

ASSY®plus VG 4 CH construction screw Steel zinc plated full thread cylinder head

Special full-thread screw with small cylinder head for high-load-bearing wood-wood connections or reinforcements in structural wood construction, which also require small edge and screw clearances, in indoor dry or wet areas

Ideal power transmission thanks to RW drive

- More power due to larger contact area at the bit
- More stability, one-handed working, precise positioning due to the tight-fit recess and perfect fit of the bit
- Fewer bit changes, one bit for many screw diameters
- Compatibility with previous AW drive

Unobtrusive mounting of wooden components

- Small head diameter for unobtrusive mounting
- Low splitting effect when countersinking the screw head

Highest power transmission in the tensile and compressive direction

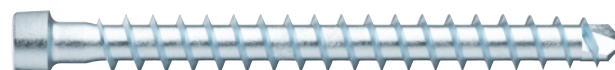
- Symmetrical high-performance thread matched to the pre-drilling performance of the drill bit tip
- For high-load wood/wood connections regardless of the load direction

Compact screw connections and small material cross-sections due to effective drill bit tip

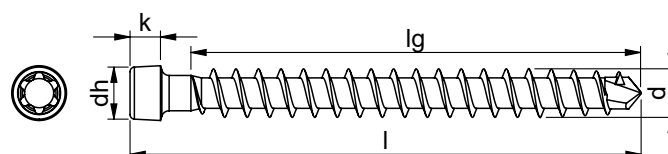
- Extremely short permitted edge distances e.g. 3xd, making ASSY screws Ø 8 mm usable for beam widths 60 mm
- No pre-drilling required
- The wood does not split and rupture
- Little run-off of long screws

High strength values and ductility

- Adjusted heat treatment guarantees high strength values and high ductility



Material	Hardened steel
Surface	Zinc plated
RoHS-compliant	Yes



Nominal diameter (d)	Length (l)	Thread length (lg)	Screw-thread length with drill tip (b)	Head diameter (d _h)	Head height (k)	Internal drive	Art. no.	P. Qty.
6 mm	80 mm	67 mm	67 mm	8.2 mm	4.7 mm	RW30	0150 006 080	100
6 mm	100 mm	87 mm	87 mm	8.2 mm	4.7 mm	RW30	0150 006 100	100

