

## **Connectors**





# Welcome to the world of Pitzl



#### This is Pitzl

As a leading full-range supplier for wood connection systems, we are consistently trying to develop and optimise our products further. The Pitzl range includes post bases, balcony and fence posts, plug-in connector systems as well as post-purlin connections. Naturally, we also offer individual, custom-made solutions for your specific range of applications.

All Pitzl connectors and post bases can be used with screws from different manufacturers.

## The design manual

With the Pitzl design manual and the corresponding calculation details an efficient and above all safe use of each product group is ensured. You will find the free design manual for download here: www.pitzl-connectors.com/manuals

#### **HVP** connectors

HVP connectors are two-part dovetail connectors made of anodised aluminium. They are equally suitable for wood-to-wood, wood-to-concrete and wood-to-steel connections.

#### ETA-11/0295

European Technical Approval

All HVP connectors of Pitzl Metallbau GmbH & Co. KG have been approved through ETA -11/0295.

Holder of approval:

Pitzl Metallbau GmbH & Co. KG, Siemensstraße 26, DE-84051 Altheim - Germany

Tel.: +49 (0) 8703 9346-0, Telefax: +49 (0) 8703 9346-55, Internet: www.pitzl-connectors.com

Generic type and use of construction product:

Three-dimensional nailing plate (joist end connector for wood-to-wood connections, wood-to-concrete and steel connections)

(Valid from: 2013-04-30 to: 2018-01-02)











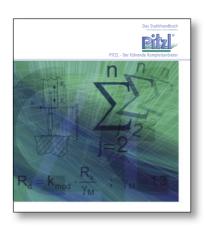










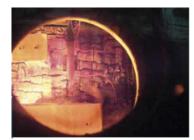


## **HVP** fire protection concept

Preventive fire protection is becoming increasingly important. Particularly in structural wood construction a maximal safety must be respected in order to be able to offer an optimal protection. As a leading full-range supplier of wood connection systems, we have thoroughly tested the fire protection offered by our HVP connector system and included the results in our European Technical Approval.

#### Fire behaviour tests at the TUM (Technical University Munich) – 60 minutes







Connector part at

the joist

Connector part at the header













## HVP - Plug-in connector system

As a leading full-range supplier of innovative wood connection systems, we at Pitzl aim for the highest client satisfaction.

Beside reliable delivery and product quality, this motto applies, above all, to the technical support and maximum compliance with current standards and approvals.

The fact that we produce the largest part of the product range in-house with the highest quality requirements "Made in Germany" has turned to be in the last years an essential competitive advantage.

Thus we can respond specifically and flexibly to individual customers' requirements.

From 2015 a completely revised product range of the tried and trusted HVP plug-in connectors series is available.

Due to changed dimensions and always further developments in the screws sector we have taken into account with our design concept the trend towards slenderer dimensions. The new series is thus become not only technically more favorable, but through the screwing optimisation more efficient too. Besides the optimised distances to the edges the user can above all benefit from the possible screws diversity. The HVP connectors require no special screws, but can be calculated and used with high quality current full-threaded screws from the leading manufacturers.

#### Keeping liability in mind

It is generally up to the contractor to decide which products to use. High-quality production, and therefore safety, can only be ensured where systems are used that have been granted general building approval and are subject to continuous monitoring and quality assurance.

Pitzl is one of the few manufacturers to offer their wood connection systems with comprehensive European Technical Approval and consequently also with the mandatory legal EC conformity mark.

It goes without saying that "Made in Germany" manufacturing is synonymous with the highest quality standards.

This means that we offer contractors maximum product safety, thus minimising the risks for all tradesmen.

#### **Engineering support**

We offer Pitzl HVP connector systems with characteristic load-carrying capacities of up

Depending on the specific requirements, alternative connections are also possible. Specifically, wood-to-concrete and wood-to-steel connectors have already been included in the European Technical Approval next to wood-to-wood connections.

Innovation, research and development rank as a top priority for Pitzl and will lead to many new future possibilities in the field of connector systems.

