ONLINE ANCHOR DESIGN SOFTWARE

- Fully featured and easy to use interface
- Easy 5 step anchor design with 3D modelling of fastening
- Professional specification of DEWALT fastenings to ETA guidelines
- Customised anchor design facility

DDA
DEWALT DESIGN ASSIST

KEEP PACE WITH CHANGING CONSTRUCTION ENVIRONMENTS WITH DEWALT DESIGN ASSIST.

FOR MORE INFORMATION VISIT WWW.DEWALTDESIGNASSIST.COM

DEWALT®

Your DEWALT Dealer

DISCLAIMER FOR RECOMMENDATIONS, INFORMATION AND USE OF DATA

The recommendations, information and data contained in this manual are put together with the greatest care and accuracy possible. It is based on principles, equations and safety factors set out in the technical documentation of DEWALT Anchors & Fasteners, Inc. that are believed to be correct and current as of November 1, 2015. The information and data is subject to change after such date as DEWALT Anchors & Fasteners, Inc. reserves the right to change the designs, materials and specifications of the products in this manual without notice.

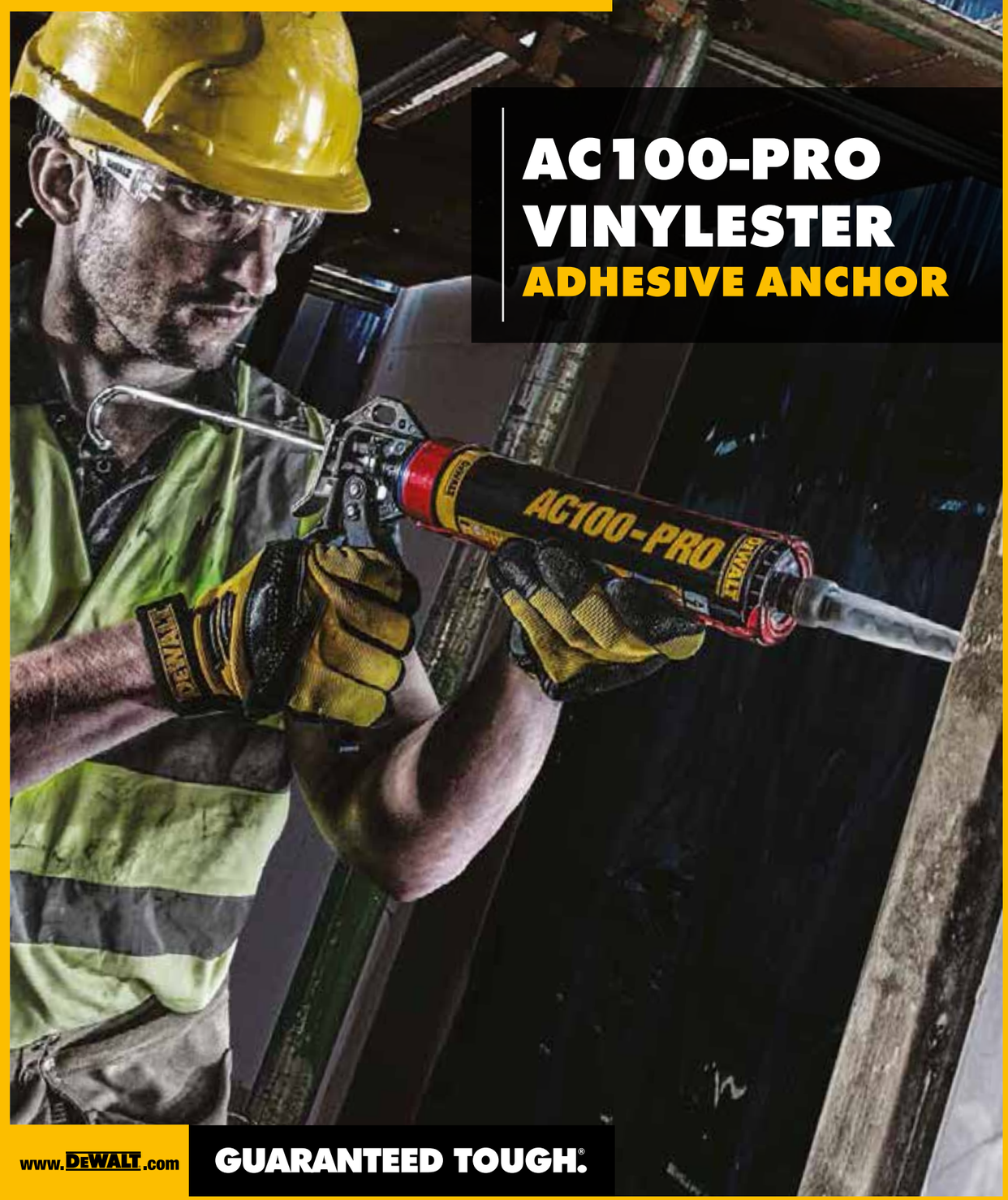
It is the responsibility of the design professional to ensure that a suitable product is selected, properly designed and used in the intended application. This includes that the selected product and its use is compliant with the applicable building codes and other legal requirements and will satisfy durability and performance criteria and margins of safety which they determine are applicable. The products must be used, handled, applied and installed strictly in accordance with all current instructions for use published by DEWALT Anchors & Fasteners, Inc.