Nominal diameter (d)	Length (l)	Thread length (lg)	Screw-thread length with drill tip (b)	Head diameter (d _h)	Head height (k)	Internal drive	Art. no.	P. Qty.
6 mm	120 mm	107 mm	107 mm	8.2 mm	4.7 mm	RW30	0150 006 120	100
6 mm	140 mm	123 mm	123 mm	8.2 mm	4.7 mm	RW30	0150 006 140	100
6 mm	160 mm	143 mm	143 mm	8.2 mm	4.7 mm	RW30	0150 006 160	100
6 mm	180 mm	163 mm	163 mm	8.2 mm	4.7 mm	RW30	0150 006 180	100
6 mm	200 mm	183 mm	183 mm	8.2 mm	4.7 mm	RW30	0150 006 200	100
6 mm	220 mm	203 mm	203 mm	8.2 mm	4.7 mm	RW30	0150 006 220	100
6 mm	240 mm	223 mm	223 mm	8.2 mm	4.7 mm	RW30	0150 006 240	100
6 mm	260 mm	243 mm	243 mm	8.2 mm	4.7 mm	RW30	0150 006 260	100
8 mm	120 mm	101 mm	101 mm	10 mm	7.5 mm	RW40	0150 008 120	50
8 mm	140 mm	121 mm	121 mm	10 mm	7.5 mm	RW40	0150 008 140	50
8 mm	160 mm	141 mm	141 mm	10 mm	7.5 mm	RW40	0150 008 160	50
8 mm	180 mm	161 mm	161 mm	10 mm	7.5 mm	RW40	0150 008 180	50
8 mm	200 mm	181 mm	181 mm	10 mm	7.5 mm	RW40	0150 008 200	75
8 mm	220 mm	201 mm	201 mm	10 mm	7.5 mm	RW40	0150 008 220	75
8 mm	240 mm	221 mm	221 mm	10 mm	7.5 mm	RW40	0150 008 240	75
8 mm	260 mm	241 mm	241 mm	10 mm	7.5 mm	RW40	0150 008 260	75
8 mm	280 mm	261 mm	261 mm	10 mm	7.5 mm	RW40	0150 008 280	75
8 mm	300 mm	275 mm	275 mm	10 mm	7.5 mm	RW40	0150 008 300	75
8 mm	330 mm	305 mm	305 mm	10 mm	7.5 mm	RW40	0150 008 330	50
8 mm	340 mm	315 mm	315 mm	10 mm	7.5 mm	RW40	0150 008 340	50
8 mm	360 mm	335 mm	335 mm	10 mm	7.5 mm	RW40	0150 008 360	50
8 mm	380 mm	355 mm	355 mm	10 mm	7.5 mm	RW40	0150 008 380	50
8 mm	400 mm	375 mm	375 mm	10 mm	7.5 mm	RW40	0150 008 400	25
8 mm	430 mm	405 mm	405 mm	10 mm	7.5 mm	RW40	0150 008 430	25
8 mm	450 mm	425 mm	425 mm	10 mm	7.5 mm	RW40	0150 008 450	25
8 mm	480 mm	445 mm	445 mm	10 mm	7.5 mm	RW40	0150 008 480	25
8 mm	530 mm	495 mm	495 mm	10 mm	7.5 mm	RW40	0150 008 530	25
8 mm	580 mm	545 mm	545 mm	10 mm	7.5 mm	RW40	0150 008 580	25
10 mm	120 mm	97 mm	97 mm	13.4 mm	8 mm	RW50	0150 010 120	50
10 mm	160 mm	137 mm	137 mm	13.4 mm	8 mm	RW50	0150 010 160	50
10 mm	180 mm	157 mm	157 mm	13.4 mm	8 mm	RW50	0150 010 180	50
10 mm	200 mm	177 mm	177 mm	13.4 mm	8 mm	RW50	0150 010 200	50
10 mm	220 mm	197 mm	197 mm	13.4 mm	8 mm	RW50	0150 010 220	50
10 mm	240 mm	217 mm	217 mm	13.4 mm	8 mm	RW50	0150 010 240	50
10 mm	260 mm	237 mm	237 mm	13.4 mm	8 mm	RW50	0150 010 260	50
10 mm	280 mm	257 mm	257 mm	13.4 mm	8 mm	RW50	0150 010 280	50
10 mm	300 mm	272 mm	272 mm	13.4 mm	8 mm	RW50	0150 010 300	50
10 mm	320 mm	292 mm	292 mm	13.4 mm	8 mm	RW50	0150 010 320	50
10 mm	340 mm	312 mm	312 mm	13.4 mm	8 mm	RW50	0150 010 340	50
10 mm	360 mm	332 mm	332 mm	13.4 mm	8 mm	RW50	0150 010 360	50
10 mm	380 mm	352 mm	352 mm	13.4 mm	8 mm	RW50	0150 010 380	50
10 mm	400 mm	372 mm	372 mm	13.4 mm	8 mm	RW50	0150 010 400	50
10 mm	430 mm	402 mm	402 mm	13.4 mm	8 mm	RW50	0150 010 430	50
10 mm	450 mm	422 mm	422 mm	13.4 mm	8 mm	RW50	0150 010 450	25
10 mm	480 mm	442 mm	442 mm	13.4 mm	8 mm	RW50	0150 010 480	25
10 mm	530 mm	492 mm	492 mm	13.4 mm	8 mm	RW50	0150 010 530	25
10 mm	580 mm	542 mm	542 mm	13.4 mm	8 mm	RW50	0150 010 580	25
10 mm	650 mm	612 mm	612 mm	13.4 mm	8 mm	RW50	0150 010 650	25
10 mm	700 mm	662 mm	662 mm	13.4 mm	8 mm	RW50	0150 010 700	25
10 mm	750 mm	712 mm	712 mm	13.4 mm	8 mm	RW50	0150 010 750	25
10 mm	800 mm	762 mm	762 mm	13.4 mm	8 mm	RW50	0150 010 800	25

