fischer

DuoLine.
The Duo of Power and Intelligence.

NEW! Tested for wet areas.

DuoLine – Intelligent combinations for more power and intelligence.

More component technology

The used materials are selected in such way that the respective functional requirements are optimal supported.

More benefits

From the innovative combination of materials and functions, there are always new and additional application possibilities compared to conventional solutions.

More ease of installation

The installation occurs always in an easy way, without any special tools and saves therefore time and costs.

More function

Different functional principles were combined in one product in a way that the most suitable function for the building material activates itself always automatically.

More colourful

The colour combination red-grey highlights the functionally optimized design and creates a high recognition value.

More performance

The clever combination of materials and functions leads to more holding force and therefore also to more safety.

» Cleverly combined, very well rewarded «

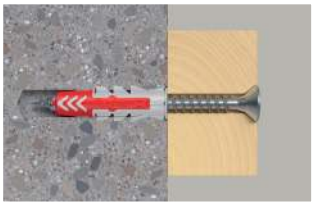
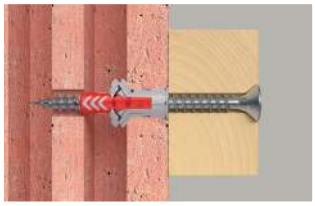
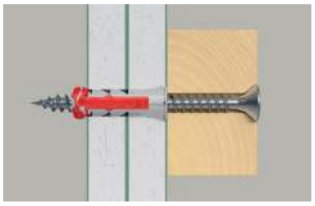
Due to its convincing innovative performance in regards to design and expertise in plastic technology, DuoPower has already received numerous awards.

»Simply clever, the combination of two components guarantees even better performance.«

DuoPower

The plug with superior performance in a wide variety of building materials.

- Two component materials in red and grey for even more expansion volume and an optimally coordinated screw-in and tightening torque.
- Expands in solid building materials, folds in hollow building materials and knots in panel building materials.
- Automatically adapts itself to the requirements of the respective building material and therefore is extremely versatile to use.
- A plug for numerous applications with top load values in a wide variety of building materials.
- European Technical Assessment (ETA) for certain DuoPower dimensions for maximum safety in concrete and masonry (see load table).
- Due to the compact and short shape, it needs significantly less drilling effort and shorter screws can be used.

Intelligent self-activating functions depending on the base material.

Certificates

CE

ETA-22/0512, for multiple non-structural systems in concrete and masonry

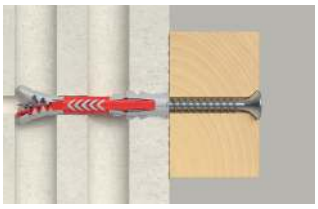
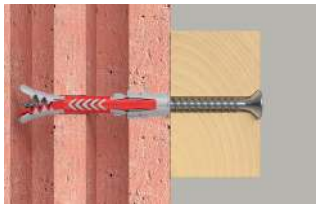
★★★★★ Nylon Quality

2K Technology

DuoLine

The long versions for even more bite in problematic building materials.

- Two component materials in red and grey for even more expansion volume and an optimally coordinated screw-in and tightening torque despite deeper anchorage.
- Three plug zones: Tip, shaft and base with differently arranged expansion and folding functions for more bite and higher pull-out values.
- Automatically adapts itself to the requirements of each building material. Ensures excellent holding thanks to its longer anchorage depth.
- A plug for numerous applications with high load capacity in problematic building materials, e.g. perforated building materials, aerated concrete or for plaster bridging.

Long versions with additional bite in problematic building materials.

Certificates

★★★★★ Nylon Quality

2K Technology

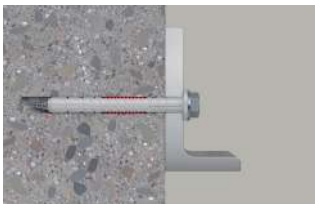
DuoLine

» Anchoring with a smart bite, thanks to innovative combination of material and design.«

DuoXpand

Clever combination of material and design.

- The special lamella geometry expands gently in the respective building material. This avoids fractures in porous building materials and enables anchoring close to the edge.
- The European Technical Assessment (ETA) for multiple use for non-structural applications ensures secure hold in all building material classes.
- The DuoXpand is suitable for push-through installation.
- In perforated bricks, the lamellas expand at the stone web and form an undercut in the cavity. The anchor geometry ensures that the force is transferred evenly to the material, so that porous stone webs are not destroyed.
- The version with countersunk screw is particularly suitable for fastening timber to concrete and masonry. For fixing metal, the version with a wide sleeve rim and a hexagon head screw with moulded washer is recommended.



Application in solid material

Application in perforated material

Certificates

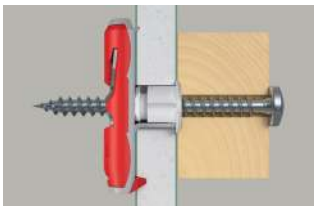
ETA-21/0324, for redundant non-structural systems in concrete and masonry

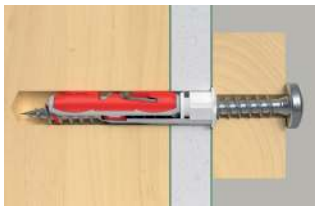
»Intelligent combination for high loads in all panel building materials.«

fischer DuoTec 10

Solves difficult installation tasks in drywall building materials.

- Two component toggle element in red and grey (hard/soft) and flange sleeve made of glass fibre-reinforced plastics ensure high tensile and transverse loads.
- Folds in cavities behind panel building materials, even in ones insulated with mineral wool. Expands in solid building materials such as wood or concrete.
- Suitable for screws and hooks with different thread types due to its flexible screw insert.
- Simple installation with the aid of a standard diameter 10 mm drill bit.
- A cavity toggle with high load bearing capability in dry wall materials, especially in gypsum plasterboard and gypsum fibreboard.