For queries and technical support please contact our support team at: support@ pitzl-connectors.com







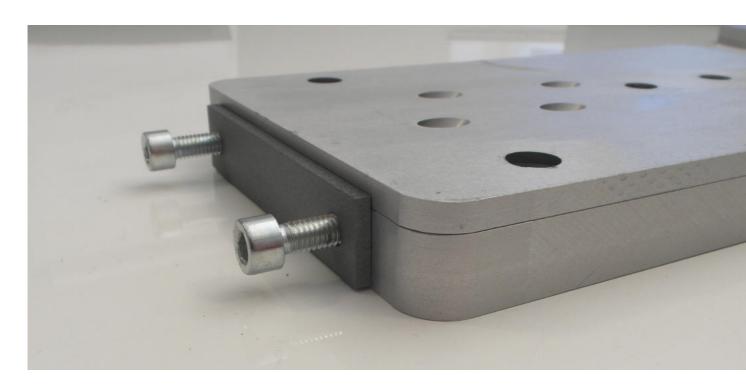












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#### **New HVP connectors**

Optimised screws lengths and minimal distances to the edges, higher load capacity, accuracy of fit for little timber sections, double connectors and end-grain-to-end-grain connections bring the advantages of the new HVP connector directly to the customer.

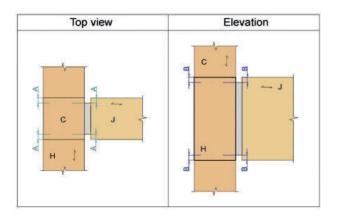
#### Minimal distances to the edges for a flush perpendicular connection

Valid for Heco screws, for other screws indications from the manufacturer apply.

	HVP series 880 - 881									
		Up and down "B" with screws:								
HVP series	Lateral "A"	Ø 4,5 x 50	Ø 4,5 x 60	Ø 4,5 x 70	Ø 4,5 x 80					
880	10 mm									
881	Part 1: 10 mm Part 2: 5 mm	5 mm	10 mm	15 mm	20 mm					

	HVP series 882 - 883									
			Up and down "B" with screws:							
HVP series	Lateral "A"	Ø 5 x 60	Ø 5 x 80	Ø 5 x 100						
882 und 883	10 mm	10 mm	25 mm	40 mm						

	Heavy Duty HVP series 884 - 885									
		Up and down "B" with screws:								
HVP series	Lateral "A"	Ø 8 x 160	Ø 8 x 180	Ø 8 x 200						
884	10 mm	10 mm	25 mm	40 mm						
885	15 mm	TO IIIIII	23 111111	40 111111						



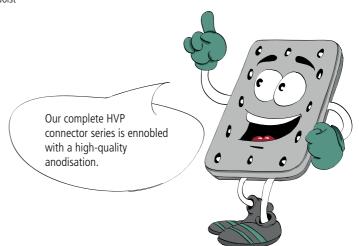
Part 1: with the groove

Part 2: with the tongue

H: Header

C: Column

J: Joist





















88109.0000







88111.0000



88115.0000









Our connectors pairs can be ordered individually too.



Connectors HVP

#### Wood-to-wood connections

Optimal distances to the edges and variable screws length ensure accuracy of fit for each timber section.

Item no.	Dimensions w x h x d (mm)	Number of screws	Screws size	Minimal timber section with screws Ø 4,5 x 50 (mm)		Characteristic load capacity*		Packing unit	CE
				Header	Joist	Ø 4,5 x 50	Ø 4,5 x 80		
88004.0000	25 x 40 x 12	6	Ø 4,5 x 50 - 80	60 x 50	45 x 50	2,42	3,78	20	*
88006.0000	25 x 60 x 12	8	Ø 4,5 x 50 - 80	60 x 70	45 x 70	4,83	7,65	20	*
88008.0000	25 x 80 x 12	10	Ø 4,5 x 50 - 80	60 x 90	45 x 90	7,25	11,3	20	*
88010.0000	25 x 100 x 12	12	Ø 4,5 x 50 - 80	60 x 110	45 x 110	9,66	15,1	20	*
88107.0000	40 x 70 x 12	10	Ø 4,5 x 50 - 80	60 x 80	50** x 80	7,25	11,3	10	*
88109.0000	40 x 90 x 12	14	Ø 4,5 x 50 - 80	60 x 100	50** x 100	9,66	15,1	10	*
88111.0000	40 x 110 x 12	16	Ø 4,5 x 50 - 80	60 x 120	50** x 120	12,1	18,9	10	*
88113.0000	40 x 130 x 12	18	Ø 4,5 x 50 - 80	60 x 140	50** x 140	14,5	22,7	10	*
88115.0000	40 x 150 x 12	22	Ø 4,5 x 50 - 80	60 x 160	50** x 160	19,3	30,2	10	*