The performance data given in this manual are the result of the evaluation of tests conducted under laboratory conditions. It is the responsibility of the designer and installer in charge to consider the conditions on site and to ensure the performance data given in the manual is applicable to the actual conditions. In particular the base material and environmental conditions have to be checked prior to installation. In case of doubt, contact the technical support of DEWALT Anchors & Fasteners, Inc.

11/2015 MP16764-GB

DEWALT®

AC100-PRO VINYLESTER ADHESIVE ANCHOR



www.DEWALT.com

GUARANTEED TOUGH.®

AC100-PRO STYRENE FREE VINYLESTER ANCHOR.

APPROVED FOR ALMOST ANY APPLICATION.

The AC100-PRO is a two-component vinylester adhesive anchor and is approved for almost any application and base material.

It provides consistent performance in uncracked and cracked concrete with a wide range of hole diameters and embedment depths as well as flexible fixture thicknesses and a simple installation process.

FOR CONCRETE
- ETAG 001 approved (ETA Option 1) for use in cracked concrete

FOR MASONRY
- ETAG 029 approved for use in solid and hollow brick

FOR POST-INSTALLED REBAR
- ETA and National German Approval

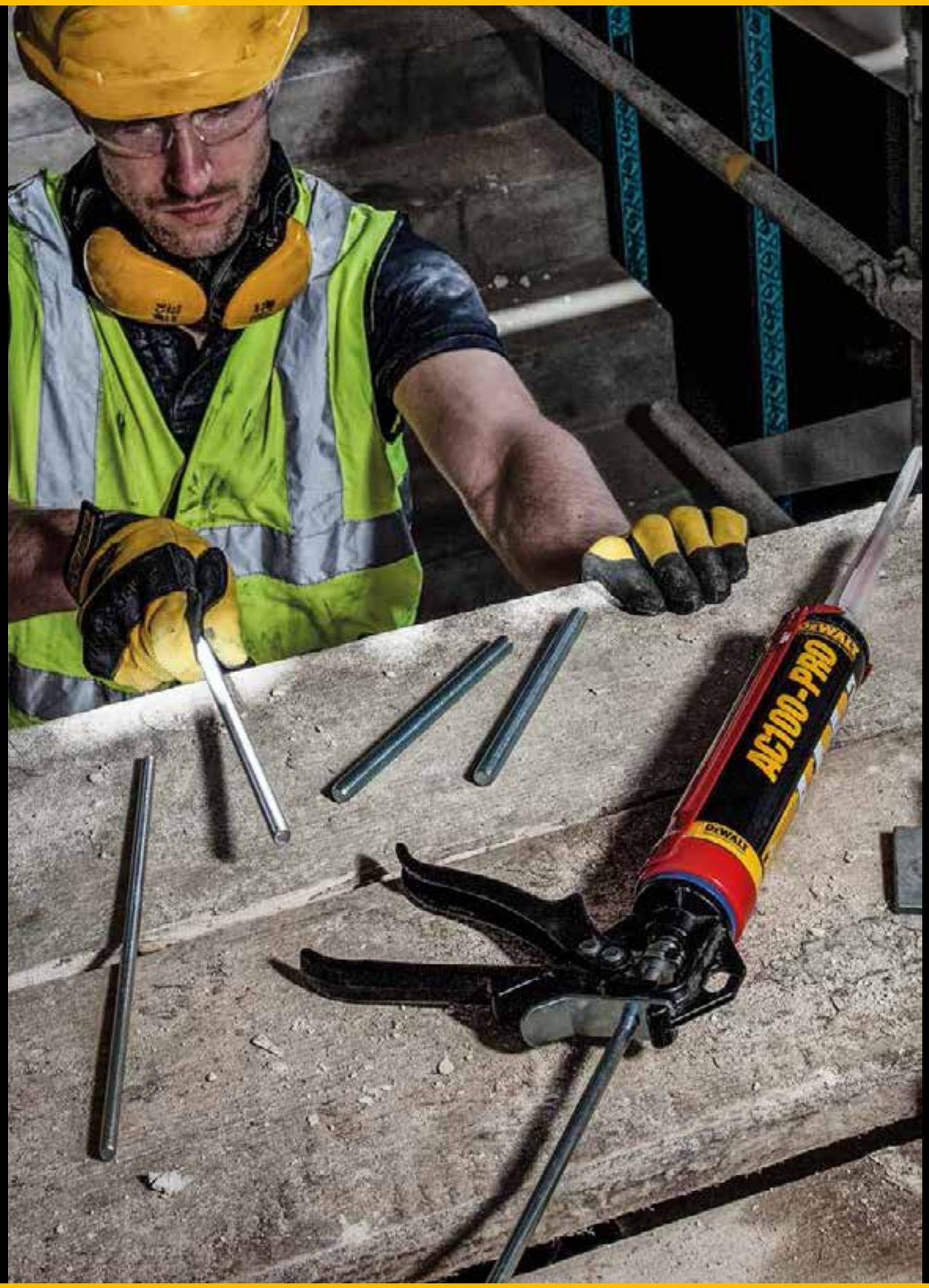
FOR SEISMIC LOADING
- Seismic loading approval according to category C1.

FLEXIBILITY BUILT-IN.

