable for wash basin, radiators or hanging cabinets



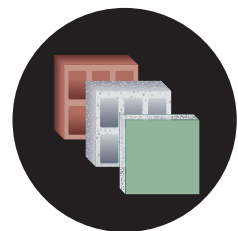
Assembly without additional tools, **Time saving**



Diameter marking on the metal anchoring part



Not flammable according to DIN EN 13501-1 class A1



Suitable for **panel building materials, hollow bricks or hollow ceilings**

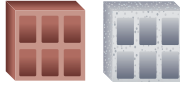
Suitable building materials

Very suitable



- Plasterboard/Fibreboard
- Chipboard

Suitable to a limited extent

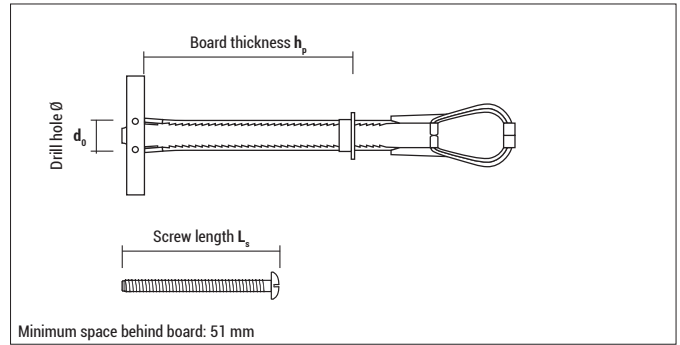
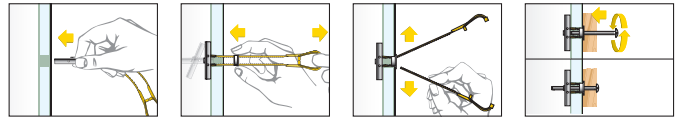


- Hollow bricks with large chambers
- Hollow concrete slab ceilings

Approvals and certificates



Mounting



BT plus without screw

Type	Art-No	d ₀ [mm]	h _{p min-max} [mm]	Thread [mm]	€ / 100 pcs	[pcs]	[pcs]
BT plus M4	9Y4BTP	13	10 - 70	M4		40	320
BT plus M5	9Y5BTP	13	10 - 70	M5		30	240
BT plus M6	9Y6BTP	13	10 - 70	M6		30	240
BT plus M8	9Y8BTP	18	10 - 70	M8		20	160



BT plus with screw

Type	Art-No	d ₀ [mm]	h _{p min-max} [mm]	Thread [mm]	L _s [mm]	Recess	€ / 100 pcs	[pcs]	[pcs]
BT plus M4 LO	9Y4BTPL0	13	10 - 70	M 4	50	PZ2 / slot		40	320
BT plus M5 LO	9Y5BTPL0	13	10 - 70	M 5	62	PZ2 / slot		30	240
BT plus M6 LO	9Y6BTPL0	13	10 - 70	M 6	62	PZ2 / slot		30	240
BT plus M8 K	9Y8BTPK	18	10 - 70	M 8	60	SW13 / hex		20	160



Blister BT plus with screw



Type	Art-No	d ₀ [mm]	h _{p min-max} [mm]	Thread	L _s [mm]	Recess	€ / Blister	[pcs]	[Blister]
BT M4 LO	54BTLO4	13	10 - 70	M4	50	PZ2 / slot		4	10
BT M5 LO	55BTLO4	13	10 - 70	M5	62	PZ2 / slot		4	10
BT M6 LO	56BTLO4	13	10 - 70	M6	62	PZ2 / slot		4	10
BT M8 K	58BTK2	18	10 - 70	M8	60	SW13 / hex		2	10