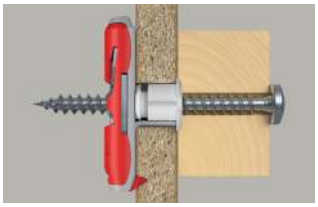


Ideal toggle plug for drywall building panels, or also as expansion plug in solid materials.

fischer DuoTec 12

Extra strong for all panel building materials.

- The two component toggle element in red and grey (hard/soft) and flange sleeve made of glass fibre-reinforced plastics ensure high tensile and transverse loads.
- Extra strong because of its metal skeleton insert.
- Folds in cavities behind panel building materials, even in ones insulated with mineral wool, or hollow concrete blocks. Expands in solid building materials such as wood or concrete.
- Suitable for screws and hooks with different thread types due to its flexible screw insert.
- Simple installation with the aid of a standard diameter 12 mm drill bit.
- A cavity toggle with high load bearing capability in all panel building materials but also hollow blocks made of lightweight concrete.

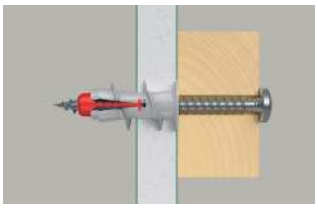


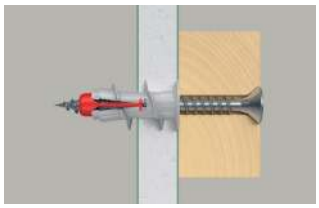
Strong toggle plug for all board materials able to handle high loads.

DuoBlade

The self-drilling plasterboard plug for fast and easy installation.

- The self-drilling fischer DuoBlade allows fast and easy installation in gypsum plasterboard and gypsum fibreboard.
- PZ2 drive – same drive for plug and screw.
- High torque when anchor is installed for the feelgood-factor and an optimum feeling when setting.
- The black metal tip guarantees simple and safe installation.
- The fischer DuoBlade is adapted for wood, metal and chipboard screws from 4 to 5 mm thickness as well as different hooks like the EasyHook.
- In gypsum fibreboard, pre-drilling with a drill ø 8mm is recommended.



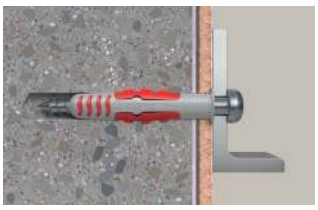


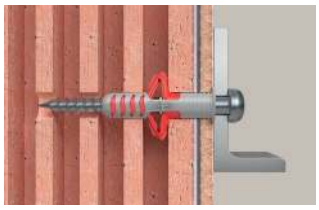
Fixing in plasterboard.

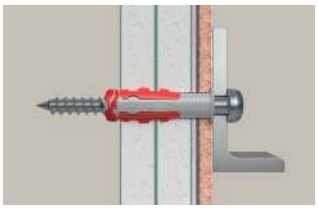
DuoSeal

The sealing plug for wet areas.

- The DuoSeal completely seals drill holes in tiles without additional sealing compound and thus prevents structural damage caused by moisture in the building material.
- The DuoSeal is ideally suited for tiled surfaces which are exposed to very frequent splash water and temporarily accumulated water. In any case, please take note of the general national regulations on the use of plugs in wet areas.
- The universal plug can be installed gently on tiles with very little effort.
- Its red component ensures a secure hold in all building materials. Thus, the DuoSeal achieves the same load values as conventional nylon plugs.
- The stainless steel screw included in the set is ideally suited for installations in wet areas and avoids rusting.
- The soft plastic rim closes the drill hole completely and flexibly adapts to the shape of the attachment part.







Excellent for many building materials with tiled surfaces.

Recommendations

DuoPower building material recommendation

Suitable for concrete, solid brick, solid sand-lime brick, vertically perforated brick, cavity floor slabs made of brick, perforated sand-lime brick, hollow block made of lightweight concrete, aerated concrete, natural stone, gypsum plasterboard and gypsum fibreboard, solid gypsum panels, chipboard.

DuoPower material properties

CE

ETA-22/0512, for multiple non-structural systems in concrete and masonry[1)]

★★★★★ Nylon Quality

2K Technology

Two component injection moulding for thermal combining of hard and soft plastic.

1) DuoPower ETA 8x40 with safety screw and FPF II are approved for concrete. DuoPower ETA 10x50 with safety screw is approved for concrete, solid brick, solid sand-lime brick and vertically perforated brick.

DuoXpand material recommendation

Suitable for concrete, solid sand-lime brick, solid brick, vertically perforated brick, perforated sand-lime brick, hollow block solid brick made from lightweight concrete, aerated concrete.

DuoXpand material properties

CE

ETA-21/0324, for redundant non-structural systems in concrete and masonry

★★★★★ Nylon Quality

2K Technology

fischer DuoTec building material recommendation

Suitable for all panel building materials, for example: gypsum plasterboard, gypsum fibreboard, OSB boards, chipboard, MDF sheets, plywood boards, steel panels, plastic boards, etc. Also functioning in solid materials, such as concrete and wood.

fischer DuoTec material properties

Glass Fibre Power

2K Technology

The plastics of all components are extra glass-fibre reinforced.

DuoBlade building material recommendation

Suitable for panel building materials e.g. gypsum plasterboard, gypsum fibreboard and lightweight cement boards.

DuoBlade material properties

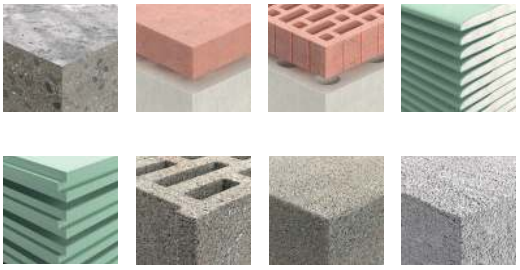
★★★★★ Nylon Quality

2K Technology

Glass Fibre Power

The plastics of all components are extra glass-fibre reinforced.