The AC100-PRO is approved for a short time temperature range of up to 120°C and can even be used in water filled holes. It also provides a fast curing time and high load capacity making it the ideal adhesive anchor for use on-site.

- Approved for water filled drill holes and overhead applications (M8 - M16)
- Installation down to -10°C
- Suitable for use in rotary hammer drilled holes
- 18 month shelf life (12 months for 300ml size)

The system also includes an extensive range of accessories including mixing nozzles, dispensing tools, brushes and threaded rods.



MATERIALS

APPROVALS

ETA 13 CE 0756-CPD-0555
EUROPEAN TECHNICAL APPROVAL
ETA-13/0258- ETAG 001 - Option 1

F120

ICC ES

ETA 13 CE 0756-CPD-0534
EUROPEAN TECHNICAL APPROVAL
ETA-13/0050 - ETAG 029 - Masonry

NSF

ETA 13 CE 0756-CPD-0561
EUROPEAN TECHNICAL APPROVAL
ETA-13/0316 - ETAG TR023 - PI Rebar

A+ B C

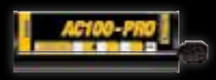
Mit allgemeiner bauaufsichtlicher Zulassung

DEWALT Z-21.8-1993 Institut für Massivbau Technische Universität Darmstadt

RANGE

DFC1230150
825ml

DFC1230000
410ml



DFC1230100
360ml

DFC1230050
300ml

DFC1210200
150ml

ACCESSORIES

For the full range of accessories see **page 10.**

APPLICATIONS GUIDE

The AC100-PRO adhesive anchor is suitable for a wide range of applications and load conditions as shown below. For more information including comprehensive load data please visit:
www.DeWALT.com