<sup>\*</sup>F2,Rk (kN) for GL24h with fully threaded screws: Ø 4,5 x 50 with effective thread length of 45 mm and Ø 4,5 x 80 with effective thread length of 74 mm.

For other screws and thread lengths or wood based materials: cf. design manual

<sup>\*\*</sup> Valid for part 2 (with the tongue) fixed at the end grain, otherwise 60 mm.

Item no.	Dimensions w x h x d (mm)	Number of screws	Screws size	Minimal timber section with screws Ch Ø 5 x 60 (mm)		Characteristic load capacity*		Packing unit	CE
			Header	Joist	Ø 5 x 60	Ø 5 x 100			
88210.0000	60 x 100 x 12	18	Ø 5 x 60 - 100	70 x 120	80 x 120	19,6	32,3	10	*
88214.0000	60 x 140 x 12	24	Ø 5 x 60 - 100	70 x 160	80 x 160	31,4	51,7	10	*
88318.0000	80 x 180 x 12	34	Ø 5 x 60 - 100	70 x 200	100 x 200	47,1	77,5	10	*
88322.0000	80 x 220 x 12	44	Ø 5 x 60 - 100	70 x 240	100 x 240	62,7	103,3	10	*

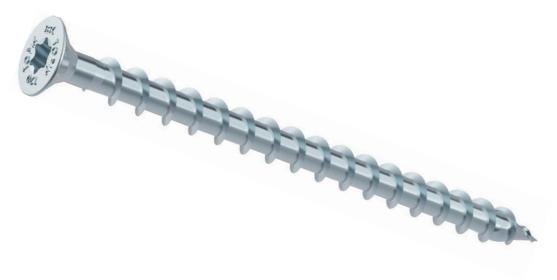
<sup>\*</sup>F2,Rk (kN) for GL24h with fully threaded screws: Ø 5 x 60 with effective thread length of 54 mm and Ø 5 x 100 with effective thread length of 94 mm. For other screws and thread lengths or wood based materials: cf. design manual

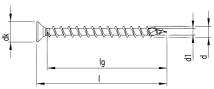
On order available: Connectors of the series 882 - 884 in double version (on page 13).

Double width for double load capacity.

The perfect connection for square timber sections or wide beams with low height.







#### Accessories for HVP

#### Countersunk screws

Item no.	d	I	lg	dk	Drive train
99211.4550	4,5	50	45	8,9	T-Drive
99211.4560	4,5	60	54	8,9	T-Drive
99511.4580	4,5	80	74	8,8	Torx 20
99211.5060	5	60	54	9,6	T-Drive
99311.5080	5	80	75	10	Torx 25
99311.5100	5	100	95	10	Torx 25

Hardened, zinc plated.

#### Countersunk head screws stainless steel A2

Item no.	d	I	lg	dk	Drive train						
99111.4550	4,5	50	45	8,9	POZI-Drive						
99111.4560	4,5	60	54	8,9	POZI-Drive						
99111.5060	5	60	54	9,6	POZI-Drive						
99111.5070	5	70	60	9,6	POZI-Drive						

Blank, glide.

#### Uplift protection:

Alternatively the Pitzl HVP series 88004.0000 to 88322.0000 can be ordered with uplift-protection.

Option uplift protection: With uplift protection: ".1000" Order example: 88214.1000

#### Included in delivery:

Series 880 1 drilled hole + 1 self-tapping screw Ø 4 x 10 mm

Series 881 - 883 2 threaded drilled holes + 2 screws Ø 5 x 20 mm + 1 uplift protection flat steel



























88420.0000 88430.0000 88445.0000

## Connectors Heavy-duty HVP

The new disposed inclined drilled holes as well as the possibility of using different screws lengths guarantee the adaptability to the small timber cross-sections too.

