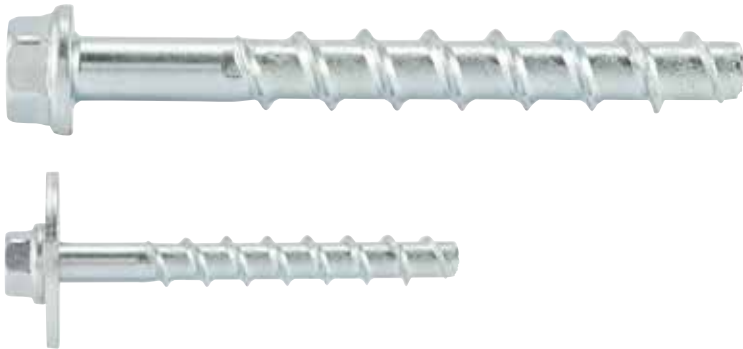


## CONCRETE SCREW WITH HEXAGON HEAD W-BS/S



### Individual attachment

in cracked and uncracked concrete

### Multiple attachment

in concrete and prestressed concrete hollow slab ceilings

**Approved for adjustability after installation to align railings etc., for example**

### Areas of Application




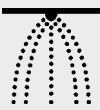

- Individual attachment, Size 6-14: Normal concrete C20/25 to C50/60 (cracked and uncracked concrete)
- Multiple attachment, Size 5 and 6: Anchoring non-load-bearing systems in cracked and uncracked concrete
- Attachment in prestressed concrete hollow slab ceilings, Size 6
- Suitable for attachment of metal constructions, metal profiles, brackets, foot plates, supports, cable conduits, pipes, railings, machines etc.
- Can also be used in concrete < C20/25 and pressure-resistant natural stone (without approval)
- W-BS/S (galvanized steel) can be used in dry indoor rooms
- W-BS/A4 (A4 stainless steel) may be used in dry indoor rooms, outdoors (including industrial atmosphere and near the sea) or in humid rooms if no especially aggressive conditions exist

### Advantages

- High load-bearing capacities
- Small axial spacings and edge spacings thanks to very minor spreading effect
- Very quick and easy installation
- No mounting torque required
- Can be loaded immediately – no waiting times
- Extremely flexible in use, as there are three anchoring depths (size 6 – 14) and a large selection of types
- Same performance data for galvanized and A4 stainless steel versions
- Adjustment of the attachment possible up to two times after installation (size 8 – 14) for alignment of railings or anchor plates, for example (observe installation instructions in approval or enclosed leaflet)

### Features

- Approval  
ETA-16/0043 for individual attachment, Size 6-14 Option 1, cracked and uncracked concrete, ETA-16/0128 for multiple attachment in concrete (Size 5 and 6) and attachment in prestressed concrete hollow slab ceilings (Size 6)
- Fire resistance: R30, R60, R90, R120; Technical Report TR020 (contained in the approvals)

Approvals				
European Technical Approval	European Technical Approval	Fire resistance	Size 6 – 14	Seismic C2
Option 1 for cracked and uncracked concrete	Multiple attachment of non-load-bearing systems	Technical Report TR 020 R30 – R120		
				

## W-BS/S Technical Data

### Wurth Anchor Technology

In accordance to EN1992-4:2008 and ETA-16/0043

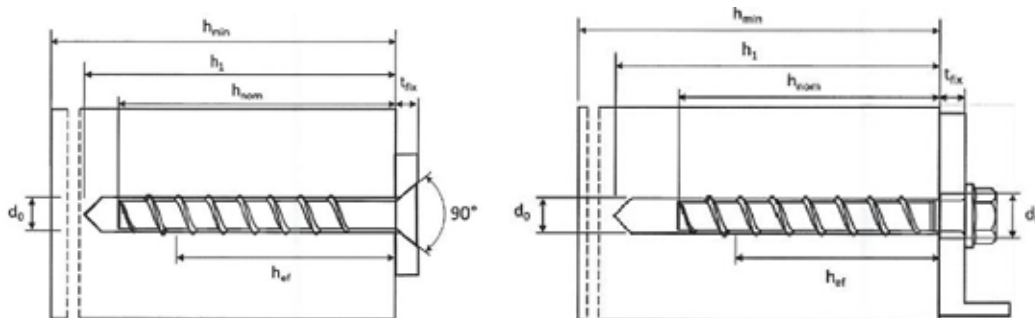
Concrete Grade **C20/25**

Working life **50 years**

Anchor size	M	mm	6		8			10			12			14		
Anchor size	M	mm	6		8			10			12			14		
Nominal Drill Bit Size	d <sub>0</sub>	mm	6		8			10			12			14		
Fixture Clearance Hole Dia- meter	d <sub>f</sub>	mm	8		12			14			16			18		
Nominal Installation Torque	T <sub>inst</sub>	Nm	10		20			40			60			80		
Torque Impact Screw Driver	T <sub>imp,max</sub>	Nm	160		300			400			650			650		
Depth of Drill Hole	h <sub>l</sub>	mm	45	60	55	65	75	65	85	95	75	95	110	85	110	125
Effective Anchorage Depth	h <sub>ef</sub>	mm	31	44	35	43	52	43	60	68	50	67	80	58	79	92
Nominal Embedment Depth	h <sub>nom</sub>	mm	40	55	45	55	65	55	75	85	65	85	100	75	100	115
Minimum Concrete Thickness	h <sub>min</sub>	mm	80		80			80	90	102	80	101	120	87	119	138
Minimum Allowable Spacing	s <sub>min</sub>	mm	40		40	50		50			50		70	50	70	
Minimum Allowable Distance	c <sub>min</sub>	mm	40		40	50		50			50		70	50	70	
Uncracked Concrete																
Design Resistance	N <sub>Rd</sub>	kN	2.7	6.0	5.0	8.0	10.7	8.0	13.3	17.3	10.7	18.0	23.5	14.5	23.0	28.9
Shear Resistance	V <sub>Rd</sub>	kN	5.6	5.6	6.8	9.2	12.3	9.2	27.2	27.2	11.6	33.6	33.6	14.5	44.8	44.8
Cracked Concrete																
Design Resistance	N <sub>Rd</sub>	kN	1.3	2.7	3.3	6.0	8.0	6.0	10.7	12.9	8.0	12.6	16.4	10.1	16.1	20.3
Shear Resistance	V <sub>Rd</sub>	kN	4.0	5.6	4.8	6.5	8.6	6.5	21.3	25.7	8.1	25.2	32.9	10.1	32.2	40.5