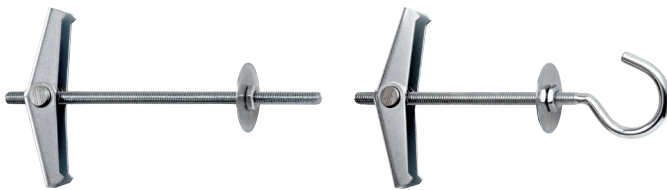
Loads F_{rec}

Type	d ₀ [mm]	Tension load N _{rec} in plasterboard				Shear load Q _{rec} in plasterboard			
		h _p = 9,5 mm [kN]	h _p = 12,5 mm [kN]	h _p = 2x9,5 mm [kN]	h _p = 2x12,5 mm [kN]	h _p = 9,5 mm [kN]	h _p = 12,5 mm [kN]	h _p = 2x9,5 mm [kN]	h _p = 2x12,5 mm [kN]
BT plus M4	13	0,07	0,15	0,15	0,30	0,20	0,20	0,25	0,30
BT plus M5	13	0,20	0,25	0,40	0,50	0,30	0,30	0,50	0,50
BT plus M6	13	0,20	0,25	0,40	0,50	0,30	0,30	0,50	0,50
BT plus M8	19	0,20	0,25	0,40	0,50	0,30	0,40	0,50	0,50

Spring toggle FK

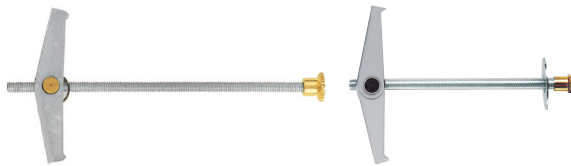


Advantages



FK-S with washer and hexagon nut

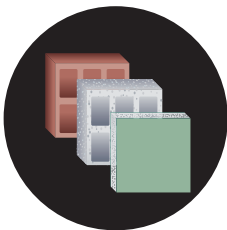
FK-HS with round hook, washer and hexagon nut



FK-R with knurled nut yellow galvanised

FK-UR with knurled nut and washer, yellow galvanised

Specialised plug for cavity fixings



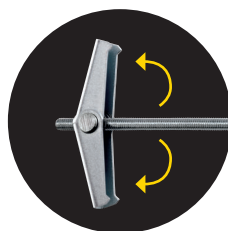
Suitable for **panel building materials, hollow bricks or hollow ceilings**



Many application options thanks to the different types



Also available in handy blisters



The plug **folds up automatically** and anchors behind the plate



Assembly without additional tools, **Time saving**

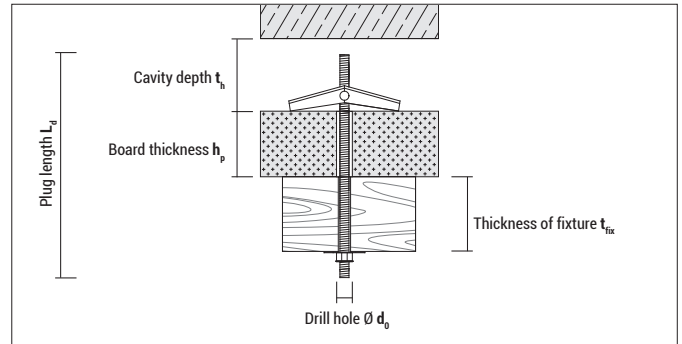
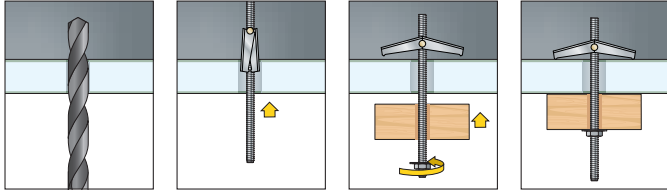
Suitable building materials

Very suitable



- Cavity ceilings
- Cavity walls
- Plasterboard/Fibreboard
- Chipboard

Mounting



FK-S with washer and hexagon nut

Type	Art-No	d ₀ [mm]	h _p + t _{fix} ≤ [mm]	Thread	L _d [mm]	t _h ≥ [mm]	€ / 100 pcs	[pcs]	[pcs]
3-85 S	9390FKS	11	65	M3	85	28		25	-
4-90 S	9495FKS	14	65	M4	90	35		25	-