✓ Suitable ✓ Suitable depending on the steel material used

APPLICATIONS		Concrete	Masonry	Post-Installed Rebar
Interior Installation		✓	✓	
Exterior Installation		✓	✓	
Adverse Atmosphere		✓	✓	
High Service Temperature Range	80/50°C 40/24°C	✓	✓	✓
Very High Service Temperature Range	72/120°C 50/80°C 24/40°C	✓	✓	
Very Low Installation Temperature Range	-10°C	✓	✓	✓
Dry and Wet Base Material		✓	✓	✓
Water Filled Holes		✓		
Post-Installed Rebar Design				✓
Preset Installation		✓	✓	
Stand-off Installation		✓	✓	
LOADING CONDITIONS				
Static Load	STATIC	✓	✓	✓
Quasi-Static Loads	QUASI-STATIC	✓	✓	✓
Seismic Loads	SEISMIC	✓		
Moderate Wind Loads		✓	✓	✓
High Wind Loads		✓		

LOADING DATA

UNCRACKED CONCRETE, ETA-13/0258

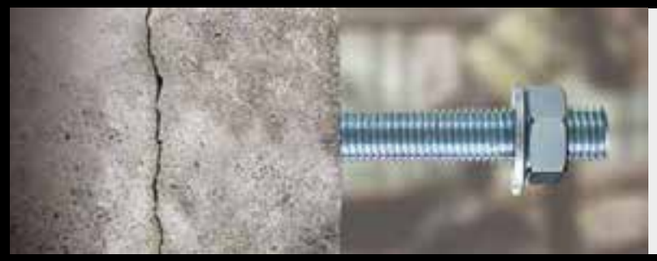
		M8	M10	M12	M16	M20	M24	M27	M30
Min. effective anchorage depth	h_{ef} min (mm)	60	60	70	80	90	96	108	120
Dry or wet concrete									
Design Load at h_{ef} min, 8.8 threaded rod, C20/25	Tension N_{Rd} (kN)	11.1	13.0	16.4	20.1	24.0	26.4	31.5	36.9
Design Load at h_{ef} min, 8.8 threaded rod, C20/25	Shear V_{Rd} (kN)	12.0	18.4	27.2	48.2	57.5	63.3	75.6	88.5
Water filled drill hole									
Design Load at h_{ef} min, 8.8 threaded rod, C20/25	Tension N_{Rd} (kN)	5.7	8.5	11.9	17.2				
Design Load at h_{ef} min, 8.8 threaded rod, C20/25	Shear V_{Rd} (kN)	12.0	18.4	27.2	48.2				
Max. effective anchorage depth	h_{ef} max (mm)	160	200	240	320	400	480	540	600
Dry or wet concrete									
Design Load at h_{ef} max, 8.8 threaded rod, C20/25	Tension N_{Rd} (kN)	19.3	30.7	44.7	83.3	130.7	188.0	245.3	298.5
Design Load at h_{ef} max, 8.8 threaded rod, C20/25	Shear V_{Rd} (kN)	12.0	18.4	27.2	50.4	78.4	112.8	147.2	179.2
Water filled drill hole									
Design Load at h_{ef} max, 8.8 threaded rod, C20/25	Tension N_{Rd} (kN)	15.3	28.4	40.9	72.8				
Design Load at h_{ef} max, 8.8 threaded rod, C20/25	Shear V_{Rd} (kN)	12.0	18.4	27.2	50.4				

