WÜRTH

Wuerth Industrial Services Malaysia

WÜPLAST®

Screws for thermoplastics

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Dear Customer,

Würth has over 60 years of experience providing solutions in fasteners, chemicals, tools and inventory management. We have the people, programs and products to help our customers realize their business goals. Each day thousands of customers in more than 80 countries look to one of over 400 Würth companies for all of their product and service needs. The success of the Würth Group is based on a strong brand, an innovative product strategy, integrated logistics, proximity to our customers, a sharp focus on quality, visionary leadership and a strong corporate culture.

The Industry Division of the Würth Group is responsible for the supply of industrial customers with C-part components and logistics services. The companies of the industry division form the Würth Industrial Network with the clear objective to guarantee customers premier products and logistics services. The logistic center of the industry division is Würth Industrie Service GmbH & Co. KG. The company was spun off as an independent company in 1999 and has since been operating in the Würth Industrial Park at the Bad Mergentheim, Germany location.

With a wide range of more than 1,000,000 C-Parts and a unique logistics supply concept, Würth Industrie Service is the competent partner for the industry. The fact that more than 500 well-known companies around the world trust Würth Industrie Service and buy all of their fasteners from one source speaks for itself.

Würth Industrie Service provides customers with specific supply concepts under the service brand CPS® (C-Parts Solutions).
The CPS® solutions from Würth help reduce inventories and delivery times and increase the productivity.

The most important elements of the VMI programs include:

- Barcode systems
- Point-Of-Use Supply
- Just-in-time supply with Kanban systems
- B2B Solutions
- Global availability of the service systems and products
- On-site support
- Proximity of the numerous branches of Würth branches

Quality is extremely important to Würth. Würth regularly inspects new and existing parts in our own labs in Europe, Asia and the United States to ensure the highest quality standards are met for our products.

In an effort to meet the needs of our customers Würth Industrie Service constantly analyzes the wants and needs of all customers. The WÜPLAST® product line represents a comprehensive expansion of our product range of thread-forming metal screws and takes the trend of the increasing use of plastics into consideration.

Learn more about the new WÜPLAST® product line in this brochure. Our account managers and engineers will be happy to meet with you and discuss this offering with you.

Best Regards

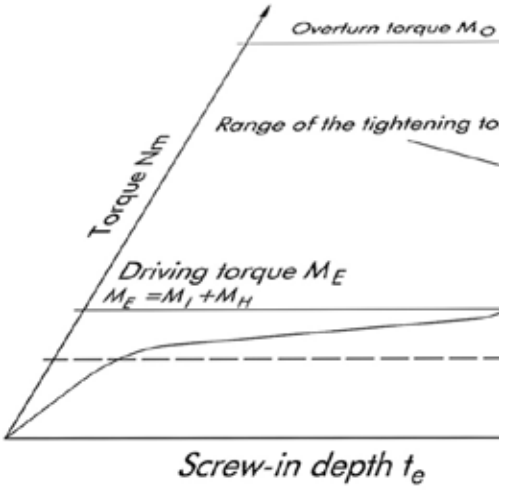
Martin Jauss
Head of Marketing & IT
Würth Industrie Service GmbH & Co. KG

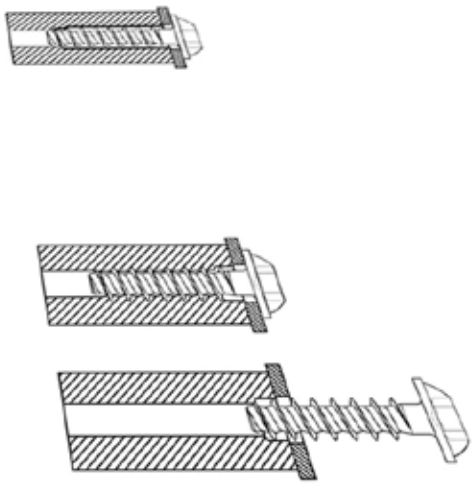
The use of plastics is gaining popularity in all facets of product design. The benefits here, among other things, are in the areas of weight reduction, increased resistance to chemicals and recycling of the components.

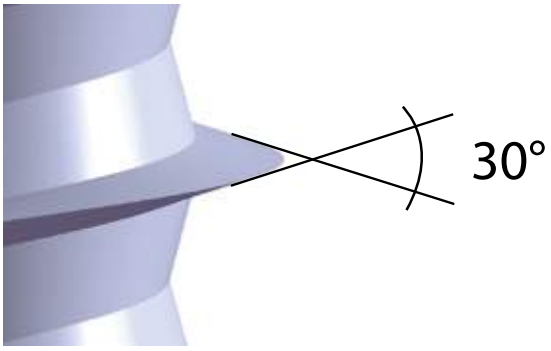
Due to its efficient assembly, detachability and low-cost procurement, the direct screw connection of plastic components with thread-forming metal screws provides advantages in comparison with other connection methods.