FK-HS with round hook, washer and hexagon nut

Type	Art-No	d ₀ [mm]	h _p + t _{fix} ≤ [mm]	Thread	L _d [mm]	t _h ≥ [mm]	€ / 100 pcs	[pcs]	[pcs]
3-100 HS	9385FKHS	11	40	M3	100	28		25	-
4-95 HS	94100FKHS	14	30	M4	95	35		25	-

FK-R / FK-UR with knurled nut, yellow galvanized

Type	Art-No	d ₀ [mm]	h _p + t _{fix} ≤ [mm]	Thread	L _d [mm]	t _h ≥ [mm]	€ / 100 pcs	[pcs]	[pcs]
3-85 R	9390FKR	11	65	M3	85	28		25	-
4-90 R	9495FKR	14	65	M4	90	35		25	-
3-85 UR	9385FKUR	11	65	M3	85	28		25	-
4-90 UR	9490FKUR	14	65	M4	90	35		25	-

Blister FK-S with washer and hexagon nut
Blister FK-HS with round hook, washer and hexagon nut



Type	Art-No	d ₀ [mm]	h _p + t _{fix} ≤ [mm]	Thread	L _d [mm]	t _h ≥ [mm]	€ / Blister	[pcs]	[Blister]
FK-S 3 x 85	5390FKS2	11	65	M3	85	28		2	10
FK-S 4 x 90	5495FKS2	14	65	M4	90	35		2	10
FK-HS 3 x 100	5385FKHS2	11	40	M3	100	28		2	10
FK-HS 4 x 95	54100FKHS2	14	30	M4	95	35		2	10

Loads F_{rec} FK-S, FK-R, FK-UR

Type	Plasterboard h _p = 12,5 mm F _{rec} [kN]	Chipboard h _p = 13 mm F _{rec} [kN]	Fibre cement boards h _p = 10 mm F _{rec} [kN]
M3: FK-S, FK-R, FK-UR	0,15	0,25	0,25
M4: FK-S, FK-R, FK-UR	0,15	0,36	0,45

F_{rec}: Recommended loads incl. safety factor of 4

Loads F_{rec} FK-HS with round hook

Type	Plasterboard h _p = 12,5 mm F _{rec} [kN]	Chipboard h _p = 13 mm F _{rec} [kN]	Fibre cement boards h _p = 10 mm F _{rec} [kN]
M3: FK-HS	0,06*	0,06*	0,06*
M4: FK-HS	0,15*	0,15*	0,15*

F_{rec}: Recommended loads incl. safety factor of 4

* Bending of the hook is decisive.

Cavity fixing

HRM



Advantages



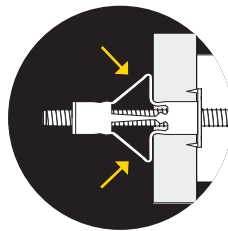
HRM 4, 5, 6

HRM 8

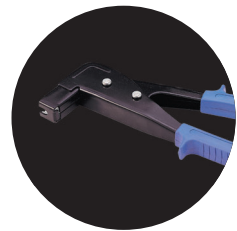
Metal plug for heavy loads in cavity fixings



Ideal for mounting kitchen cupboards or shelves



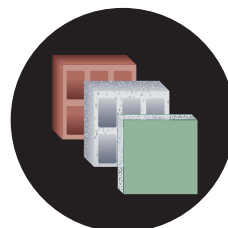
The plug expands over a large area, resulting in **high load values**



Quick and controlled mounting with **installation pliers MZA 100** (cordless screwdriver and manual screwdriver possible)