DuoSeal building material recommendation



Suitable for use in tiles or in tile joints on a wide variety of substrates, such as concrete, masonry, vertically perforated brick, plasterboard, gypsum planks, lightweight concrete (hollow block), lightweight concrete (solid block) and aerated concrete.

DuoSeal material properties

★★★★★ Nylon Quality

2K Technology

DIN 18534 ETAG 022

SFV Säurefliesner-Vereinigung e.V. Großburgwedel

Independently tested and confirmed in accordance with ETAG 022 and DIN 18534 up to the water exposure class W3-I.

Applications

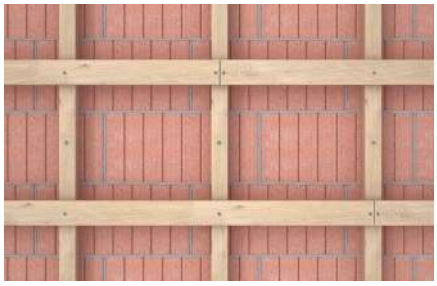
DuoPower

Consoles

Pipe fastenings

Radiators

DuoXpand



Timber substructures Wood

Carports

Facade substructures Metal

fischer DuoTec

Light wall shelves

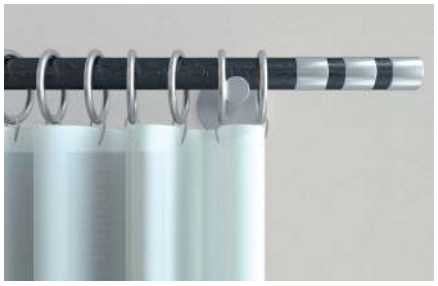
Mirrors

Lamps

DuoBlade

Smoke detectors

Mirrors



Curtain rods

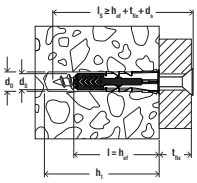
DuoSeal · Tiled surfaces with frequent exposure to water

Furnishing of bathrooms

Wall fixings in garages

Accessories inside the shower

Assortment



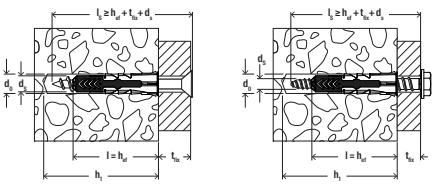
DuoPower

DuoPower

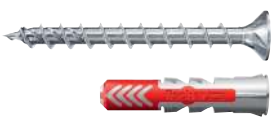
DuoPower long

Item	Without screw Item No.	With screw Item No.	Drill hole diameter d_0 [mm]	Min. drill hole depth h_1 [mm]	Min. panel thickness d_p [mm]	Min. bolt penetration $l_{E,min}$ [mm]	Anchor length l [mm]	Screws d_S / d_S x l_S [mm]	Drive	Max. fixture thickness t_{fix} [mm]	Sales unit [pcs]
DuoPower 5 x 25	**555005**	–	5	35	12,5	29	25	3 – 4	–	–	100
DuoPower 6 x 30	**555006**	–	6	40	12,5	35	30	4 – 5	–	–	100
DuoPower 6 x 50	**538240**	–	6	60	12,5	55	50	4 – 5	–	–	100
DuoPower 8 x 40	**555008**	–	8	50	12,5	46	40	4,5 – 6	–	–	100
DuoPower 8 x 65	**538241**	–	8	75	2x 12,5	71	65	4,5 – 6	–	–	50
DuoPower 10 x 50	**555010**	–	10	70	12,5	58	50	6 – 8	–	–	50
DuoPower 10 x 80	**538242**	–	10	100	–	88	80	6 – 8	–	–	25
DuoPower 12 x 60	**538243**	–	12	80	–	70	60	8 – 10	–	–	25
DuoPower 14 x 70	**538244**	–	14	90	–	82	70	10 – 12	–	–	20
DuoPower 5 x 25 S	–	**555105**	5	40	12,5	29	25	3,5 x 35	PZ2	6	50
DuoPower 6 x 30 S	–	**555106**	6	45	12,5	35	30	4,5 x 40	PZ2	5	50
DuoPower 6 x 30 S PH TX	–	**545838** [1]	6	45	12,5	35	30	4,5 x 40	TX 20	5	100
DuoPower 6 x 50 S	–	**538245**	6	65	12,5	55	50	4,5 x 60	PZ2	15	50
DuoPower 8 x 40 S	–	**555108**	8	65	12,5	45	40	5,0 x 55	PZ2	10	50
DuoPower 8 x 65 S	–	**538246**	8	85	2x 12,5	70	65	5,0 x 80	PZ2	10	25
DuoPower 10 x 50 S	–	**555110**	10	74	12,5	57	50	7,0 x 69	SW 13/TX 40	12	25
DuoPower 10 x 80 S	–	**538247**	10	112	–	87	80	7,0 x 107	SW 13	20	10
DuoPower 12 x 60 S	–	**538248**	12	85	–	68	60	8,0 x 80	SW 13	12	10
DuoPower 14 x 70 S	–	**538249**	14	100	–	80	70	10,0 x 95	SW 17	15	8

[1] DuoPower S PH TX with chipboard screw panhead



DuoPower ETA



DuoPower FPF II

DuoPower Safety screw

Item	Item No.	Approval ETA	Drill hole diameter d_0 [mm]	Min. drill hole depth [1] h_1 [mm]	Min. bolt penetration $l_{E,min}$ [mm]	Anchor length l [mm]	Screw d_S / d_S x l_S [mm]	Drive	Max. fixture thickness [2] t_{fix} [mm]	Sales unit [pcs]
DuoPower ETA 8 x 40 FPF II [3]	**564789**	●	8	69	46	40	6,0 x 60	TX 30	14	50
DuoPower ETA 8 x 40 Safety screw	**564790**	●	8	76	46	40	6,0 x 66,5	SW 10/TX 30	20	50
DuoPower ETA 10 x 50 Safety screw	**564792**	●	10	78	57	50	7,0 x 69	SW 13/TX 40	12	50

[1] Min. drill hole depth $h_{1\,[mm]} = l_S - t_{fix} + 10$
[2] Max. fixture thickness $t_{fix\,[mm]} = l_S - l - d_S$
[3] Power Fast II screw

Loads DuoPower

DuoPower

Highest recommended loads[1] for a single anchor. The given loads are valid for wood screws with the specified diameter.