Can be stored neatly in ORSY racks or ORSYMAT vending machines

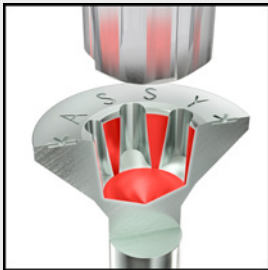
Details/Application

For connections with high tensile or compressive pull-out loads and exposed wood-wood connections in structural timber construction

For applications in utilisation class 1 and utilisation class 2 (from $\varnothing > 4$ mm)

- High-quality surface protection, zinc, blue-passivated chromium(VI)-free 8 μ m layer thickness
- Suitable for use in utilisation class 1 (interior) and from a $\varnothing > 4$ mm in utilisation class 2 (wet area or covered outdoor area) according to EN 1995-1-1:2010-12 + DIN SPEC 1052-100:2013-08
- The requirement of classification T2/C2 is fulfilled in accordance with prEN 14592:2017 (D)

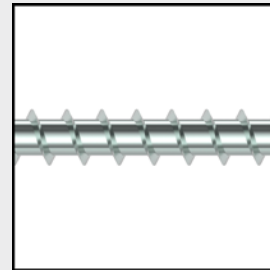
RW drive



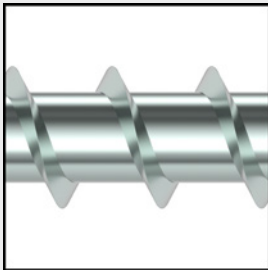
Cylinder head



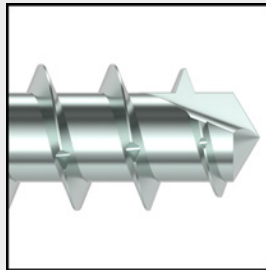
Full thread



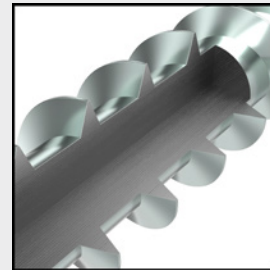
Symmetrical high-performance thread



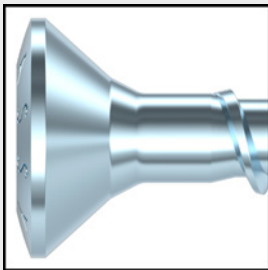
Drill tip



Hardened steel



Zinc-plated/A3K



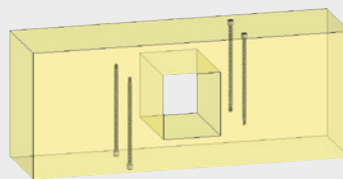
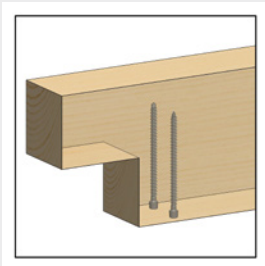


Instructions

- ASSY screws are approved for quasi-static loads
- For optimum use of the screw, the right-size RW bit must be used
- In the case of transverse compression reinforcements, a pressure distribution plate must be inserted between the support bearing and the screw heads for even load transmission. The screw head must be flush with the pressure distribution plate. Use full-thread screws with a countersunk head if suitable. The steel plate thickness must be dimensioned in such a way that a uniform load distribution on the screws is guaranteed
- For the reinforcement of wooden components at a right angle to the fibre under tensile load, at least 2 screws must be used. If the screw-in depth is least $20 \times d$ above or below the crack-prone area, with d being the outer thread diameter of the screw, only one screw may be used
- Full-thread screws are suitable for reinforcing and creating high-load-bearing connections of two components. Components should be connected without any gap
- For long screws arranged in a cross shape or in a screw block with narrow edge clearances, it is advisable to drill pilot holes or use a screw-in aid to avoid intersecting of the screws