Not flammable according to DIN EN 13501-1, class A1



Suitable for **panel building materials, hollow bricks or hollow ceilings**

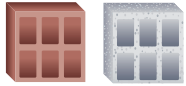
Suitable building materials

Very suitable



- Cavity ceilings
- Cavity walls
- Plasterboard/
Fibreboard
- Chipboard

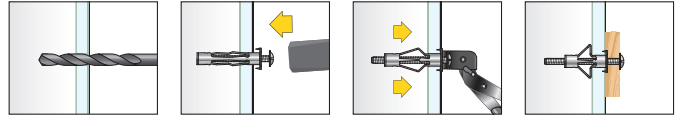
Suitable to a limited extent



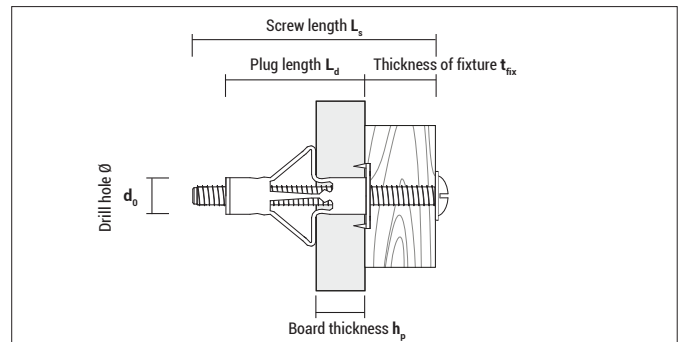
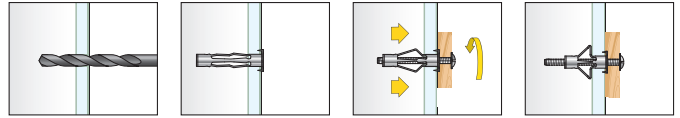
- Hollow bricks with large chambers

Mounting

Mounting with installation plier (recommended)



Mounting without installation plier



Installation plier MZA 100 for HRM



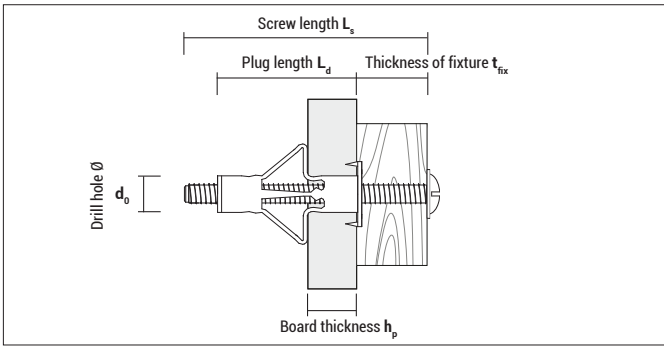
Type	Art-No	€ / pcs	[pcs]	[pcs]
MZA 100	9MZA00		1	-



HRM

Type	Art-No	d ₀ [mm]	h _{p, min-max} [mm]	Thread	L _s [mm]	L _d [mm]	t _{fix} [mm]	€ / 100 pcs	[pcs]	[pcs]
small pack (with viewing window)	HRM 4-20	9420HRM50	8	3 - 18	M4	52	46	43 - 28	50	1.350
	HRM 4-24	9424HRM50	8	18 - 24	M4	58	52	34 - 28	50	1.350
	HRM 4-38	9438HRM50	8	32 - 38	M4	72	66	34 - 28	50	1.350
	HRM 5-16	9516HRM50	11	3 - 16	M5	58	52	49 - 36	50	1.350
	HRM 5-32	9532HRM25	11	14 - 32	M5	71	65	51 - 33	25	675
	HRM 5-45	9545HRM25	11	32 - 45	M5	88	80	48 - 35	25	675
	HRM 6-16	9616HRM25	13	3 - 16	M6	58	52	49 - 36	25	675
	HRM 6-32	9632HRM25	13	14 - 32	M6	71	65	51 - 33	25	675
	HRM 6-45	9645HRM25	13	32 - 45	M6	88	80	48 - 35	25	675
	HRM 8-16*	9816HRM25	13	3 - 16	M8	61	53	50 - 37	25	675
HRM 8-32*	9832HRM20	13	16 - 32	M8	73	66	50 - 34	20	540	
craftsman pack	HRM 4-20	9420HRM	8	3 - 18	M4	52	46	43 - 28	100	1.000
	HRM 4-24	9424HRM	8	18 - 24	M4	58	52	34 - 28	100	1.000
	HRM 4-38	9438HRM	8	32 - 38	M4	72	66	34 - 28	100	1.000
	HRM 5-16	9516HRM	11	3 - 16	M5	58	52	49 - 36	100	500
	HRM 5-32	9532HRM	11	14 - 32	M5	71	65	51 - 33	100	500
	HRM 5-45	9545HRM	11	32 - 45	M5	88	80	48 - 35	100	900
	HRM 6-16	9616HRM	13	3 - 16	M6	58	52	49 - 36	100	500
	HRM 6-32	9632HRM	13	14 - 32	M6	71	65	51 - 33	100	900
	HRM 6-45	9645HRM	13	32 - 45	M6	88	80	48 - 35	100	600
	HRM 8-16*	9816HRM	13	3 - 16	M8	61	53	50 - 37	100	300
HRM 8-32*	9832HRM	13	16 - 32	M8	73	66	50 - 34	100	300	