Type			5 x 25	6 x 30	6 x 50	8 x 40	8 x 65	10 x 50	10 x 80	12 x 60	14 x 70
Wood screw diameter		[mm]	4	5	5	6	6	8	8	10	12
Min. edge distance concrete	c_{min}	[mm]	30	35	35	50	50	65	65	80	100
Recommended loads in the respective base material F_{rec}[2]											
Concrete	≥ C20/25	[kN]	0.40	0.95	1.65	1.10	2.30	2.15	4.20	3.30	5.30
Solid brick	≥ Mz 12	[kN]	0.30	0.50	0.55	0.62	0.69	1.20	1.45	1.30	1.35
Solid sand-lime brick	≥ KS 12	[kN]	0.50	1.00	1.60	1.25	2.25	2.20	3.85	2.80	4.50
Aerated concrete	≥ AAC 2 (G2)	[kN]	0.05	0.10	0.15	0.10	0.16	0.20	0.30	0.24	0.35
Aerated concrete	≥ AAC 4 (G4)	[kN]	0.25	0.38	0.55	0.42	0.60	0.60	1.10	1.00	1.45
Vertically perforated brick	≥ Hlz 12 (ρ ≥ 0.9 kg/dm³)	[kN]	0.13	0.15	0.17	0.25	0.40	0.25	0.40	0.35	0.40
Perforated sand-lime brick	≥ KSL 12 (ρ ≥ 1.6 kg/dm³)	[kN]	0.40	0.60	0.60	0.70	1.00	0.70	2.00	0.75	1.50
Gypsum block	(ρ ≥ 0,9 kg/dm³)	[kN]	0.10	0.18	0.37	0.25	0.50	0.35	0.65	0.50	0.50
Gypsum fibreboard	12.5 mm	[kN]	0.24	0.33	0.35	0.35	-	0.50	-	-	-
Gypsum plasterboard	12.5 mm	[kN]	0.12	0.15	0.15	0.15	-	0.15	-	-	-
Gypsum plasterboard	2 x 12.5 mm	[kN]	0.13	0.15	0.24	0.20	0.32	0.30	-	-	-
Mattone Forato Typ F8		[kN]	0.30	0.30	-	0.25	-	0.25	-	-	-
Tramezza Doppio UNI 19		[kN]	0.15	0.15	0.23	0.15	0.30	0.20	0.52	0.35	0.35
Sepa Parpaing		[kN]	0.30	0.45	0.25[3]	0.45	0.45[3]	0.45	0.45[3]	0.60[3]	0.60[3]

[1] Required safety factors are considered.
[2] Valid for tensile load, shear load and oblique load under any angle.
[3] Load determination on plastered wall.

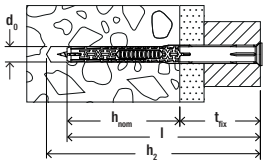
Universal plug DuoPower

Permissible loads[1][2][3] of a single anchor as part of a multiple fixing of non-structural systems.
For the design the complete current assessment ETA-22/0512 of 04.11.2022 has to be considered.

Type			DuoPower ETA 8x40 Power Fast II	DuoPower ETA 8x40 special screw	DuoPower ETA 10x50 special screw	
Anchor diameter	d_0	[mm]	8	8	10	
Screw diameter	d	[mm]	6	6	7	
Anchorage depth	h_{nom}	[mm]	40	40	50	
Anchorage in concrete ≥ C16/20[4]						
Permissible tensile load N_{perm}		[kN]	0.12	0.79	0.79	
Permissible shear load V_{perm}	zinc coated screws (gvz)	[kN]	3.10	4.23	5.98	
	stainless steel screw (R)	[kN]	-	3.93	5.98	
Minimum member thickness	h_{min}	[mm]	150	150	150	
Characteristic edge distance	$c_{cr,N}$	[mm]	55	90	80	
Characteristic spacing	a resp. $s_{cr,N}$	[mm]	15	50	50	
Minimum spacing	s_{min}	[mm]	50	50	50	
with an edge distance	c ≥	[mm]	100	100	100	
Minimum edge distance	c_{min}	[mm]	50	80	80	
with a spacing	s ≥	[mm]	100	160	160	
Anchorage in masonry						
Permisible load[5] F_{perm} in solid brick	≥ Mz 10/2; NF	[kN]	–	–	0.40	–
	≥ Mz 16/2; NF	[kN]	–	–	0.57	–
	≥ Mz 20/2; NF	[kN]	–	–	0.71	–
Permissible load[5] F_{perm} in solid sand-lime brick	≥ KS 8/2; 2DF	[kN]	–	–	0.60	0.70[6]
	≥ KS 12/2; 2DF	[kN]	–	–	0.60	0.70[6]
Permissible load[5] F_{perm} in perforated clay brick	≥ Hlz 10/1.2; 9 DF	[kN]	–	–	0.17	
	≥ Hlz 12/1.2; 9 DF	[kN]	–	–	0.21	
Minimum member thickness	h_{min}	[mm]	–	–	115	
Minimum spacing (single anchor)	a_{min}	[mm]	–	–	250	
Minimum spacing (anchor group)	s_{min}	[mm]	–	–	50	
Minimum edge distance (anchor group)	c_{min}	[mm]	–	–	80	