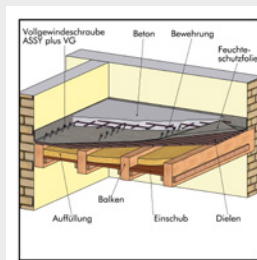
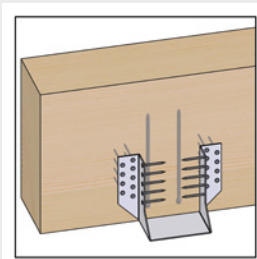
Notches and openings

Until now, it has been necessary to create reinforcements in order to prevent the failure of support beams, for example by using glued-on wooden material panels or glued-in threaded rods. The full-thread screw ASSY@plus VG represents a quick, and above all non-visible, alternative to this.



Wooden/concrete composite ceiling

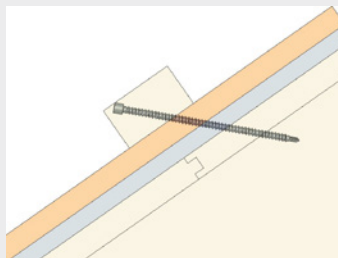
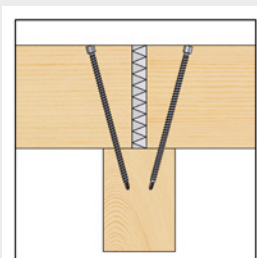
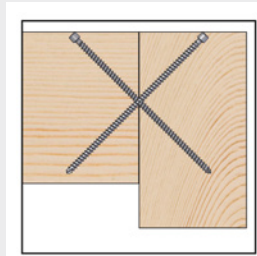
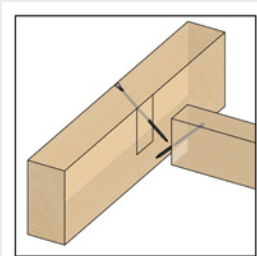
Ceiling renovation employing a wood and concrete composite is the optimum method for increasing the load-bearing capacity where the beam spacings and support widths are particularly great, or where there are very high rated loads. Here, partly screwed-in full thread screws serve as shear connectors and absorb the shear flow between the wooden beams and concrete slab. This eliminates the time-consuming installation of shear connectors made from expanded metal. ASSY@plus VG has its own general construction permit (Z-9.1-648) for this method. Project-related calculations with static verification can be carried out with the "technical software 6.0".



Main/secondary support beam connection

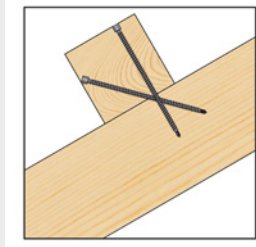
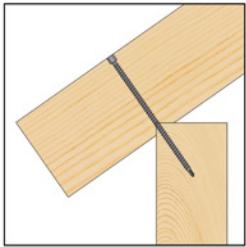
Until now, main/secondary support beam connections had been made with molded metal parts, such as beam shoes. The ASSY plus FT screw provides a time-saving and invisible alternative. By screwing in the ASSY plus FT at an angle of 45°, the screws absorb the lateral forces of the connection.

Ideal for application:
VG-Fix Setting Template



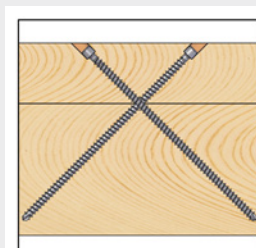
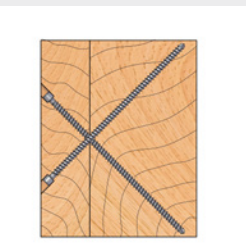
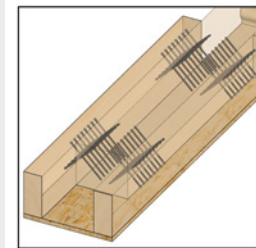
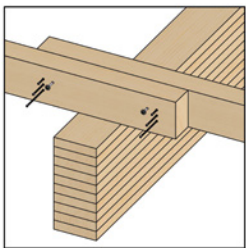
Rafter-purlin connection

Current rafter-purlin anchors require time-consuming assembly and also have a low load-bearing capacity. The ASSY plus FT therefore represents an efficient alternative. The existing weak point of a standard countersunk head screw, the main beam, can be ignored with the ASSY plus FT.