* Hex-head screw, SW 13



Type	Art-No	d_0 [mm]	h_p min-max [mm]	Thread	L_s [mm]	L_d [mm]	Type of screw	€ / Blister	[pcs]	[Blister]
4-20	5420HRM5	8	3 - 18	M4	52	46			5	10
4-24	5424HRM5	8	18 - 24	M4	58	52			5	10
5-16	5516HRM5	11	3 - 16	M5	58	52			5	10
5-16 RH	5516HRMRH4	11	3 - 16	M5	58	52			4	10
5-16 WH	5516HRMWH4	11	3 - 16	M5	58	52			4	10
5-32	5532HRM5	11	14 - 32	M5	71	65			5	10
5-32 RH	5532HRMRH4	11	14 - 32	M5	71	65			4	10
5-32 WH	5532HRMWH4	11	14 - 32	M5	71	65			4	10
6-16	5616HRM5	13	3 - 16	M6	58	52			5	10
6-32	5632HRM5	13	14 - 32	M6	71	65			5	10

Loads F_{rec}

Type	Plywood		Plasterboard			
	6 mm F_{rec} [kN]	16 mm F_{rec} [kN]	$h_p = 9,5$ mm F_{rec} [kN]	$h_p = 12,5$ mm F_{rec} [kN]	$h_p = 2 \times 12,5$ mm F_{rec} [kN]	$h_p = 3 \times 12,5$ mm F_{rec} [kN]
HRM 4-20	0,15	0,25	0,15	0,15	-	-
HRM 4-24	-	-	-	-	0,15	-
HRM 4-38	-	-	-	-	-	0,25
HRM 5-16	0,20	0,25	0,20	0,20	-	-
HRM 5-32	-	-	-	-	0,35	-
HRM 5-45	-	-	-	-	-	0,35
HRM 6-16	0,25	0,30	0,25	0,25	-	-
HRM 6-32	-	-	-	-	0,35	-
HRM 6-45	-	-	-	-	-	0,40
HRM 8-16	0,30	0,40	0,25	0,25	-	-
HRM 8-32	-	-	-	-	0,40	-

F_{rec} : Recommended loads incl. safety factor of 3

Plasterboard plug GKD & GKDZ

Advantages



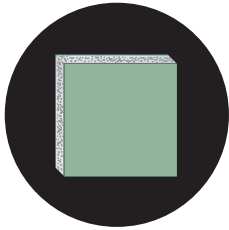
GKD made of nylon (glass-fibre reinforced)



GKDZ 37 made of zinc die casting



Self-drilling plug for a quick fixing in gypsum boards



The specialist for
**plasterboard and gypsum
fibre boards (GKDZ)**



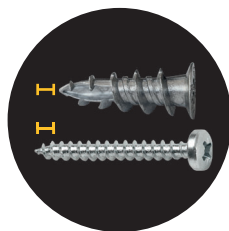
Selfdrilling plug
with sharp drilling tip



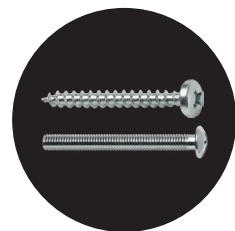
Huge time savings
through direct fixing
without pre-drilling