[1] Valid for zinc coated (gvz) Power Fast II and special screw and as well as for special screw made of stainless steel (R). For exterior use of the zinc coated screws measures against incoming humidity have to be taken.
[2] The required partial safety factors for material resistance as well as a partial safety factor for load actions γ_L = 1.4 are considered. As a single anchor counts e.g. an anchor with a minimum spacing a according to Annex B 2 or B 3 of the assessment.
[3] Valid for temperatures in the substrate up to +24 °C (resp. short term up to +40 °C).
[4] For values in concrete C12/15 see assessment.
[5] Valid for tensile load, shear load and oblique load under any angle. For combinations of tensile loads, shear loads and bending moments see assessment. Bulk density of stone in [kg/dm³] and minimum compressive strength in [N/mm²] according to EN 771.
[6] Only valid for c_{1min} 110 mm and c_{2min} 165 mm.

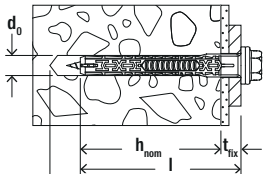
Assortment



DuoXpand-T – with fischer countersunk head safety screw

DuoXpand T

Item Description	Item No. Zinc-plated steel gvz	Item No. Stain-less steel R	Approval ETA	Drill hole diameter d_0 [mm]	Min. drill hole depth for through fixings h_2 [mm]	Usable length at anchorage depth t_{fix} h_{nom} = 50 mm	h_{nom} = 70 mm	h_{nom} = 140 mm	h_{nom} = 160 mm	Anchor length l [mm]	Drive	Sales unit [pcs]
DuoXpand 8x80 T	562149	–	●	8	90	30	10	–	–	80	T30	50
DuoXpand 8x100 T	562150	–	●	8	110	50	30	–	–	100	T30	50
DuoXpand 8x120 T	562151	–	●	8	130	70	50	–	–	120	T30	50
DuoXpand 10x80 T	562155	562163	●	10	90	30	10	–	–	80	T40	50
DuoXpand 10x100 T	562156	562164	●	10	110	50	30	–	–	100	T40	50
DuoXpand 10x120 T	562157	562165	●	10	130	70	50	–	–	120	T40	50
DuoXpand 10x140 T	562158	562166	●	10	150	90	70	–	–	140	T40	50
DuoXpand 10x160 T	562159	–	●	10	170	110	90	20	–	160	T40	50
DuoXpand 10x180 T	562160	–	●	10	190	130	110	40	20	180	T40	50
DuoXpand 10x200 T	562161	–	●	10	210	150	130	60	40	200	T40	50
DuoXpand 10x230 T	562162	–	●	10	240	180	160	90	70	230	T40	50



DuoXpand-FUS – with fischer hexagon head safety screw with moulded washer and integrated bit recess

Item Description	Item No. Zinc-plated steel gvz	Item No. Stain-less steel R	Approval ETA	Drill hole diameter d_0 [mm]	Min. drill hole depth for through fixings h_2 [mm]	Usable length at anchorage depth t_{fix} h_{nom} = 50 mm	h_{nom} = 70 mm	h_{nom} = 140 mm	h_{nom} = 160 mm	Anchor length l [mm]	Drive	Sales unit [pcs]
DuoXpand 8x80 FUS	562152	–	●	8	90	30	10	–	–	80	T30/SW10	50
DuoXpand 8x100 FUS	562153	–	●	8	110	50	30	–	–	100	T30/SW10	50
DuoXpand 8x120 FUS	562154	–	●	8	130	70	50	–	–	120	T30/SW10	50
DuoXpand 10x80 FUS	562167	562175	●	10	90	30	10	–	–	80	T40/SW13	50
DuoXpand 10x100 FUS	562168	562176	●	10	110	50	30	–	–	100	T40/SW13	50
DuoXpand 10x120 FUS	562169	562177	●	10	130	70	50	–	–	120	T40/SW13	50
DuoXpand 10x140 FUS	562170	562178	●	10	150	90	70	–	–	140	T40/SW13	50
DuoXpand 10x160 FUS	562171	–	●	10	170	110	90	20	–	160	T40/SW13	50
DuoXpand 10x180 FUS	562172	–	●	10	190	130	110	40	20	180	T40/SW13	50
DuoXpand 10x200 FUS	562173	–	●	10	210	150	130	60	40	200	T40/SW13	50
DuoXpand 10x230 FUS	562174	–	●	10	240	180	160	90	70	230	T40/SW13	50

Loads DuoXpand

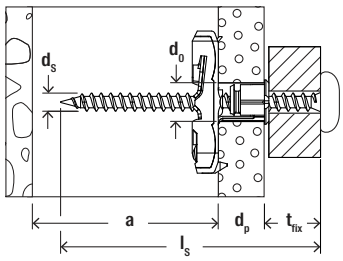
Frame fixing DuoXpand

Permissible loads[1)2)3)] of a single anchor as part of a multiple fixing of non-structural systems.
For the design the complete current assessment ETA-21/0324 has to be considered.