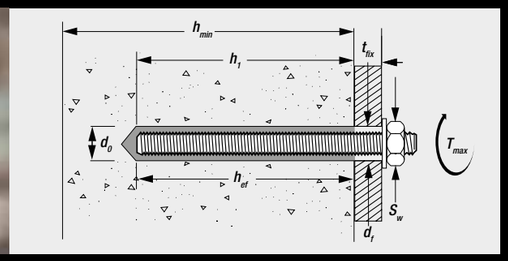
CRACKED CONCRETE, ETA-13/0258

		M8	M10	M12	M16	M20	M24	M27	M30
Min. effective anchorage depth	h_{ef} min (mm)	60	60	70	80	90	96	108	120
Dry or wet concrete									
Design Load at h_{ef} min, 8.8 threaded rod, C20/25	Tension N_{Rd} (kN)			8.1	12.3	17.1	18.8	22.4	26.3
Design Load at h_{ef} min, 8.8 threaded rod, C20/25	Shear V_{Rd} (kN)			19.4	29.5	41.0	45.1	53.9	63.1
Water filled drill hole									
Design Load at h_{ef} min, 8.8 threaded rod, C20/25	Tension N_{Rd} (kN)			7.5	11.5				
Design Load at h_{ef} min, 8.8 threaded rod, C20/25	Shear V_{Rd} (kN)			21.1	32.2				
Max. effective anchorage depth	h_{ef} max (mm)	160	200	240	320	400	480	540	600
Dry or wet concrete									
Design Load at h_{ef} max, 8.8 threaded rod, C20/25	Tension N_{Rd} (kN)			27.6	49.1	76.8	110.6	165.4	204.2
Design Load at h_{ef} max, 8.8 threaded rod, C20/25	Shear V_{Rd} (kN)			27.2	50.4	78.4	112.8	147.2	179.2
Water filled drill hole									
Design Load at h_{ef} max, 8.8 threaded rod, C20/25	Tension N_{Rd} (kN)			25.9	46.0				
Design Load at h_{ef} max, 8.8 threaded rod, C20/25	Shear V_{Rd} (kN)			27.2	50.4				

INSTALLATION DATA - CONCRETE ANCHORING SYSTEM

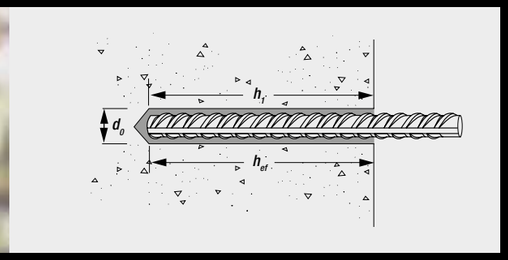
THREADED ROD





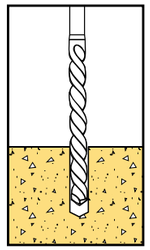
	Notation	Unit	Threaded rod							
			M8	M10	M12	M16	M20	M24	M27	M30
Anchor diameter	d	[mm]	8	10	12	16	20	24	27	30
Nominal drill bit diameter	d_0	[mm]	10	12	14	18	24	28	32	35
Diameter of hole clearance in fixture	d_f	[mm]	9	12	14	18	22	26	30	33
Diameter of steel brush	d_b	[mm]	12	14	16	20	26	30	34	37
Minimum embedment and drill hole depth Maximum embedment and drill hole depth	$h_{ef,min} = h_1$ $h_{ef,max} = h_1$	[mm] [mm]	60 160	60 200	70 240	80 320	90 400	96 480	108 540	120 600
Minimum member thickness	h_{min}	[mm]	h_{ef} + 30 mm ≥ 100 mm			h_{ef} + 2 · d_0				
Minimum spacing	s_{min}	[mm]	40	50	60	80	100	120	135	150
Minimum edge distance	c_{min}	[mm]	40	50	60	80	100	120	135	150
Thickness of fixture	t_{fix}	[mm]	0 mm ≤ t_{fix} ≤ 1500 mm							
Maximum torque	T_{max}	[Nm]	10	20	40	80	120	160	180	200
Torque wrench socket size	S_w	[mm]	13	17	19	24	30	36	41	46