GKD made of **glass fibre
reinforced nylon**, ageing,
weather- and UV-resistant



If the screw is longer than the
plug (GKD or GKDZ), it simply
screws through the tip of the plug



Usable with
chipboard screws;
GKDZ also with
metric screws M4

Suitable building materials

Very suitable



- Plasterboard

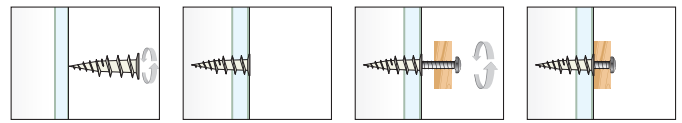
Suitable to a limited extent

- Gypsum fibreboards (GKDZ)

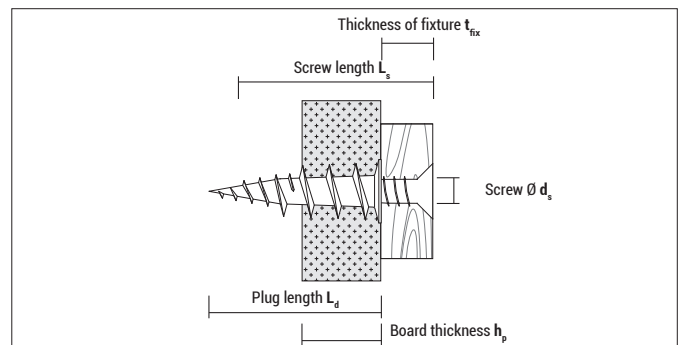
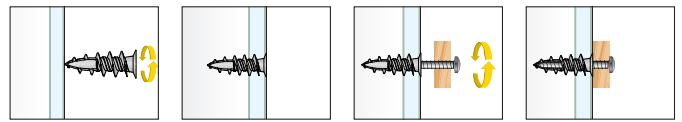
Approvals and certificates



Mounting GKD



Mounting GKDZ



The screw may be too long when used with GKD and GKDZ, because it easily penetrates the tip of both plugs



GKD without screw, plug recess: PH 2

Type	Art-No	L_d [mm]	$h_{p \max}$ [mm]	$d_{s \min-max}$ [mm]	$L_s \geq$ [mm]	€ / 100 pcs	[pcs]	[pcs]
GKD	9GKD	35	9- 12,5	3,0 - 4,5	$22 + t_{fix}$		50	2.400



GKD with screw 4,0 x 40, plug recess: PH 2

Type	Art-No	L_d [mm]	$h_{p \max}$ [mm]	$d_s \times L_s$ [mm]	$t_{fix} \leq$ [mm]	€ / 100 pcs	[pcs]	[pcs]
GKD PZ	9GKDPZ	35	9- 12,5	4,0 x 40	18		50	2.400



GKDZ without screw, plug recess: PH 2 / PZ 2

Type	Art-No	L_d [mm]	$h_{p \max}$ [mm]	d_s [mm]	$L_s \geq$ [mm]	€ / 100 pcs	[pcs]	[pcs]
GKDZ 37*	937GKDZ	37	9	4,5	$19 + t_{fix}$		100	2.700
GKDZ 37	937GKDZ50	37	9	4,5	$19 + t_{fix}$		50	2.400

* Craftsman pack (box without viewing window)



GKDZ with screw 4,5 x 35, plug recess: PH 2 / PZ 2

Type	Art-No	L_d [mm]	$h_{p \max}$ [mm]	$d_s \times L_s$ [mm]	$t_{fix} \leq$ [mm]	€ / 100 pcs	[pcs]	[pcs]
GKDZ 37 PZ	937GKDZPZ50	37	9	4,5 x 35	16		50	2.400



Blister GKD without screw

Type	Art-No	L_d [mm]	$h_{p,max}$ [mm]	$d_{s,min-max}$ [mm]	L_s [mm]	€ / Blister	[pcs]	[Blister]
GKD	5GKD10	35	9-12,5	3-4,5	$22+t_{fix}$		10	10