	Dimensions w x h x d (mm)	Number of screws	Screws size	Minimal timber section with screws Ø 8 x 160 (mm)		Characteristic load capacity*		Packing unit	CE
				Header	Joist	Ø 8 x 160	Ø 8 x 200		
88420.0000	120 x 200 x 20	16	Ø 8 x 100 - 200	160 x 220	140 x 220	49,8	61,6	4	*
88425.0000	120 x 250 x 20	20	Ø 8 x 100 - 200	160 x 270	140 x 270	74,6	92,3	4	*
88430.0000	120 x 300 x 20	24	Ø 8 x 100 - 200	160 x 320	140 x 320	99,5	123,1	4	*
88435.0000	120 x 350 x 20	28	Ø 8 x 100 - 200	160 x 370	140 x 370	124,4	153,9	4	*
88440.0000	120 x 400 x 20	32	Ø 8 x 100 - 200	170 x 420	140 x 420	149,3	184,7	4	*
88445.0000	120 x 450 x 20	36	Ø 8 x 100 - 200	170 x 470	140 x 470	174,2	215,5	4	*
88450.0000	120 x 500 x 20	40	Ø 8 x 100 - 200	170 x 520	140 x 520	199,1	246,2	4	*
88455.0000	120 x 550 x 20	44	Ø 8 x 100 - 200	170 x 570	140 x 570	223,9	277,0	4	*
88460.0000	120 x 600 x 20	48	Ø 8 x 100 - 200	170 x 620	140 x 620	248,8	307,8	4	*

<sup>\*</sup>F2,Rk (kN) for GL24h with fully threaded screws: Ø 8 x 160 with effective thread length of 150 mm and Ø 8 x 200 with effective thread length of 190 mm. For other screws and thread lengths or wood based materials: cf. design manual

Heavy-duty HVP connectors are automatically delivered with uplift protection (2 screws Ø 6 x 20 mm and flat steel for uplift protection included).



www.pitzl-connectors.com/videos/



Downloads

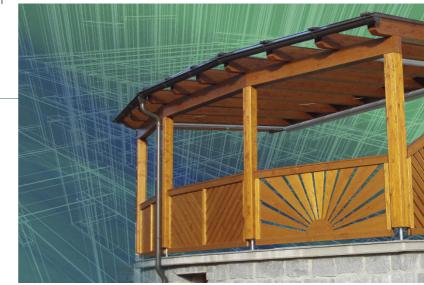
<u>\*</u>

www.pitzl-connectors.com/downloads/



Datasheet

www.pitzl-connectors.com/produkte verbinder/cat/schwerlast-hvp/

















The heavy-duty HVP of the series 885 with a width of 140 mm are optimally suitable for wide beams (from 170 mm) under very high loads.

Available on pre-order.

'											
Item no.	Dimensions w x h x d (mm)	Number of screws		Minimal timber section with screws Ø 8 x 160 (mm)		Characteristic load capacity*		Packing unit	CE		
				Header	Joist	Ø 8 x 160	Ø 8 x 200				
88540.0000	140 x 400 x 20	40	Ø 8 x 100 - 200	170 x 420	170 x 420	199,1	246,2	4	*		
88545.0000	140 x 450 x 20	48	Ø 8 x 100 - 200	170 x 470	170 x 470	248,8	307,8	4	*		
88550.0000	140 x 500 x 20	52	Ø 8 x 100 - 200	170 x 520	170 x 520	273,7	338,6	4	*		
88555.0000	140 x 550 x 20	56	Ø 8 x 100 - 200	170 x 570	170 x 570	298,6	369,4	4	*		
88560.0000	140 x 600 x 20	64	Ø 8 x 100 - 200	170 x 620	170 x 620	348,4	430,9	4	*		

<sup>\*</sup>F2,Rk (kN) for GL24h with fully threaded screws: Ø 8 x 160 with effective thread length of 150 mm and Ø 8 x 200 with effective thread length of 190 mm. For other screws and thread lengths or wood based materials: cf. design manual

Screws up to 200 mm length und the expanded heavy-duty series 885.. enable a high augmentation of the load capacity.