Type			DuoXpand 8		DuoXpand 10			
Anchor diameter	d	[mm]						
Anchorage in concrete ≥ C16/20[4)]								
Anchorage depth	h_{nom} ≥	[mm]	50	70	50	70	–	–
Permissible tensile load N_{perm}		[kN]	1.39	1.59	1.59	1.79	–	–
Permissible shear load V_{perm}	zinc coated screws (gvz)	[kN]	4.23	4.23	5.98	5.98	–	–
	stainless steel screw (R)	[kN]	3.93	3.93	5.98	5.98	–	–
Minimum member thickness	h_{min}	[mm]	80	100	80	100	–	–
Characteristic edge distance	$c_{cr,N}$	[mm]	50	50	50	50	–	–
Characteristic spacing	a resp. $s_{cr,N}$	[mm]	65	70	70	80	–	–
Minimum spacing	s_{min}	[mm]	50	50	50	50	–	–
with an edge distance	c ≥	[mm]	100	100	100	100	–	–
Minimum edge distance	c_{min}	[mm]	50	50	50	50	–	–
with a spacing	s ≥	[mm]	100	100	100	100	–	–
Anchorage in masonry[5)6)]								
Anchorage depth	h_{nom}	[mm]	50	70	50	70	140	160
Permisible load F_{perm} in solid brick Mz,	≥ NF; ≥ 10 [N/mm²] / ρ ≥ 1.8 [kg/dm³]	[kN]	0.43	0.43	0.26	0.26	–	–
e.g. Ziegelwerk Nordhausen	≥ NF; ≥ 20 [N/mm²] / ρ ≥ 1.8 [kg/dm³]	[kN]	0.86	1.00	0.57	0.57	–	–
Permissible load F_{perm} in solid sand-lime brick KS,	≥ NF; ≥ 10 [N/mm²] / ρ ≥ 2.0 [kg/dm³]	[kN]	0.43	0.57	0.57	0.57	–	–
e.g. Wemding	≥ NF; ≥ 20 [N/mm²] / ρ ≥ 2.0 [kg/dm³]	[kN]	1.00	1.14	1.14	1.14	–	–
Permissible load[7)] F_{perm} in lightweight concrete	≥ 2 DF; ≥ 2 [N/mm²] / ρ ≥ 1.4 [kg/dm³]	[kN]	0.11	0.17	0.09	0.17	–	–
block Vbl, e.g. KLB	≥ 2 DF; ≥ 4 [N/mm²] / ρ ≥ 1.4 [kg/dm³]	[kN]	0.21	0.34	0.17	0.34	–	–
Permissible load[7)] F_{perm} in vertically perforated	3 DF; ≥ 10 [N/mm²] / ρ ≥ 0.9 [kg/dm³]	[kN]	0.21	0.34	0.21	0.34	–	–
brick HLz, e.g. Schlagmann	3 DF; ≥ 12 [N/mm²] / ρ ≥ 0.9 [kg/dm³]	[kN]	0.26	0.43	0.26	0.43	–	–
Permissible load F_{perm} in perforated sand-lime	3 DF; ≥ 8 [N/mm²] / ρ ≥ 1.4 [kg/dm³]	[kN]	0.26	0.21	0.17	0.26	–	–
brick KSL, e.g. Wemding	3 DF; ≥ 16 [N/mm²] / ρ ≥ 1.4 [kg/dm³]	[kN]	0.43	0.43	0.34	0.57	–	–
Permissible load[7)] F_{perm} in hollow lightweight	16 DF; ≥ 2 [N/mm²] / ρ ≥ 0.7 [kg/dm³]	[kN]	0.14	0.14	0.21	0.21	–	–
concrete blocks Hbl, e.g Knobel, DE	16 DF; ≥ 4 [N/mm²] / ρ ≥ 0.7 [kg/dm³]	[kN]	0.26	0.26	0.43	0.43	–	–
Permissible load[7)] F_{perm} in hollow lightweight	≥ 2 [N/mm²] / ρ ≥ 1.0 [kg/dm³]	[kN]	0.09	–	0.14	0.14	–	0.09
concrete blocks Hbl, eg. Sepa Parpaing, FR	≥ 4 [N/mm²] / ρ ≥ 1.0 [kg/dm³]	[kN]	0.21	0.14	0.26	0.26	0.14	0.14
Minimum member thickness	h_{min}	[mm]	115	115	115	115	200	200
Minimum spacing (single anchor)	a_{min}	[mm]	250	250	250	250	250	250
Minimum spacing (anchor group)	s_{min}	[mm]	100	100	100	100	100	100
Minimum edge distance (anchor group)	c_{min}	[mm]	100	100	100	100	100	100
Anchorage in aerated concrete[6)]								
Anchorage depth	h_{nom} ≥	[mm]	70	–	70	–	–	–
Permissible load Fperm in aerated concrete,	AAC 2	[kN]	0.11	–	0.14	–	–	–
acc.to EN 771-4:2011+A1:2015	AAC 4	[kN]	0.27	–	0.21	–	–	–
	AAC 6	[kN]	0.54	–	0.32	–	–	–
Permissible load F_{perm} in reinforced aerated	AAC 4; f_{ck} ≥ 4 N/mm²	[kN]	–	–	0.18	–	–	–
concrete, acc. to EN 12602:2016	AAC 6; f_{ck} ≥ 6 N/mm²	[kN]	–	–	0.32	–	–	–
Minimum member thickness	h_{min}	[mm]	100 / 175[8)]	–	100 / 175[8)]	–	–	–
Minimum spacing (single anchor)	a_{min}	[mm]	250	–	250	–	–	–
Minimum spacing (anchor group)	s_{min}	[mm]	100 / 80[8)]	–	100 / 80[8)]	–	–	–
Minimum edge distance (anchor group)	c_{min}	[mm]	100	–	100	–	–	–

1) Valid for zinc coated screws (gvz) and for screws made of stainless steel (R). For exterior use of the zinc coated screws measures against incoming humidity according to assessment have to be taken.
2) The required partial safety factors for material resistance as well as a partial safety factor for load actions γ_L = 1.4 are considered.
As a single anchor counts e.g. an anchor with a minimum spacing a according to the ETA.
3) Valid for temperatures in the substrate up to +50 °C (resp. short term up to +80 °C). For long term temperatures up to +30 °C higher permissible loads may be possible.
4) For concrete specifications in C12/15, see ETA.
5) Stone property data in min. compressive strength [N/mm²] and bulk density [kg/dm³]. Corresponding mean compressive strengths according to EN 771 and other brick variants or brick geometries are listed in the ETA.
6) Load data are valid for tensile load, shear load and oblique load under any angle. For bending moments and invisible or not mortar-filled joints the design specifications of the ETA must be observed.
7) Rotary drilling method.
8) Only valid for groups of anchors in AAC with compression strength ≥ 6 N/mm².