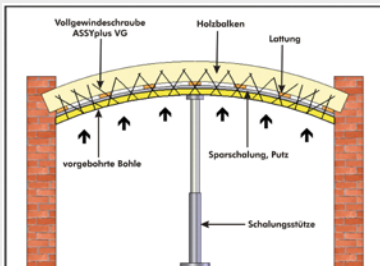
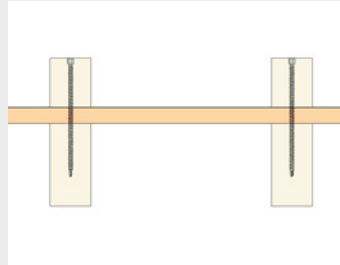
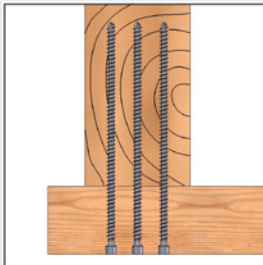
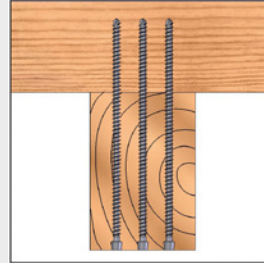
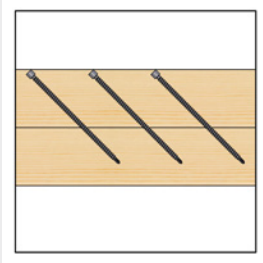
Coupling purlins

In the construction of commercial and industrial buildings, the rafter-supporting purlins are generally formed as coupling purlins. The coupling is used to achieve more favorable wood cross-sections than with single-field beams. This new connection type saves time and money in jointing and mounting. An ASSY SK screw (consolidation) and, depending on the load, ASSY plus VG screws are inserted at right angles at each connection point. There is then no need for predrilling. The wood cross-sections can be kept small due to the short edge distances. The complex milling out of the anchors is then eliminated. Only one strong battery-powered screwdriver is required for installation. The purlins can be cut to length by the saw mill and delivered directly to the construction site. The purlins are pulled together with the ASSY® SK disk head screw. No additional clamping tools are required. Dimensioning tables were prepared for the static calculation of the connections, which can be requested via the Würth salesperson.



False edge and lateral support beam reinforcement

It is often necessary to reinforce existing beams, especially when renovating old buildings. With the reinforcement types of false edge and lateral support beam reinforcement, the ASSY plus FT screw offers effective, cost-efficient technologies for increasing load-bearing capacity of the beams and reducing bending.



Proof of performance

Approved according to ETA-11/0190, for wood-concrete composite ceilings ETA-13/0029



Notice

- We recommend using the Würth software or the corresponding design aids for planning and dimensioning your assembly. Use the Würth timber construction software for dimensioning of ASSY screws from a diameter of 5 mm
- Do not use the screw in applications with direct exposure to the elements or in humid rooms with atmospheres containing chlorine gas
- ASSY 4, ASSYplus 4 and ASSYplus 4 FT chipboard screws are optimised for use in wood and wood materials. For applications in plastic anchors where load capacity can also be reduced, use only screws without an optimised thread tip (tip with milling ribs, drill tip, self-clearing groove etc.), such as the ASSY D screws with countersunk head or pan head

The requirements of the European Technical Approval (ETA) must be observed

Related products		Art. no.
Screw-in angle 45/60 degrees		0165 300 20
Related products for	Designation	Art. no.
0150 006 080	RW® bit	0614 70 30
	RW® bit	0614 71 30
	RW® bit	0614 72 30
0150 006 100	RW® bit	0614 70 30
	RW® bit	0614 71 30
	RW® bit	0614 72 30
0150 006 120	RW® bit	0614 70 30
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	RW® bit	0614 72 30
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