Heavy-duty HVP connectors are automatically delivered with uplift protection (2 screws Ø 6 x 20 mm and flat steel for uplift protection included).

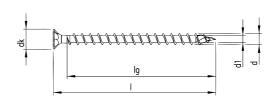
A further quality criterion of the Pitzl HVP connectors series is the anodisation. Beside a smooth-running assembly and a dirty-free surface it provides the Pitzl HVP a very beautiful look.

## Accessories for heavy-duty HVP

#### Countersunk screws

Item no.	d	1	lg	dk	Drive train
99211.0812	8	120	110	14,8	T-Drive
99211.0816	8	160	150	14,8	T-Drive
99211.0818	8	180	170	14,8	T-Drive
99311.0820	8	200	190	15	Torx 40

Hardened, blue zinc plated.































## Connectors HVP for steel or concrete connections

#### Standard HVP connectors

Equally sturdy and simple HVP connection to concrete or steel up to about 300 kN. An anchor plate with concrete anchors ensures that the forces are applied properly into the concrete element. The secondary joist connection is realised with a normal HVP connector part.

Item no.	Width Joist plate	n (mm) Header plate	Connector height (mm)	Total thickness (mm)	Screws Joist (Wood)	Number of anchors Header (Concrete)	Minimal timber section with screws Ø 5 x 60 (mm)	Packing unit	CE
88210.3000	60	90	100	18	9 pc. Ø 5 x 60 - 100	4	80 x 120	4	*
88214.3000	60	90	140	18	12 pc. 5 x 60 - 100	4	80 x 160	4	*
88318.3000	80	110	180	18	17 pc. Ø 5 x 60 - 100	4	100 x 200	4	*
88322.3000	80	110	220	18	22 pc. Ø 5 x 60 - 100	4	100 x 240	4	*

Remark: Characteristic load capacity wood part: cf. Wood-to-wood connections. The load capacity of the concrete part (anchor and concrete) must be verified separately.

Standard HVP connectors for steel or concrete connection are automatically delivered with uplift protection (2 screws Ø 5 x 20 mm and flat steel for uplift protection included).



www.pitzl-connectors.com/videos/



www.pitzl-connectors.com/downloads/



Datasheet

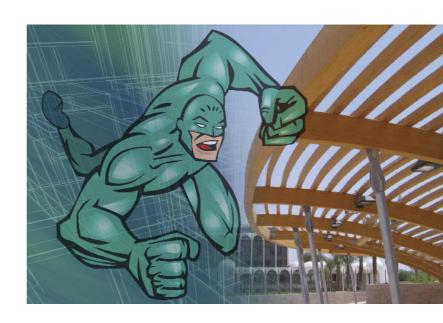
www.pitzl-connectors.com/produkte/ verbinder/cat/hvp-stahl-betonanschluss/











#### Connectors HVP for steel or concrete connections

#### Heavy-duty HVP connectors

	reary and the commerces								
Item no.		n (mm)	Connector height (mm)	Total thickness (mm)	Screws Joist (Wood)	Number of anchors Header	Minimal timber section with	Packing unit	CE
	Joist plate	Header plate				(Concrete)	screws Ø 8 x 160 (mm)		
88420.3000	120	150	200	25	8 pc. Ø 8 x 100 - 200	4	140 x 220	4	*
88430.3000	120	150	300	25	12 pc. Ø 8 x 100 - 200	4	140 x 320	4	*
88440.3000	120	150	400	25	16 pc. Ø 8 x 100 - 200	4	140 x 420	4	*
88450.3000	120	150	500	25	20 pc. Ø 8 x 100 - 200	6	140 x 520	4	*
88460.3000	120	150	600	25	24 pc. Ø 8 x 100 - 200	6	140 x 620	4	*

Remark: Characteristic load capacity wood part: cf. Wood-to-wood connections. The load capacity of the concrete part (anchor and concrete) must be verified separately.