Fasteners specially designed for the assembly of plastics enable higher process reliability in comparison with other screw types due to their smaller flank angle and larger thread pitch.

With the WÜPLAST® product line Würth Industrie Service offers its customers an in-stock assortment of more than 150 different dimensions of thread-forming metal screws that solves the many issues commonly faced with plastic assembly. WÜPLAST® screws are manufactured in accordance with automotive standards.

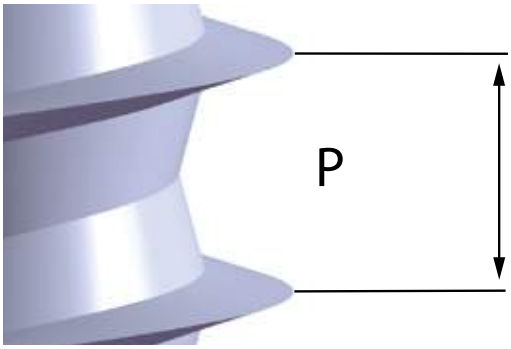






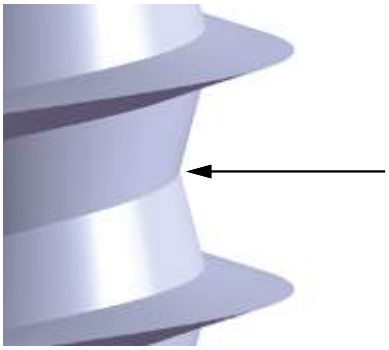
30° angle

- Reduction of radial stresses
  - → Design of thinner wall thicknesses possible
  - → Savings in costs and weight
  - → Minimal damage to the screw cone
- Larger overlap between thread flanks and material
  - → Higher pull-out forces increase the process reliability and joint integrity.



Optimized thread pitch

- Increased joint integrity
  - → Independent loosening of the connection is reduced
- Gentle on the material
  - → Higher load capacity of the screw connection

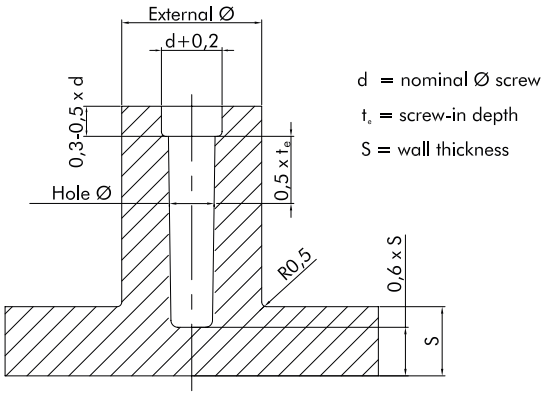


Optimized core diameter

- No material jam/better material flow
  - → Minimal material damage and increased mounting security
- Reduced fastening torques
  - → Increased installation dependibility due to larger „drive to strip“ ratios

Reliable performance of the WÜPLAST® products is assured by the combination of these features.

Screw cone design



Tapering of the bore hole 0,5°-1°

Design

The design of the WÜPLAST® screw enables the incorporation of a thin-walled, flat design of the screw boss.

Relief bore

The relief bore at the top end of the cone reduces superimposition of radial stresses and prevents bursting of the cone. It also provides guidance for the screw during the installation.

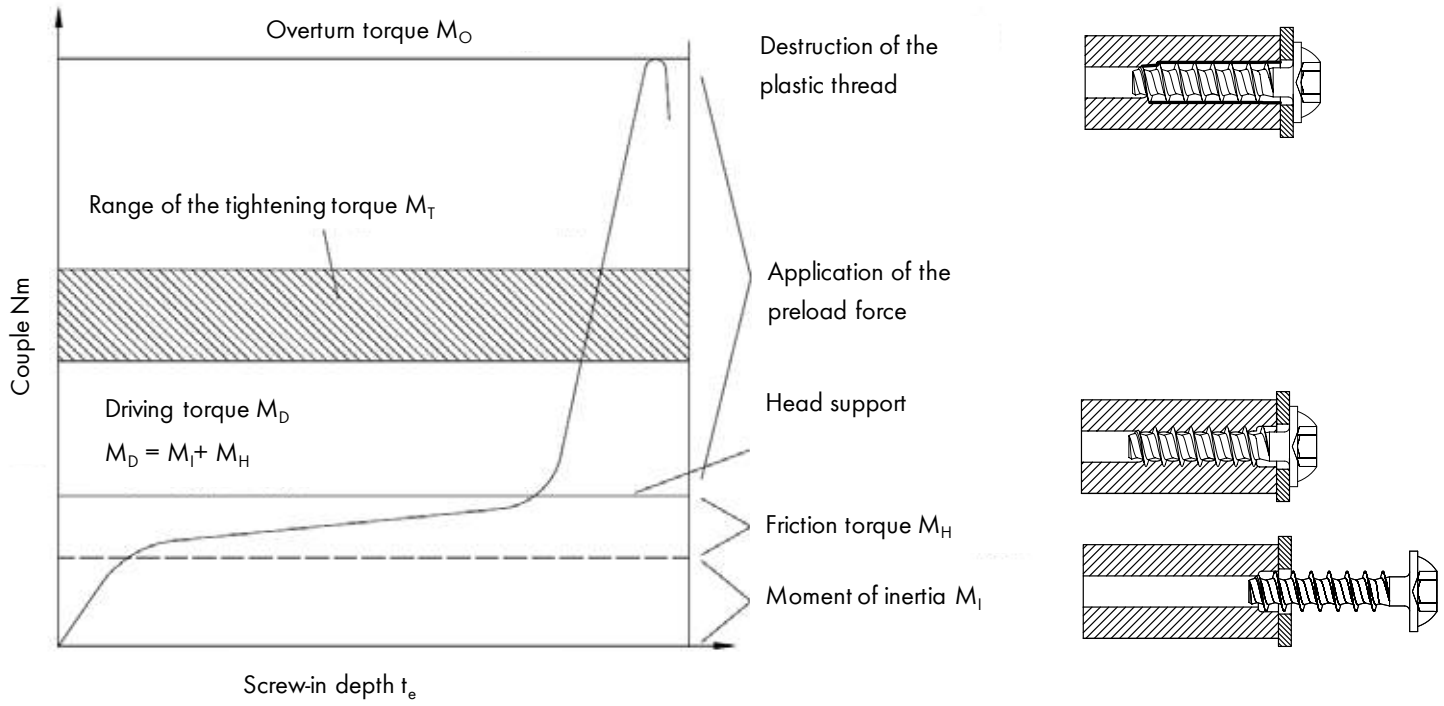
The cone geometry must be adapted to the different materials.

