

FIXING ANCHOR W-F/S



Individual attachment:

Uncracked concrete

W-F/S

Galvanised steel

Areas of Application

- For use in medium and heavy duty applications
- Suitable for anchoring of metal structures, metal profiles, consoles, footplates, supports, cable trays, pipelines, railings, wood structures, beams, purlins, etc
- The anchor may be used in concrete with strength $< C20/25$ and in some types of masonry units (for example pressure-resistant natural stone)
- The anchor is to be used only for anchorages subject to static (e.g. gravity load) or quasi-static loading (r.g. slowly varying live loads)
- Single fixing: Anchoring in uncracked concrete (concrete compression zone)
- W-F is suitable for dry interior space

Advantages

- Time-saving push-through installation
- Immediate load-bearing capacity – no waiting
- Torque-controlled expanding galvanised steel anchor
- Two anchorage depths – wide range of application

Approvals

European Technical Approval

Option 7 for uncracked
concrete



W-F/S Technical Data

Wurth Anchor Technology

In accordance to EN1992-4:2008 and ETA-08/0388

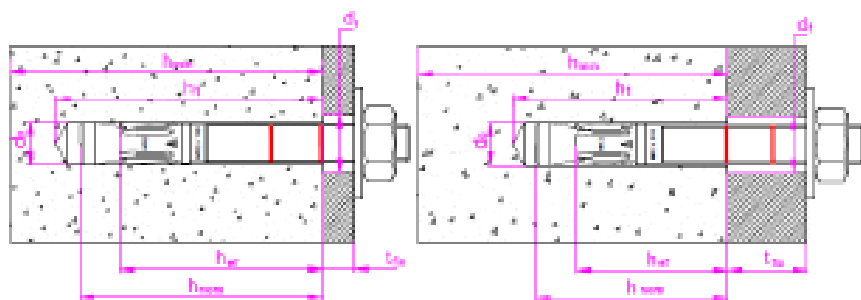
Concrete Grade **C20/25**

Working life **50 years**

Concrete Type **Uncracked**

Anchor size	M	mm	6	8		10		12		14	16	20
Nominal Drill Bit Size	d ₀	mm	6	8		10		12		14	16	20
Fixture Clearance Hole Diameter	d _f	mm	7	9		12		14		16	18	22
Nominal Installation Torque	T _{inst}	Nm	7	20		35		60		90	120	240
Depth of Drill Hole	h ₁	mm	55	50	65	60	75	70	85	100	110	135
Effective Anchorage Depth	h _{ef}	mm	40	35	48	42	55	50	65	75	84	103
Overall Embedment Depth in Concrete	h _{nom}	mm	49.5	46.5	59.5	53.5	66.5	62.0	77.0	91.0	103.5	125.0
Minimum Concrete Thickness	h _{min}	mm	100	100	100	100	110	100	130	150	168	206
Minimum Allowable Spacing	s _{min}	mm	50	65		70		85		100	110	135
Minimum Allowable Distance	c _{min}	mm	50	65		70		85		100	110	135
Design Resistance	N _{Rd}	kN	5.5	6.0	8.0	8.0	8.9	10.7	13.9	16.7	19.4	27.8
Shear Resistance	V _{Rd}	kN	4.1	6.9	7.4	9.1	11.8	11.9	16.5	22.5	30.7	45.0

*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(1.55)



Standard Embedment Depth Reduced Embedment Depth (M8, M10 & M12)

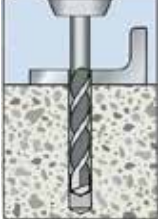
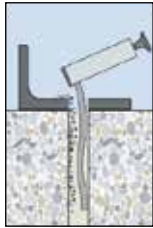
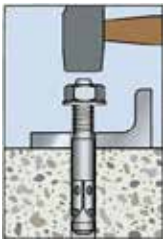
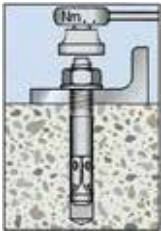
Anchor Dimensions



Anchor dimensions: Fixing anchor W-F/S, galvanized steel

Anchor Dia (mm)	Total Length (mm)	Thread length (mm)	Art No.
M6	60	26.5	5933 006 060
	70	36.5	5933 006 070
	80	46.5	5933 006 080
	90	56.5	5933 006 090
	100	66.5	5933 006 100
	110	76.5	5933 006 110
	120	86.5	5933 006 120
	130	96.5	5933 006 130
M8	140	106.5	5933 006 140
	60	23.5	5933 008 060
	75	38.5	5933 008 075
	90	53.5	5933 008 090
	115	78.5	5933 008 115
M10	130	93.5	5933 008 130
	70	29	5933 010 070
	80	39	5933 010 080
	90	49	5933 010 090
	100	59	5933 010 100
	120	79	5933 010 120
	150	109	5933 010 150
	170	129	5933 010 170
	210	169	5933 010 210
M12	230	189	5933 010 230
	80	30	5933 012 080
	90	38	5933 012 090
	100	48	5933 012 100
	110	58	5933 012 110
	120	68	5933 012 120
	140	88	5933 012 140
	160	108	5933 012 160
	180	128	5933 012 180
	220	168	5933 012 220
M16	250	198	5933 012 250
	125	60	5933 016 125
	140	75	5933 016 140
	145	80	5933 016 145
	170	105	5933 016 170
	220	155	5933 016 220
	250	185	5933 016 250
	280	200	5933 016 280

Installation Instructions

A) Bore hole drilling		
	1a.	Hammer drilling (HD)
		Drill the hole with a hammer drill. Drill bit diameter and its working length are determined by the diameter and depth of the drill hole of the selected anchor. (see table anchor characteristics). Positioning of drill holes without damaging the reinforcement.
B) Bore hole cleaning		
	2.	Clean the bore hole from the bottom until the return air stream is without dust.
C) Setting the screw		
	3a.	Drive the anchor with some hammer impacts or with the machine setting tool into the drill hole. Anchor installation ensuring the specified embedment depth.
	3b.	Application of the required torque moment using a calibrated torque wrench.