Assortment



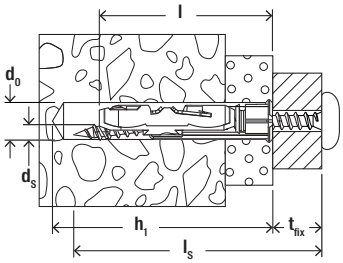
fischer DuoTec in gypsum board wall

fischer DuoTec 10

fischer DuoTec 12

Item	Item no.	Drill hole diameter d_0 [mm]	Min. panel thickness d_p [mm]	Max. panel thickness d_p [mm]	Min. cavity depth a [mm]	Screw diameter d_s [mm]	Screw length l_s [mm]	Sales unit [Stück]
fischer DuoTec 10 S	**537259** [1]	10	12	55	40	5.0	60	25
fischer DuoTec 10	**537258**	10	12	55	40	4.5 – 5	$\geq d_p + t_{fix} + 20$	50
fischer DuoTec 10 S PH	**539025** [2]	10	12	55	40	5.0	60	25
fischer DuoTec 12	**542796**	12	12	55	50	5 – 6/M6	$\geq d_p + t_{fix} + 20$	10
fischer DuoTec 12 RH	**542798** [4]	12	12	55	50	5.5	70	10
fischer DuoTec 12 S PH M	**542797** [3]	12	12	55	50	M6	70	10

[1] fischer DuoTec S – with chipboard screw countersunk head
[2] fischer DuoTec S PH – with chipboard screw Panhead
[3] fischer DuoTec S PH M – with machine screw Panhead
[4] fischer DuoTec RH – with screw with round hook



fischer DuoTec in solid brick

fischer DuoTec 10

fischer DuoTec 12

Item	Item no.	Drill hole diameter d_0 [mm]	Min. drill hole depth h_1 [mm]	Screw diameter d_s [mm]	Min. screw length l_s [mm]	Anchor length l [mm]	Max. fixture thickness t_{fix} [mm]	Sales unit [Stück]
fischer DuoTec 10 S	**537259** [1]	10	65	5.0	60	50	27	25
fischer DuoTec 10	**537258**	10	$l_s - t_{fix} + 10$	4.5 – 5	$t_{fix} + 55$	50	$l_s - 55$	50
fischer DuoTec 10 S PH	**539025** [2]	10	65	5.0	60	50	27	25
fischer DuoTec 12	**542796**	12	$l_s - t_{fix} + 10$	5 – 6	$t_{fix} + 65$	60	$l_s - 65$	10
fischer DuoTec 12 RH	**542798** [3]	12	75	5.5	55	60	–	10

[1] fischer DuoTec S – with chipboard screw countersunk head
[2] fischer DuoTec S PH – with chipboard screw Panhead
[3] fischer DuoTec RH – with screw with round hook

Loads DuoTec

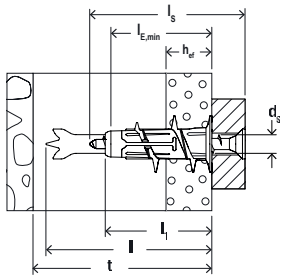
Nylon toggle DuoTec

Recommended loads[1] [2] for a single anchor.

Type			fischer DuoTec 10			fischer DuoTec 12		
			Chipboard screws		Metrical screw	Chipboard screws		Metrical screw
Screw diameter		**[mm]**	**4.5**	**5.0**	**5.0**	**5.0**	**6.0**	**6.0**
Recommended loads in the respective base material F_{rec}[3] for a span in the construction b = 625 mm								
Gypsum plasterboard	9.5 mm	**[kN]**	0.17	0.17	0.17	0.17	0.17	0.17
Gypsum plasterboard	12.5 mm	**[kN]**	0.20	0.20	0.20	0.20	0.20	0.20
Gypsum plasterboard	2x 12.5 mm	**[kN]**	0.43	0.43	0.43	0.43	0.43	0.43
Gypsum fibreboard	12.5 mm	**[kN]**	0.51	0.51	0.51	0.51	0.51	0.51
Chipboard	16 mm	**[kN]**	0.71	0.71	0.71	0.75	0.80	0.80
OSB board	18 mm	**[kN]**	0.75	0.75	0.75	0.75	1.30	1.30
Recommended loads in the respective base material F_{rec}[3] for a span in the construction b = 120 mm								
Gypsum plasterboard	9.5 mm	**[kN]**	0.20	0.20	0.20	0.20	0.20	0.20
Gypsum plasterboard	12.5 mm	**[kN]**	0.36	0.36	0.36	0.36	0.36	0.36
Gypsum plasterboard	2x 12.5 mm	**[kN]**	0.59	0.59	0.59	0.70	0.80	0.80
Gypsum fibreboard	12.5 mm	**[kN]**	0.75	0.75	0.75	0.80	1.10	1.10
Chipboard	16 mm	**[kN]**	0.75	0.75	0.75	0.80	1.40	1.30
OSB board	18 mm	**[kN]**	0.75	0.75	0.75	0.80	1.50	1.40
Recommended loads in solid building materials F_{rec}[3]								
Concrete	≥ C20/25	**[kN]**	0.45	0.75	–	0.40	0.75	–
Wood		**[kN]**	0.30	0.75	–	0.20	0.65	–
Recommended loads in the respective base material F_{rec}[3]								
Hollow block of lightweight aggregate concrete ‚Sepa Parpaing'	$f_b \geq 8$ N/mm²	**[kN]**	–	–	–	0.65	1.00	1.00
Pre-stressed hollow-core concrete slabs		**[kN]**	–	–	–	1.00	1.40	1.30
Lightweight concrete hollow block Hbl acc. to EN 771-3	$f_b \geq 2$ N/mm²	**[kN]**	–	–	–	0.90	1.00	1.00

[1] Required safety factors are considered.
[2] The recommended loads are reference values and depending to the building material and the workmanship. The values are only valid for the given screw diameter.
[3] Valid for tensile load, shear load and oblique load under any angle.
[4] Bending of the hook is decisive. Only for tension load.