Material		Hole-Ø mm	External-Ø mm	Recommended installed depth mm t_e
ABS	acrylonitrile-butadiene-styrene	0.80 x d	2.00 x d	2.00 x d
ASA	acrylonitrile-styrene-acrylate ester	0.78 x d	2.00 x d	2.00 x d
PA 4.6	polyamide	0.73 x d	1.85 x d	1.80 x d
PA 4.6-GF30	polyamide	0.78 x d	1.85 x d	1.80 x d
PA 6	polyamide	0.75 x d	1.85 x d	1.70 x d
PA 6-GF30	polyamide	0.80 x d	2.00 x d	1.80 x d
PA 6.6	polyamide	0.75 x d	1.85 x d	1.70 x d
PA 6.6-GF30	polyamide	0.82 x d	2.00 x d	1.80 x d
PA 30GV	polyamide	0.80 x d	1.80 x d	1.70 x d
PBT	polybutylene terephthalate	0.75 x d	1.85 x d	1.70 x d
PBT-GF30	polybutylene terephthalate	0.80 x d	1.80 x d	1.70 x d
PC	polycarbonate	0.85 x d	2.50 x d	2.20 x d*
PC-GF30	polycarbonate	0.85 x d	2.20 x d	2.20 x d*
PE (soft)	polyethylene	0.70 x d	2.00 x d	2.00 x d
PE (hard)	polyethylene	0.75 x d	1.80 x d	1.80 x d
PET	polyethylene terephthalate	0.75 x d	1.85 x d	1.70 x d
PET-GF30	polyethylene terephthalate	0.80 x d	1.80 x d	1.70 x d
PETP	polyethylene terephthalate	0.75 x d	1.85 x d	1.70 x d
PETP 30GV	polyethylene terephthalate	0.80 x d	1.80 x d	1.70 x d
PMMA	polymethyl methacrylate	0.85 x d	2.00 x d	2.00 x d
POM	polyoxymethylene	0.75 x d	1.95 x d	2.00 x d
POM-GF30	polyoxymethylene	0.75 x d	1.95 x d	2.00 x d
PP	polypropylene	0.70 x d	2.00 x d	2.00 x d
PP-TV20	polypropylene	0.72 x d	2.00 x d	2.00 x d
PPO	polyphenylene oxide	0.85 x d	2.50 x d	2.20 x d**
PS	polystyrene	0.80 x d	2.00 x d	2.00 x d
PVC (hard)	polyvinyl chloride	0.80 x d	2.00 x d	2.00 x d
SAN	styrene-acrylonitrile	0.77 x d	2.00 x d	1.90 x d

* TnP test

** TnBP test of materials sensitive to stress cracks

Curve progression of the installation process



Tightening torque

A requirement for reliable fastening is to have a large difference between driving torque and strip-out torque. The required tightening torque can be theoretically determined using the following formula:

$M_T = M_E + 1/3...1/2\ (M_O - M_D)$

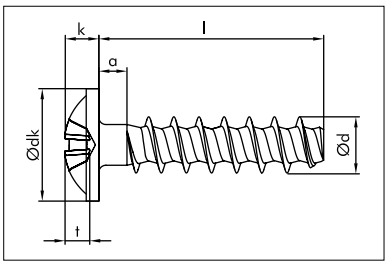
Driving torque and strip-out torque must be determined experimentally.