REINFORCEMENT BAR

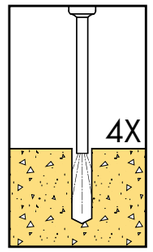


	Notation	Unit	Reinforcement bar								
			Ø8	Ø10	Ø12	Ø14	Ø16	Ø20	Ø25	Ø28	Ø32
Nominal diameter of rebar	d_0	[mm]	8	10	12	14	16	20	25	28	32
Nominal drill bit diameter	d_{cut}	[mm]	12	14	16	18	20	24	32	35	37
Diameter of steel brush	d_b	[mm]	14	16	18	20	22	26	34	37	40
Minimum embedment and drill hole depth Maximum embedment and drill hole depth	$h_{ef,min} = h_1$ $h_{ef,max} = h_1$	[mm] [mm]	60 160	60 200	70 240	75 280	80 320	90 400	100 480	112 540	128 640
Minimum member thickness	h_{min}	[mm]	h_{ef} + 30 mm ≥ 100 mm		h_{ef} + 2 · d_0						
Minimum edge distance	c_{min}	[mm]	40	50	60	70	80	100	125	140	160
Minimum spacing	s_{min}	[mm]	40	50	60	70	80	100	125	140	160

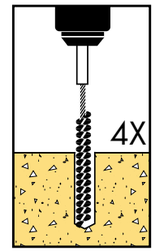
INSTALLATION INSTRUCTIONS



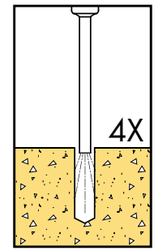
1.) Using the proper drill bit size, drill a hole into the base material to the required depth. erforderliche Tiefe.



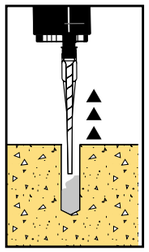
2.) Blow the hole clean using a hand pump or compressed air 4 times minimum.



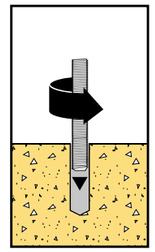
3.) Brush the hole with the proper wire brush 4 times minimum.



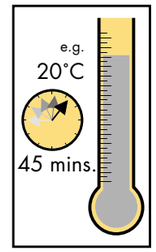
4.) Blow the hole clean using a hand pump or compressed air 4 times minimum.



5.) After dispensing a minimum of 3 strokes, fill the hole up to approximately 2/3 with adhesive.



6.) Push the steel element into the hole while turning slightly.



7.) Allow the adhesive to cure for the time specified for the actual concrete temperature prior to applying any load.

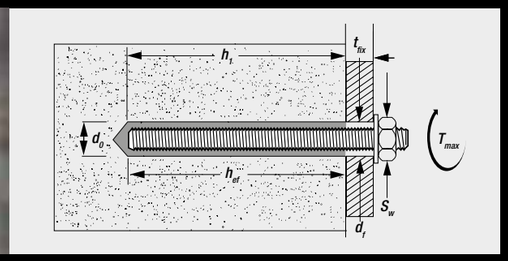
For complete installation instructions, see technical approval.

SETTING TIMES

TEMP °C	GEL	SET DRY	SET WET
-10° C	90 min	24 h	48 h
-5° C	90 min	14 h	28 h
0° C	45 min	7 h	14 h
5° C	25 min	2 h	4 h
10° C	15 min	80 min	160 min
20° C	6 min	45 min	90 min
30° C	4 min	25 min	50 min
35° C	2 min	20 min	40 min
40° C	1.5 min	15 min	30 min