Blister GKD with screw

Type	Art-No	L_d [mm]	$h_{p,max}$ [mm]	$d_s \times L_s$ [mm]	Type of screw	€ / Blister	[pcs]	[Blister]
GKD PZ	5GKDPZ6	35	9-12,5	4,0 x 40			6	10



Blister GKDZ without screw

Type	Art-No	L_d [mm]	$h_{p,max}$ [mm]	d_s [mm]	L_s [mm]	€ / Blister	[pcs]	[Blister]
GKDZ 37	537GKDZ10	37	9	4,5	$19+t_{fix}$		10	10



Blister GKDZ with screw

Type	Art-No	L_d [mm]	$h_{p,max}$ [mm]	$d_s \times L_s$ [mm]	Type of screw	€ / Blister	[pcs]	[Blister]
GKDZ 37 PZ	537GKDZSZ6	37	9	4,5 x 35			6	10

Loads F_{rec}

Type	Plasterboard $h_p = 12,5$ mm F_{rec} [kN]	Plasterboard $h_p \geq 2 \times 12,5$ mm F_{rec} [kN]
GKD	0,07	-
GKDZ	0,08	0,16

F_{rec} : Recommended loads incl. safety factor of 4

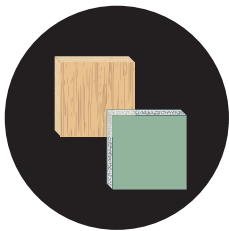
Cavity fixing HR



Advantages



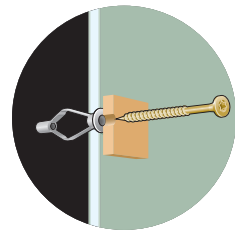
Nylon plug for light loads in cavity fixings



Suitable for
panel building materials



Low cost fixing system for
light duty applications



**Installation with wood or
chipboard screws** through
existing thread in the plug



Made of **high-quality nylon**,
ageing, weather- and
UV-resistant



Also available in a
handy blister

Suitable building materials

Very suitable

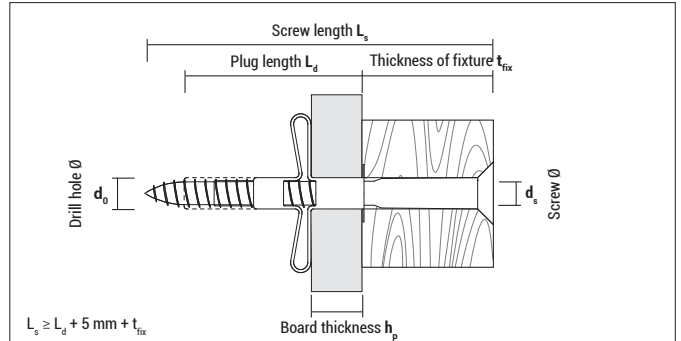
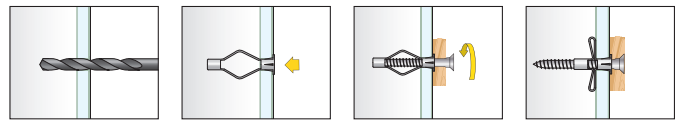


- Plasterboard/ Fibreboard
- Chipboard

Approvals and certificates



Mounting



HR

Type	Art-No	d_0 [mm]	$h_{p, min-max}$ [mm]	d_s [mm]	L_d [mm]	€ / 100 pcs	[pcs]	[pcs]
HR 6-30	9630HR	6	3 - 14	3,5	30		100	4.800
HR 8-40	9840HR	8	10 - 16	4,0	40		50	2.400



Blister HR



Type	Art-No	d_0 [mm]	$h_{p, min-max}$ [mm]	$d_s \times L_s$ [mm]	L_d [mm]	€ / Blister	[pcs]	[Blister]
HR 6-30 SPS	56HRSZ20	6	3 - 14	3,5 x 50	30		20	10
HR 8-40 SPS	58HRSZ20	8	10 - 16	4,0 x 60	40		20	10