Reliable plastic fastening can only be obtained with torque or rotation angle controlled assembly tools. The installation speed must be selected between 300 rpm and 800 rpm. Due to friction heating, higher speeds will result in damage to the plastic material and reduce the amount of joint of pre-load force.

Both the boss design as well as the tightening torque must be verified by testing on actual parts that will be used during product production and performed in an actual assembly line environment.

WÜPLAST®W 1411

Round Washer Head with Pozidriv® for thermoplastics



Steel 10.9* electroplated zinc
transparent passivated (A3K)**

Steel 10.9* zinc-nickel
transparent passivated (P3E)**

Steel 10.9* zinc-nickel
black passivated with sealing (P3R)**

Austenitic Steel A2

* WÜPLAST® screws only comply with the strength class 10.9 according to DIN EN ISO 898-1 with limitations as not all requirements according to the standard mentioned above can be tested or applied due to the thread geometry.

** Chromium(VI)-free

d [mm]		2.5	3	3.5	4	5	6
dk [mm]		5	6	7	8	10	12
k [mm]		1.92	2.22	2.52	2.62	3.35	4.15
Drive		Z1	Z1	Z2	Z2	Z2	Z3
a (max.) [mm]		1.30	1.50	1.80	2.00	2.50	3.00
t	min.	1.01	1.26	1.08	1.40	2.01	2.27
	max.	1.26	1.51	1.54	1.86	2.47	2.73

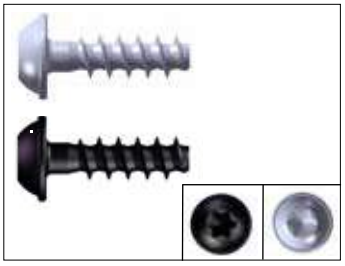
		Austenitic steel A2	Steel		
		Plain	A3K	P3E	P3R
Nominal Ø d [mm]	Length l [mm]	Item no.	Item no.	Item no.	Item no.
25	6		422025 6	422125 6	422225 6
	8		422025 8	422125 8	422225 8
	10		422025 10	422125 10	422225 10
	14		422025 14		
	16		422025 16		
3	6	42233 6	42203 6	42213 6	42223 6
	8		42203 8	42213 8	42223 8
	10	42233 10	42203 10	42213 10	42223 10
	12		42203 12	42213 12	42223 12
	16		42203 16	42213 16	42223 16
	18		42203 18		
	20		42203 20	42213 20	42223 20
3.5	8		422035 8	422135 8	422235 8
	10		422035 10	422135 10	422235 10
	12	422335 12	422035 12	422135 12	422235 12
	14	422335 14	422035 14	422135 14	422235 14
	16		422035 16	422135 16	422235 16
	18		422035 18		
	20		422035 20		
	22		422035 22		
	25		422035 25		
	30		422035 30		

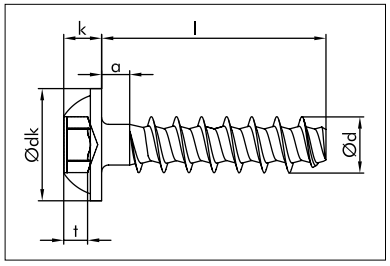
		Austenitic steel A2	Steel		
		Plain	A3K	P3E	P3R
Nominal Ø d [mm]	Length l [mm]	Item no.	Item no.	Item no.	Item no.
4	8		42204 8	42214 8	42224 8
	10	42234 10	42204 10	42214 10	42224 10
	12	42234 12	42204 12	42214 12	42224 12
	14				42224 14
	16	42234 16	42204 16	42214 16	42224 16
	18		42204 18		
	20		42204 20	42214 20	42224 20
	22		42204 22		
	25		42204 25	42214 25	42224 25
	30	42234 30			
	35		42204 35	42214 35	42224 35
	55		42204 55		
5	10		42205 10	42215 10	42225 10
	12		42205 12	42215 12	42225 12
	14		42205 14	42215 14	42225 14
	16		42205 16	42215 16	42225 16
	18		42205 18		
	20		42205 20	42215 20	42225 20
	30		42205 30		
	40		42205 40		
6	12		42206 12		
	20		42206 20		
	40		42206 40		

Intermediate sizes are available on request.

WÜPLAST®W 1451

Round Washer Head with hexalobular drive for thermoplastics





Steel 10.9* electroplated zinc
transparent passivated (A3K)**

Steel 10.9* zinc-nickel
transparent passivated (P3E)**

Steel 10.9* zinc-nickel, black
black passivated with sealing (P3R)**

Austenitic Steel A2

* WÜPLAST® screws only comply with the strength class 10.9 according to DIN EN ISO 898-1 with limitations as not all requirements according to the standard mentioned above can be tested or applied due to the thread geometry.