Please note: Items no. 88450.3000 and 88460.3000 are not in stock and need to be pre-ordered!

Heavy-duty HVP connectors for steel or concrete connection are automatically delivered with uplift protection (2 screws Ø 6 x 20 mm and flat steel for uplift protection included).

A further quality criterion of the Pitzl HVP connectors series is the anodisation. Beside a smooth-running assembly and a dirty-free surface it provides the Pitzl HVP a very beautiful look.

#### Accessories for steel or concrete connections

#### Fischer high-performance anchor FH II 12/15 SK

(Item No. 88210.3000 - 88322.3000)

		•	
Item no.	Dimensions in mm	Socket head SW	Coating
99812.0090	12 x 90	5	zinc plated

#### Fischer female-threaded anchor RG MI

(Item No. 88420.3000 - 88460.3000)

•		•	
Item no.	Dimensions in mm	Female thread	Coating
99818.0125	18 x 125	M 12	galvanized



99812.0090



99818.0125





















88435.2000

#### Connectors Double HVP

#### Standard double HVP connectors

Available on pre-order

Item no.	Dimensions w x h x d (mm)	Number of screws	Screws size	Minimal timber section with screws Ø 5 x 60 (mm)		Characteristic load capacity*		Packing unit	CE
				Header	Joist	Ø 5 x 60	Ø 5 x 100		
88210.2000	120 x 100 x 12	32	Ø 5 x 60 - 100	70 x 120	140 x 120	39,2	64,6	4	*
88214.2000	120 x 140 x 12	44	Ø 5 x 60 - 100	70 x 160	140 x 160	62,7	103,3	4	*
88318.2000	160 x 180 x 12	64	Ø 5 x 60 - 100	70 x 200	180 x 200	94,2	155,0	4	*
88322.2000	160 x 220 x 12	84	Ø 5 x 60 - 100	70 x 240	180 x 240	125,5	206,7	4	*

<sup>\*</sup>F2,Rk (kN) for GL24h with fully threaded screws: Ø 5 x 60 with effective thread length of 54 mm and Ø 5 x 100 with effective thread length of 94 mm. For other screws and thread lengths or wood based materials: cf. design manual

Standard double HVP connectors are automatically delivered with uplift protection (2 screws Ø 5 x 20 mm and flat steel for uplift protection included).

#### Heavy-duty double HVP connectors

Available on pre-order

Item no.	Dimensions Number of screws		Minimal timber so Ø 8 x 160 (mm)	Minimal timber section with screws Ø 8 x 160 (mm)		d capacity*	Packing unit	CE	
				Header	Joist	Ø 8 x 160	Ø 8 x 200		
88420.2000	240 x 200 x 20	28	Ø 8 x 100 - 200	160 x 220	260 x 220	99,5	123,1	4	*
88425.2000	240 x 250 x 20	36	Ø 8 x 100 - 200	160 x 270	260 x 270	149,3	184,7	4	*
88430.2000	240 x 300 x 20	44	Ø 8 x 120 - 200	160 x 320	260 x 320	199,1	246,2	4	*
88435.2000	240 x 350 x 20	52	Ø 8 x 100 - 200	160 x 370	260 x 370	248,8	307,8	4	*
88440.2000	240 x 400 x 20	60	Ø 8 x 100 - 200	170 x 420	260 x 420	298,6	369,4	4	*
88445.2000	240 x 450 x 20	68	Ø 8 x 100 - 200	170 x 470	260 x 470	348,4	430,9	4	*
88450.2000	240 x 500 x 20	76	Ø 8 x 100 - 200	170 x 520	260 x 520	398,1	492,5	4	*
88455.2000	240 x 550 x 20	84	Ø 8 x 100 - 200	170 x 570	260 x 570	447,9	554,1	4	*
88460.2000	240 x 600 x 20	92	Ø 8 x 100 - 200	170 x 620	260 x 620	497,6	615,6	4	*

<sup>\*</sup>F2,Rk (kN) for GL24h with fully threaded screws: Ø 8 x 160 with effective thread length of 150 mm and Ø 8 x 200 with effective thread length of 190 mm. For other screws and thread lengths or wood based materials: cf. design manual

Heavy-duty double HVP connectors are automatically delivered with uplift protection (2 screws Ø 6 x 20 mm and flat steel for uplift protection included).

