Loads F_{rec}

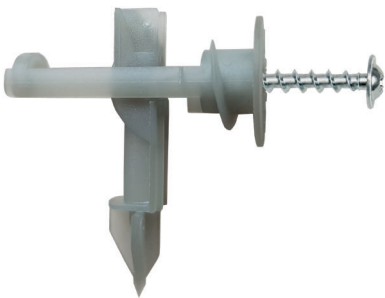
Type	Plywood 6 mm F_{rec} [kN]	Chipboard 16 mm F_{rec} [kN]	Plasterboard	
			$h_p = 9,5$ mm F_{rec} [kN]	$h_p = 12,5$ mm F_{rec} [kN]
HR 6-30	0,10	-	0,08	0,08
HR 8-40	-	0,15	-	0,10

F_{rec} : Recommended loads incl. safety factor of 3

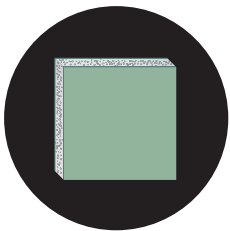
Cavity plug TPL



Advantages



Self-drilling plug and extremely fast installation in plasterboard



The specialist for **plasterboard**



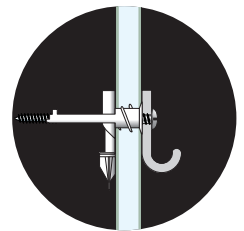
Selfdrilling plug with sharp drilling tip



Huge time savings through direct fixing without pre-drilling



Made of **high-quality glass-fibre reinforced nylon**, ageing, weather- and UV-resistant



The special design of the plug ensures a **perfect hold** on the board with **high loads**

Suitable building materials

Very suitable

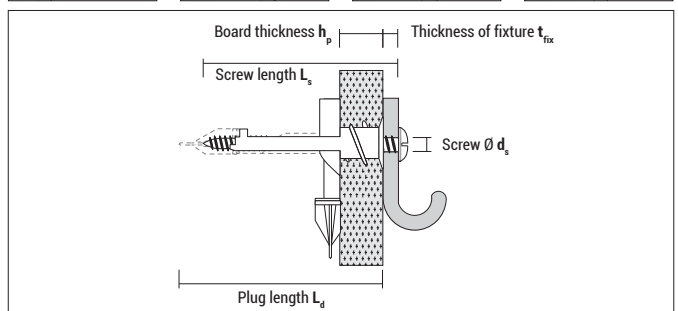
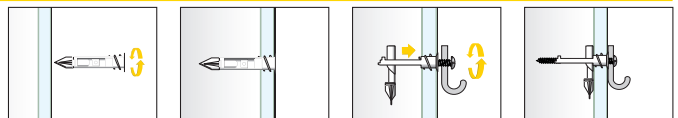
- Plasterboard

Approvals and certificates



TPL with screw 3,7x50, plug recess: PH 2 / PZ 2

Mounting



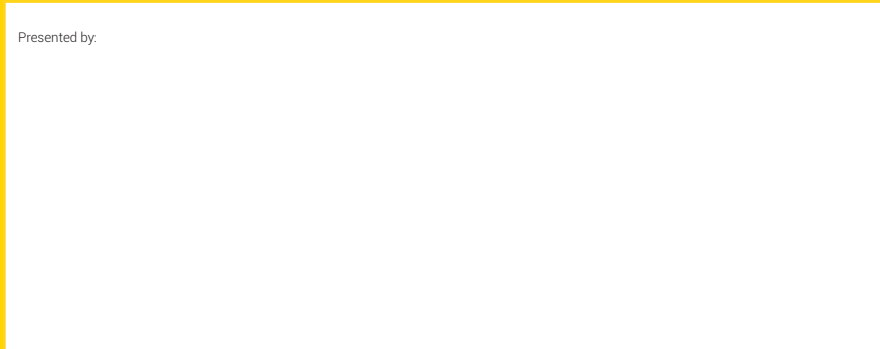
Type	Art-No	L _d [mm]	h _p ≥ [mm]	d _s x L _s [mm]	t _{fix} ≤ [mm]	[pcs]	[pcs]
TPL PZ	9TPLPZ	54	9 - 15	3,7 x 50	15	50	900



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