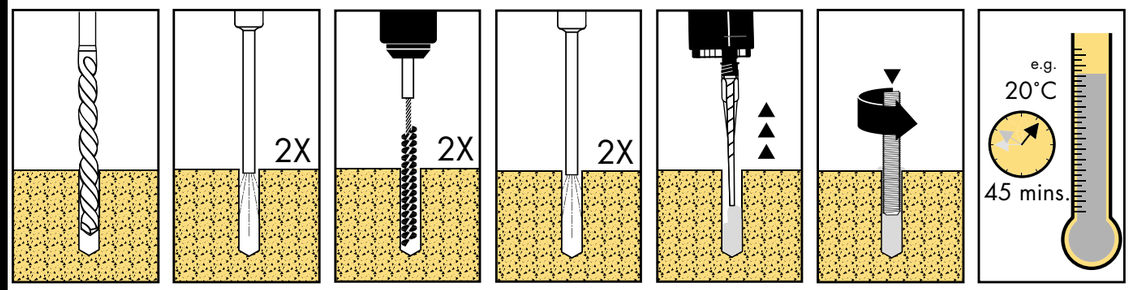
INSTALLATION DATA - MASONRY ANCHORING SYSTEM

SOLID BRICKS, WITHOUT SLEEVE



	Notation	Unit	Solid bricks, without sleeve		
			M8	M10	M12
Anchor diameter	d	[mm]	8	10	12
Nominal drill bit diameter	d_0	[mm]	10	12	12
Diameter of hole clearance in fixture	d_f	[mm]	≤ 9	≤ 12	≤ 14
Diameter of nylon brush	d_b	[mm]	≥ 20	≥ 20	≥ 20
Embedment depth	h_{ef}	[mm]	80	90	90
Bore hole depth	h_1	[mm]	85	95	95
Minimum spacing for solid bricks	s_{min}	[mm]	50	50	50
Minimum edge distance for solid bricks	c_{min}	[mm]	50	50	50
Maximum torque	T_{max}	[Nm]	2	2	2
Torque wrench socket size	S_w	[mm]	13	17	19

INSTALLATION INSTRUCTIONS



1.) Using the proper drill bit size, drill a hole into the base material to the required depth.

2.) Blow the hole clean using a hand pump or compressed air 2 times minimum.

3.) Brush the hole with the proper wire brush.

4.) Blow the hole clean using a hand pump or compressed air 2 times minimum.

5.) Fill the sleeve up to approximately 2/3 with adhesive.

6.) Push the steel element into the hole while turning slightly.

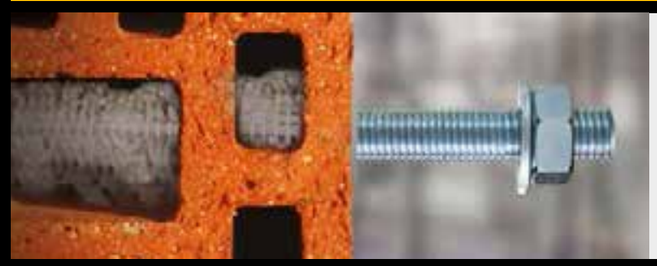
7.) Allow the adhesive to cure for the time specified for the actual concrete temperature.

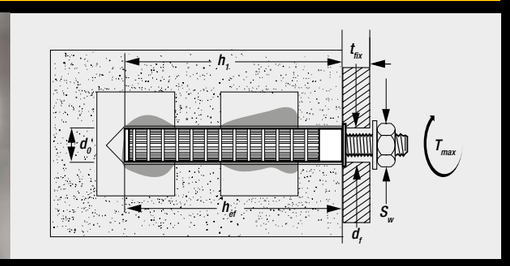
For complete installation instructions, see technical approval.

SETTING TIMES

TEMP °C	GEL	SET DRY	SET WET
+ 5°C to + 9°C	25 min	120 min	240 min
+ 10°C to + 19°C	15 min	80 min	160 min
+ 20°C to + 29°C	6 min	45 min	90 min
+ 30°C to + 34°C	4 min	25 min	50 min
+ 35°C to + 40°C	2 min	20 min	40 min