88060.0000

Step connectors SVP

#### Stepped connectors anodised

Connectors with multiple applications for staircase construction. Elegant visual design and high load-carrying capacities provide a clean and functional connecting option for the precise and fast assembly of wooden steps. A countersunk head screw DIN 7991 M5 x 25 mm is included in the scope of delivery.

Item no.	Height in mm	Width in mm	Depth in mm	Design value	Drilled holes Ø 4,7 mm
88630.000	0 30	40	26	about 1,7 kN	8

## Accessories for step connectors SVP

#### Countersunk screws

Item no.	d	I	lg	dk	Drive train
99211.4550	4,5	50	45	8,9	T-Drive

Hardened, zinc plated.

#### Wall connectors WVP

#### Wall connectors

The ideal connection for prefabricated wood wall elements - easy, quick and cost-effective.

When combined with solid workmanship, our wall connectors ensure high resilience (static values are available).

Easy handling implies important savings for the user - thanks either to quick and easy assembly on site or to pre-assembly in the workshop. Materiel: \$355 galvanised

Item no.	Base plate with suspension hook in mm	Borehole Ø 6,5 mm	Anchor plate with recess for hook in mm		Overall thickness when combined in mm		Characteristic value* shearing to the side
88060.0000	60 x 80 x 5	6	60 x 80 x 3	4	19	9,6 kN	11,4 kN

<sup>\*</sup>tested with fully threaded screws Spax 6 x 60 mm.

#### Accessories for wall connectors WVP

#### Wafer-head screws

Item no.	d	I	lg	dk	Drive train
99310.606	0 6	60	53	14	T-Drive

hardened, electrogalvanized.



















## SPP post-purlin connectors

You need stabile and reliable connections that you can process as well as re-stress in a quick and precise way.

The Pitzl SPP connectors ensure a perfect hold.

SPP post-purlin connectors - the ideal solution for tensile connections or wood connections with combined load types, such as post-purlin connections. SPP is a retensionable wood connection that can be loosened and removed without problems. According to the ETA, a straight screw connection is permitted even in cross-grained wood. This makes it possible to increase the tensile load-carrying capacity by increasing the effective thread length at the wood screw. Dimensioning details can be found in the Pitzl Design Manual at www.pitzl-connectors.com.

Advantages of the SPP connectors

- Easy and precisely fitting process
- Problem-free disassembly
- Can be re-stressed
- Usable at the end grain too

Item no.	Upper plate mm	Borehole Ø 12 mm, countersunk	Tube mm	Core thread	Material	CE
88710.0000	Ø 90 x 10	4	-	M 10	zinc plated steel	*
88712.0000	Ø 100 x 6	4	Ø 42,4 x 70	M 12	zinc plated steel	*
88716.0000	Ø 100 x 6	4	Ø 42,4 x 70	M 16	zinc plated steel	*

The SPP connectors can be installed with the existing tool for the Pitzl post base systems 10930.1000 or 10931.1000.

#### SPP 80 connector

Item no.	Upper plate	Tenon	Minimal timber dimensions (mm)	Material
88715.0000	Ø 80 x 8 mm	Ø 24 x 20 mm	90 x 90	anodised aluminium

Metal fastening not included in the delivery contents (4 p. Ø 10 x 120 mm full-threaded screws with countersunk head, Threaded rod M 16 4,8 and washer Ø 68).

The SPP 80 connector can be installed with the existing tool for the Pitzl post base system 10921.1000.

## Accessories for post-purlin connectors SPP

#### Countersunk screws

Item no.	d	I	lg	dk	Drive train
99211.1012	10	120	110	18,5	T-Drive
99211.1016	10	160	150	18,5	T-Drive

Hardened, blue zinc plated.



Fast, simple and precise: for the best result

- Wood connectors
- Post bases
- Balcony posts / fence posts
- Tools / accessories
- always up to date with www.pitzl-connectorscom