** Chromium(VI)-free

d [mm]		2.2	2.5	3	3.5	4	5	6
dk [mm]		4.5	5.00	6.00	7.00	8.00	10.00	12.00
k [mm]		1.52	1.62	2.22	2.52	2.72	3.45	3.75
Drive		T6	T6	T10	T10	T20	T20	T25
a (max.) [mm]		1.10	1.30	1.50	1.80	2.00	2.50	3.00
t	min.	0.70	0.70	1.00	1.10	1.25	1.40	1.60
	max.	0.85	0.85	1.30	1.40	1.70	1.80	2.00

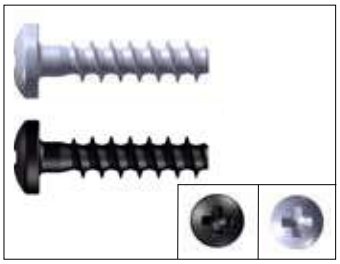
		Austenitic steel A2	Steel		
		Plain	A3K	P3E	P3R
Nominal Ø d [mm]	Length l [mm]	Item no.	Item no.	Item no.	Item no.
2.2	5		423222 8		
2.5	4	423525 4	423225 4		
	8	423525 8	423225 8	423325 8	423425 8
	10		423225 10	423325 10	423425 10
3	6	42353 6	42323 6	42333 6	42343 6
	8	42353 8	42323 8	42333 8	42343 8
	10	42353 10	42323 10	42333 10	42343 10
	12	42353 12	42323 12	42333 12	42343 12
	16		42323 16	42333 16	42343 16
	18		42323 18		
	20	42353 20	42323 20	42333 20	42343 20
3.5	8		423235 8	423335 8	423435 8
	10		423235 10	423335 10	423435 10
	12		423235 12	423335 12	423435 12
	14		423235 14	423335 14	423435 14
	16	423535 16	423235 16	423335 16	423435 16
	18		423235 18		
	35	423535 35			
4	8		42324 8	42334 8	42344 8
	10	42354 10	42324 10	42334 10	42344 10
	12	42354 12	42324 12	42334 12	42344 12
	14	42354 14	42324 14	42334 14	42344 14
	16	42354 16	42324 16	42334 16	42344 16
	18		42324 18	42334 18	42344 18
	20	42354 20	42324 20	42334 20	42344 20
	25	42354 25	42324 25	42334 25	42344 25
	30		42324 30		
	40		42324 40		

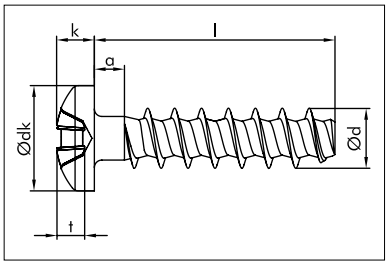
		Austenitic steel A2	Steel		
		Plain	A3K	P3E	P3R
Nominal Ø d [mm]	Length l [mm]	Item no.	Item no.	Item no.	Item no.
5	8	42355 8	42325 8	42335 8	42345 8
	10	42355 10	42325 10	42335 10	42345 10
	12	42355 12	42325 12	42335 12	42345 12
	14	42355 14	42325 14	42335 14	42345 14
	15				42345 15
	16		42325 16	42335 16	42345 16
	18	42355 18	42325 18		
	20	42355 20	42325 20	42335 20	42345 20
	22		42325 22	42335 22	42345 22
	25		42325 25	42335 25	
	30		42325 30		
	35	42355 35	42325 35		
	40	42355 40	42325 40		42345 40
	45	42355 45	42325 45		
6	12	42356 12			42346 12
	16				42346 16
	20	42356 20	42326 20	42336 20	42346 20
	22				42346 22
	25		42326 25	42336 25	42346 25
	30	42356 30	42326 30	42336 30	42346 30
	35		42326 35		
	40	42356 40			
	60		42326 60		

Intermediate sizes are available on request.

WÜPLAST®W 1412

Pan head screw with Pozidriv® for thermoplastics





Steel 10.9* electroplated zinc
transparent passivated (A3K)**

Steel 10.9* zinc-nickel
transparent passivated (P3E)**

Steel 10.9* zinc-nickel
black passivated with sealing (P3R)**

Austenitic Steel A2

* WÜPLAST® screws only comply with the strength class 10.9 according to DIN EN ISO 898-1 with limitations as not all requirements according to the standard mentioned above can be tested or applied due to the thread geometry.