Assortment & Loads



Plasterboard plug DuoBlade

DuoBlade

Item	Item no.	Min. thickness to first supporting layer t [mm]	Anchor length l [mm]	Anchor length without drill tip l_1 [mm]	Anchorage depth h_{ef} [mm]	Min. bolt penetration $l_{E,min}$ [mm]	Screw d_s/d_s x l_s [mm]	Drive	Sales unit [Stück]
DuoBlade	**545675**	50	44	29	9.5 – 25	28	4 – 5	PZ2	50
DuoBlade S	**545676** [1]	50	44	29	9.5 – 25	28	4.5 x 40	PZ2	25
DuoBlade K NV	**545683**	50	44	29	9.5 – 25	28	4 – 5	–	10
DuoBlade S K NV	**545684** [1]	50	44	29	9.5 – 25	28	4.0 x 46	PZ2	6
DuoBlade RH K NV	**545686** [2]	50	44	29	9.5 – 25	28	4.5 x 40	–	6
DuoBlade WH K NV	**545685** [3]	50	44	29	9.5 – 25	28	4.2 x 40	–	6

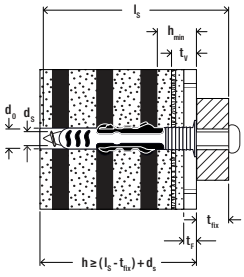
[1] DuoBlade S - with chipboard screw countersunk head.
[2] DuoBlade RH - with round hook.
[3] DuoBlade WH - with angled hook.

Plasterboard fixing DuoBlade

Recommended loads[1] for a single anchor.

Type			DuoBlade
Chipboard screw diameter		**[mm]**	**4.0–5.0**
Recommended loads in the respective base material F_{rec}[2]			
Gypsum plasterboard	9.5 mm	**[kN]**	0.08
Gypsum plasterboard	12.5 mm	**[kN]**	0.10
Gypsum plasterboard (e.g. Knauf Diamant board or Rigips Die Harte)	12.5 mm	**[kN]**	0.18
Gypsum plasterboard	2x 12.5 mm	**[kN]**	0.20
Lightweight cement board	12.5 mm	**[kN]**	0.08
Gypsum fibreboard	12.5 mm	**[kN]**	0.34

[1] Required safety factors are considered. The given loads are valid for chipboard screws with the specified diameters.
[2] Valid for tensile load, shear load and oblique load under any angle.



DuoSeal

DuoSeal

Item	Item No.	Drill-diameter d_0 [mm]	Drill hole diameter tolerance [mm]	Minimum drill hole depth h_1 [mm]	Minimum building material thickness h_{min} [mm]	Plug length l [mm]	Screw length l_s [mm]	Screw diameter d_s [mm]	Drive [TX]	Sealing depth t_V [mm]	Tile thick-ness t_F [mm]	Maximum thickness of the at-tachment t_{fix} [mm]	Sales unit [Stück]
DuoSeal 6 x 38 S A2	**557727**	6	6.0 – 6.40	65 - t_{fix}	22	38	60	4.5	20	5 – 14	5 – 10	12	50
DuoSeal 8 x 48 S A2	**557728**	8	8.0 – 8.45	75 - t_{fix}	25	48	70	6.0	30	5 – 14	5 – 10	16	25
DuoSeal 6 x 38 S A2 K (4)	**557733**	6	6.0 – 6.40	65 - t_{fix}	22	38	60	4.5	20	5 – 14	5 – 10	12	4
DuoSeal 8 x 48 S A2 K (2)	**557734**	8	8.0 – 8.45	75 - t_{fix}	25	48	70	6.0	30	5 – 14	5 – 10	16	2

DuoSeal

Recommended loads1) for a single anchor.

Type			DuoSeal 6	DuoSeal 8
Diameter stainless steel wood screw		**[mm]**	**4.5**	**6.0**
Recommended loads in the respective base material F_{rec} 2) 3)				
Concrete	≥ C20/25	**[kN]**	0.40	0.60
Solid brick	≥ Mz 12	**[kN]**	0.20	0.30
Solid sand-lime brick	≥ KS 12	**[kN]**	0.30	0.40
Aerated concrete	≥ PB2, PP2	**[kN]**	0.10	0.10
Vertically perforated brick	≥ HLZ 12	**[kN]**	0.20	0.30
Perforated sand-lime brick	≥ KSL 12	**[kN]**	0.30	0.40
Gypsum plasterboard impregnated GKBI (green)	12.5 mm	**[kN]**	0.10 4)	0.10 5)
Gypsum plasterboard impregnated GKBI (green)	2x 12.5 mm	**[kN]**	0.15	0.15
Gypsum plasterboard fire resistant and impregnated GKFI	12.5 mm	**[kN]**	0.15 4)	0.15 4)
Gypsum plasterboard fire resistant and impregnated GKFI	2x 12.5 mm	**[kN]**	0.20	0.20
Gypsum fibreboard	12.5 mm	**[kN]**	0.20 4)	0.20 4)
Gypsum block ρ ≥ 0.85 kg/dm³	100 mm	**[kN]**	0.10	0.10

1) Required safety factor is considered. Load values are valid for using the supplied stainless steel wood screws with the specified diameters according to DIN 7998.
2) Valid for tensile load, shear load and oblique load under any angle.
3) alues apply to tile thickness 5 – 10 mm.
4) Values apply to tile thickness 5 – 10 mm and total tile thickness 9.5 – 14.5 mm.
5) Values apply to tile thickness 8 – 10 mm and total tile thickness 12.5 – 14.5 mm.

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