\*The data is applicable to all types of W-BS.

\*Concrete increasing factor: C25/30(1.12); C30/37(1.22); C35/45(1.32); C40/50(1.41); C45/55(1.50); C50/60(1.58)



## Anchor Dimensions



Washer diameter	
Size	Screw dia. [mm]
5	12.5
6	15
8	16
10	20
12	23
14	28

### W-BS/S concrete screw

Galvanized steel with hexagon head and pressed-on washer, Type S

Anchor size	Total length L [mm]	Drill bit nominal dia d <sub>0</sub> [mm]	Wrench size [mm]	Art. No.
5	40	5	10	<b>5929 125 005</b>
	50			<b>5929 125 015</b>
	60			<b>5929 125 025</b>
6	40	6	13	<b>5929 126 005</b>
	50			<b>5929 126 015</b>
	60			<b>5929 126 025</b>
	80			<b>5929 126 045</b>
	100			<b>5929 126 065</b>
	120			<b>5929 126 085</b>
8	50	8	13	<b>5929 128 005</b>
	60			<b>5929 128 015</b>
	70			<b>5929 128 025</b>
	80			<b>5929 128 035</b>
	90			<b>5929 128 045</b>
	100			<b>5929 128 055</b>
	120			<b>5929 128 075</b>
	140			<b>5929 128 095</b>
	160			<b>5929 128 115</b>
10	60	10	15	<b>5929 121 005</b>
	80			<b>5929 121 025</b>
	90			<b>5929 121 035</b>
	100			<b>5929 121 045</b>
	120			<b>5929 121 065</b>
	140			<b>5929 121 085</b>
	160			<b>5929 121 105</b>
12	80	12	17	<b>5929 122 015</b>
	110			<b>5929 122 045</b>
14	80	14	21	<b>5929 124 005</b>
	110			<b>5929 124 035</b>
	130			<b>5929 124 055</b>



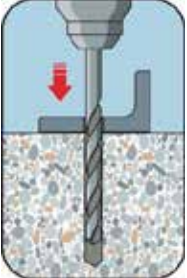
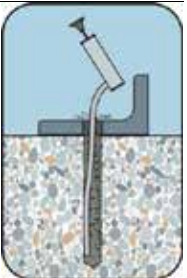
Washer diameter	
Size	Screw dia. [mm]
10	44

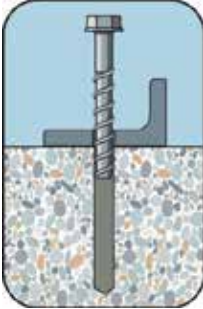
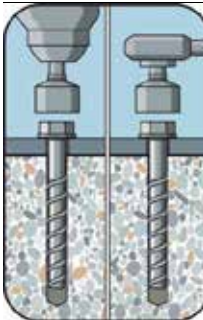
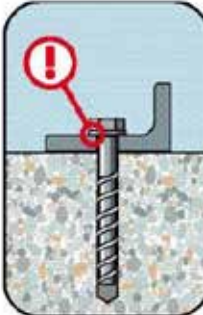
### W-BS/S concrete screw

Galvanized steel with hexagon head and large washer as per DIN 440, Type S

Anchor size	Total length L [mm]	Drill bit nominal dia d <sub>0</sub> [mm]	Wrench size [mm]	Art. No.
10	180	10	15	<b>5929 121 125</b>
	200			<b>5929 121 145</b>
	240			<b>5929 121 185</b>
	280			<b>5929 121 225</b>
	320			<b>5929 121 265</b>

## Installation Instructions

A) Bore hole drilling	
	<b>1a. Hammer drilling (HD)</b> Drill a hole into the base material to the size and embedment depth required by the selected reinforcing bar. Proceed with Step B.
	<b>1b. Hollow drill bit system (HDB) (only Ø 8-14)</b> Drill a hole into the base material to the size and embedment depth required by the selected reinforcing bar. This drilling system removes the dust and cleans the bore hole during drilling. Proceed with Step C.
B) Bore hole cleaning	
	<b>2.</b> Clean the bore hole from the bottom until the return air stream is without dust.

C) Setting the screw	
	<b>3a.</b> Drive the anchor with some hammer strike or with the machine setting tool into the drill hole. Ensure the specified embedment depth.
	<b>3b.</b> Apply the required torque moment using a calibrated torque wrench. Consider $T_{imp,max}$ and $T_{inst}$ .
	<b>3c.</b> Installation was successful when the head of the anchor is fully supported and in contact to the fixture without damaging it.