** Chromium(VI)-free

d [mm]		2.2	2.5	3	3.5	4	5	6
dk [mm]		3.9	4.40	5.30	6.10	7.00	8.80	10.50
k [mm]		1.62	1.82	2.12	2.62	2.82	3.55	4.15
Drive		Z1	Z1	Z1	Z2	Z2	Z2	Z3
a (max.) [mm]		1.10	1.30	1.50	1.80	2.00	2.50	3.00
t	min.	0.92	1.08	1.36	1.26	1.62	2.23	2.57
	max.	1.17	1.33	1.61	1.72	2.08	2.67	3.03

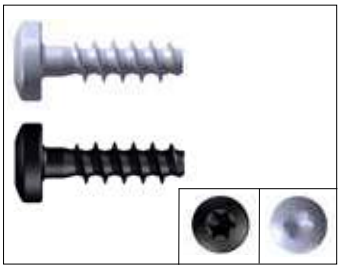
		Austenitic steel A2	Steel		
		Plain	A3K	P3E	P3R
Nominal Ø d [mm]	Length l [mm]	Item no.	Item no.	Item no.	Item no.
2.2	5		421622 5		
2.5	4		421625 4		
	6		421625 6	421725 6	421825 6
	8		421625 8	421725 8	421825 8
	10		421625 10	421725 10	421825 10
	12	421925 12	421625 12	421725 12	421825 12
	14	421925 14			
	16		421625 16	421725 16	421825 16
3	4		42163 4		
	6	42193 6	42163 6	42173 6	42183 6
	8	42193 8	42163 8	42173 8	42183 8
	10	42193 10	42163 10	42173 10	42183 10
	12	42193 12	42163 12	42173 12	42183 12
	14	42193 14	42163 14	42173 14	42183 14
	16		42163 16	42173 16	42183 16
	18		42163 18	42173 18	42183 18
	20		42163 20	42173 20	42183 20
	25		42163 25		42183 25
	30		42163 30		
	40		42163 40		
	50	42193 50			
3.5	8	421935 8	421635 8	421735 8	421835 8
	10	421935 10	421635 10	421735 10	421835 10
	12		421635 12	421735 12	421835 12
	14		421635 14	421735 14	421835 14
	16	421935 16	421635 16	421735 16	421835 16
	20		421635 20	421735 20	421835 20
	22				
	25	421935 25	421635 25		421835 25
	30		421635 30		
	35		421635 35		
	40		421635 40		

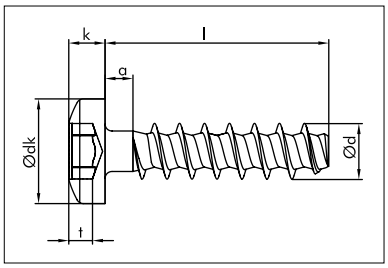
		Austenitic steel A2	Steel		
		Plain	A3K	P3E	P3R
Nominal Ø d [mm]	Length l [mm]	Item no.	Item no.	Item no.	Item no.
4	6		42164 6		
	8	42194 8	42164 8	42174 8	42184 8
	10	42194 10	42164 10	42174 10	42184 10
	12	42194 12	42164 12	42174 12	42184 12
	14	42194 14	42164 14	42174 14	42184 14
	16	42194 16	42164 16	42174 16	42184 16
	20	42194 20	42164 20	42174 20	42184 20
	22		42164 22		
	25	42194 25	42164 25	42174 25	42184 25
	30		42164 30		
	35		42164 35		42184 35
	40		42164 40		
5	10		42165 10	42175 10	42185 10
	12		42165 12	42175 12	42185 12
	14		42165 14	42175 14	42185 14
	16	42195 16	42165 16	42175 16	42185 16
	18		42165 18		
	20	42195 20	42165 20	42175 20	42185 20
	25		42165 25		
	30		42165 30		
	35		42165 35		
	40		42165 40		
6	12		42166 12		
	16		42166 16		
	20	421936 20	42166 20		42186 20
	25		42166 25		42186 25
	30		42166 30		
	40		42166 40		

Intermediate sizes are available on request.

WÜPLAST®W 1452

Pan head screw with hexalobular drive for thermoplastics





Steel 10.9* electroplated zinc
transparent passivated (A3K)**

Steel 10.9* zinc-nickel
transparent passivated (P3E)**

Steel 10.9* zinc-nickel
black passivated with sealing (P3R)**

Austenitic Steel A2

* WÜPLAST® screws only comply with the strength class 10.9 according to DIN EN ISO 898-1 with limitations as not all requirements according to the standard mentioned above can be tested or applied due to the thread geometry.

** Chromium(VI)-free

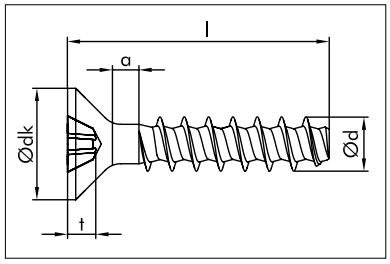
d [mm]		2.2	2.5	3	3.5	4	5	6
dk [mm]		4	4.20	5.60	6.90	7.50	8.20	10.80
k [mm]		1.52	1.72	2.22	2.42	2.72	3.02	3.95
Drive		T6	T7	T10	T10	T20	T20	T25
a (max.) [mm]		1.10	1.30	1.50	1.80	2.00	2.50	3.00
t	min.	0.70	0.70	1.00	1.10	1.25	1.40	1.60
	max.	0.85	0.85	1.30	1.40	1.70	1.80	2.00

		Austenitic steel A2	Steel		
		Plain	A3K	P3E	P3R
Nominal Ø d [mm]	Length l [mm]	Item no.	Item no.	Item no.	Item no.
2.2	4	423122 4			
	5		422822 5		
	6		422822 6		
	7		422822 7		
2.5	5		422825 5		
	6		422825 6	422925 6	423025 6
	8	423125 8	422825 8	422925 8	423025 8
	10		422825 10	422925 10	423025 10
	12		422825 12	422925 12	423025 12
	16	423125 16	422825 16	422925 16	423025 16
	20		422825 20		
3	5		42283 5		
	6		42283 6	42293 6	42303 6
	7		42283 7	42293 7	42303 7
	8	42313 8	42283 8	42293 8	42303 8
	10	42313 10	42283 10	42293 10	42303 10
	12	42313 12	42283 12	42293 12	42303 12
	14		42283 14	42293 14	42303 14
	16		42283 16	42293 16	42303 16
	18		42283 18	42293 18	42303 18
	20	42313 20	42283 20	42293 20	42303 20
	22	42313 22	42283 22		
	25		42283 25		42303 25
	25,2	42313 25			
	28,2	42313 28			
	30		42283 30		42303 30
	35	42313 35			
3.5	7		422835 7		
	8		422835 8	422935 8	423035 8
	10		422835 10	422935 10	423035 10
	12		422835 12	422935 12	423035 12
	14		422835 14	422935 14	423035 14
	16		422835 16	422935 16	423035 16
	18				423035 18
	20		422835 20	422935 20	423035 20
	25		422835 25	422935 25	423035 25
	30		422835 30		423035 30
	35	423135 35	422835 35	422935 35	423035 35

		Austenitic steel A2	Steel		
		Plain	A3K	P3E	P3R
Nominal Ø d [mm]	Length l [mm]	Item no.	Item no.	Item no.	Item no.
4	8		42284 8	42294 8	42304 8
	10	42314 10	42284 10	42294 10	42304 10
	12	42314 12	42284 12	42294 12	42304 12
	14	42314 14	42284 14	42294 14	42304 14
	16	42314 16	42284 16	42294 16	42304 16
	18	42314 18	42284 18	42294 18	42304 18
	20	42314 20	42284 20	42294 20	42304 20
	22		42284 22	42294 22	
	25		42284 25	42294 25	42304 25
	28				42304 28
	30		42284 30	42294 30	42304 30
	35	42314 35	42284 35		
	40		42284 40		
	45	42354 45			
5	8		42285 8		
	10	42315 10	42285 10	42295 10	42305 10
	12	42315 12	42285 12	42295 12	42305 12
	14		42285 14		
	16	42315 16	42285 16	42295 16	42305 16
	18		42285 18		
	20	42315 20	42285 20	42295 20	42305 20
	25		42285 25	42295 25	42305 25
	28	42315 28			
	30		42285 30		
	35		42285 35	42295 35	42305 35
	40	42315 40	42285 40		
	50		42285 50		
6	16		42286 16		
	18	42316 18			
	20		42286 20	42296 20	
	25				42306 25
	30		42286 30		42306 30

WÜPLAST®W 1413

Countersunk screw with Pozidriv® for thermoplastics



d [mm]		2.5	3	3.5	4	5
dk [mm]		4.7	5.5	7.3	8.4	9.3
Drive		Z1	Z1	Z2	Z2	Z2
a (max.) [mm]		1.3	1.5	1.8	2	2.5
t	min.	1.09	1.20	1.47	1.70	2.06
	max.	1.34	1.45	1.93	2.16	2.52

Steel 10.9* electroplated zinc
transparent passivated (A3K)**

Steel 10.9* zinc-nickel
transparent passivated (P3E)**

Steel 10.9* zinc-nickel
black passivated with sealing (P3R)**

Austenitic Steel A2

* WÜPLAST® screws only comply with the strength class 10.9 according to DIN EN ISO 898-1 with limitations as not all requirements according to the standard mentioned above can be tested or applied due to the thread geometry.

** Chromium(VI)-free

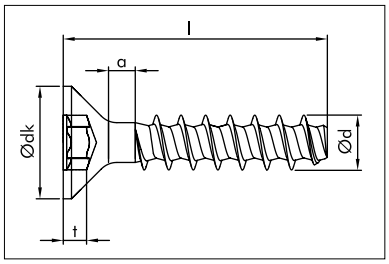
		Austenitic steel A2	Steel		
		Plain	A3K	P3E	P3R
Nominal Ø d [mm]	Length l [mm]	Item no.	Item no.	Item no.	Item no.
2.5	6		422425 6	422525 6	422625 6
	7		422425 7	422525 7	422625 7
	8		422425 8	422525 8	422625 8
	10	422725 10	422425 10	422525 10	422625 10
	20		422425 20		
3	6	42273 6	42243 6	42253 6	42263 6
	8	42273 8	42243 8	42253 8	42263 8
	10	42273 10	42243 10	42253 10	42263 10
	12		42243 12	42253 12	42263 12
	16	42273 16	42243 16	42253 16	42263 16
	20		42243 20		
	30		42243 30		
3.5	8	422735 8	422435 8	422535 8	422635 8
	10	422735 10	422435 10	422535 10	422635 10
	12		422435 12	422535 12	422635 12
	16	422735 16	422435 16	422535 16	422635 16
	20				422635 20

		Austenitic steel A2	Steel		
		Plain	A3K	P3E	P3R
Nominal Ø d [mm]	Length l [mm]	Item no.	Item no.	Item no.	Item no.
4	8		42244 8		
	10		42244 10	42254 10	42264 10
	12	42274 12	42244 12	42254 12	42264 12
	14		42244 14		
	16		42244 16	42254 16	42264 16
	20		42244 20	42254 20	42264 20
	22			42254 22	
	23			42254 23	
	25		42244 25		
	30		42244 30		
5	10	42275 10	42245 10	42255 10	42265 10
	12		42245 12	42255 12	42265 12
	16		42245 16	42255 16	42265 16
	20	42275 20	42245 20	42255 20	42265 20
	30	42275 30			42265 30
	35				42265 35

Intermediate sizes are available on request.

WÜPLAST®W 1423

Countersunk screw with hexalobular drive for thermoplastics



d [mm]		2.5	3	3.5	4	5	6
dk [mm]		4.70	5.50	7.30	8.40	9.30	11.30
Drive		T8	T8	T15	T20	T20	T30
a (max.) [mm]		1.30	1.50	1.80	2.00	2.50	3.00
t	min.	0.80	0.80	1.00	1.25	1.25	1.75
	max.	1.00	1.00	1.30	1.70	1.70	2.20

Steel 10.9* electroplated zinc
transparent passivated (A3K)**

Steel 10.9* zinc-nickel
transparent passivated (P3E)**

Steel 10.9* zinc-nickel
black passivated with sealing (P3R)**

Austenitic Steel A2

* WÜPLAST® screws only comply with the strength class 10.9 according to DIN EN ISO 898-1 with limitations as not all requirements according to the standard mentioned above can be tested or applied due to the thread geometry.

** Chromium(VI)-free

		Austenitic steel A2	Steel		
		Plain	A3K	P3E	P3R
Nominal Ø d [mm]	Length l [mm]	Item no.	Item no.	Item no.	Item no.
2.5	6		423625 6		423825 6
	8		423625 8		
	10		423625 10		
	12				423825 12
	25		423625 25		
3	12	42393 12	42363 12	42373 12	42383 12
	13		42363 13		
	14		42363 14		
	16		42363 16		
	18		42363 18	42373 18	
3.5	10		423635 10	423735 10	423835 10
	12		423635 12	423735 12	423835 12
	16		423635 16		
4	8		42364 8	42374 8	42384 8
	10	42394 10	42364 10	42374 10	42384 10
	12	42394 12	42364 12	42374 12	42384 12
	14		42364 14	42374 14	42384 14
	16		42364 16	42374 16	42384 16
	20		42364 20	42374 20	42384 20
5	10				42385 10
	12	42395 12	42365 12	42375 12	42385 12
	16		42365 16	42375 16	42385 16
	20	42395 20	42365 20	42375 20	42385 20
	22		42365 22	42375 22	42385 22
	25				42385 25
6	16				42386 16
	20				42386 20

Intermediate sizes are available on request.

Materials steel 10.9*, austenitic steel (A2)

Mechanical properties

Thread diameter	Steel 10.9* minimum breaking torque in Nm	A2 minimum breaking torque in Nm
2.5	0.7	0.55
3	1.1	0.9
3.5	1.7	1.4
4	2.5	2
5	4.7	3.7

Surface coating – RoHS approved

Variants	Color	Designations according to DIN EN ISO 19598	Abbreviation	Layer thickness	DIN EN ISO 9227-NSS
Zinc	transparent	Fe//Zn8//An//T0	A3K	min. 8 µm	8 h[1)] 72 h[2)]
Zinc-nickel	transparent	Fe//ZnNi8//Cn//T0	P3E	min. 8 µm	120 h[1)] 720 h[2)]
Zinc-nickel	black	Fe//ZnNi8//Fn//T2	P3R	min. 8 µm	168 h[1)] 720 h[2)]

[1)] Check for zinc corrosion (white rust) and other visible changes
[2)] Check for base material corrosion (red rust)

Sorting

Optical sorting can be performed at the customer´s request to facilitate automated assembly of WÜPLAST® screws. The following characteristics are checked here:

- Head diameter
- Head height (not possible for countersunk screws)
- Length
- Thread present (yes/no)
- Foreign objects in packaging
- Drive present (yes/no)

Initial sample test report

On request, Würth will provide initial sample test reports according to VDA for the complete WÜPLAST® product range.

*WÜPLAST® screws only comply with the strength class 10.9 according to DIN EN ISO 898-1 with limitations as not all requirements according to the standard mentioned above can be tested or applied due to the thread geometry.

WÜPLAST®

Screws for thermoplastics

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