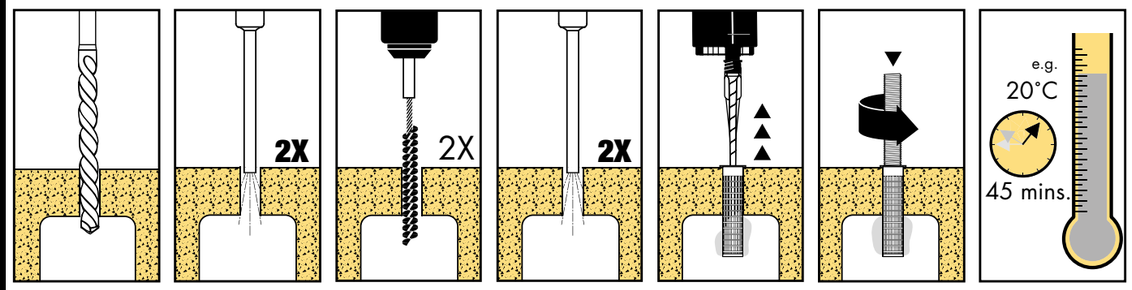
SOLID AND HOLLOW BRICKS, WITH SLEEVE





	Notation	Unit	Solid and hollow bricks, with sleeve		
			M8	M10	M12
Sleeve type			SH 13x100	SH 15x100	SH 15x100
Anchor diameter	d	[mm]	8	10	12
Nominal drill bit diameter	d_0	[mm]	14	16	16
Diameter of hole clearance in fixture	d_f	[mm]	≤ 9	≤ 12	≤ 14
Diameter of nylon brush	d_b	[mm]	≥ 20	≥ 20	≥ 20
Embedment depth	h_{ef}	[mm]	80	90	90
Length of sleeve	ℓ_s	[mm]	100	100	100
Bore hole depth	h_1	[mm]	105	105	105
Minimum spacing for solid bricks	s_{min}	[mm]	50	50	50
Minimum spacing for hollow bricks	s_{min}	[mm]	100	100	100
Minimum edge distance for solid bricks	c_{min}	[mm]	50	50	50
Minimum edge distance for hollow brick	c_{min}	[mm]	100	100	100
Maximum torque	T_{max}	[Nm]	2	2	2
Torque wrench socket size	S_w	[mm]	13	17	19

INSTALLATION INSTRUCTIONS



1.) Using the proper drill bit size, drill a hole into the base material to the required depth.

2.) Blow the hole clean using a hand pump or compressed air 2 times minimum.

3.) Brush the hole with the proper wire brush 2 times minimum.

4.) Blow the hole clean using a hand pump or compressed air 2 times minimum.

5.) Insert the sleeve, required for hollow masonry, into the hole. Fill the sleeve up completely with adhesive.

6.) Push the steel element into the hole while turning slightly.

7.) Allow the adhesive to cure for the time specified for the actual concrete temperature.

For complete installation instructions, see technical approval.

SETTING TIMES

TEMP °C	GEL	SET DRY	SET WET
+ 5°C to + 9°C	25 min	120 min	240 min
+ 10°C to + 19°C	15 min	80 min	160 min
+ 20°C to + 29°C	6 min	45 min	90 min
+ 30°C to + 34°C	4 min	25 min	50 min
+ 35°C to + 40°C	2 min	20 min	40 min

ACCESSORIES

Professional accessories range for DEWALT adhesive anchors

Includes **nozzles**, **brushes**, **sleeves** and **threaded rods**, all manufactured to the same high standards to ensure a quality fixing.

DISPENSING TOOLS

DFC1610000

DFC1610050

DFC1610100

DFC1610150

Cat No.	Type	Cartridge Size [ml]	Box Quantity	Carton Quantity
DFC1610000	Manual	300	1	12
DFC1610050	Manual	360	1	10
DFC1610100	Manual	410	1	10
DFC1610150	Heavy Duty Manual	410	1	10
DFC1630250	Pneumatic	410	1	-
DFC1630000	Pneumatic	825	1	-

NOZZLES & PLUGS

MIXING NOZZLES

DFC1640350

DFC1640450

Cat No.	Description	Box Quantity	Carton Quantity
DFC1640350	White - 18-Element (825ml only)	10	-
DFC1640450	Black - 14-Element	10	-

EXTENSION NOZZLES

DFC1640500/DFC1640200/DFC1640250/DFC1640300

Cat No.	Description	Length [mm]	Box Quantity	Carton Quantity
DFC1640500	200mm Extension Nozzle	200	10	1000
DFC1640200	500mm Extension Nozzle	500	10	-
DFC1640250	1000mm Extension Nozzle	1000	1	-
DFC1640300	2000mm Extension Nozzle	2000	1	-

PISTON PLUGS

Cat No.	Description	Type	Rebar Size [mm]	Thread Size [mm]	Box Quantity	Carton Quantity
DFC1690000	Adhesive Piston Plug #14	#14	Ø10	M12	10	100
DFC1690050	Adhesive Piston Plug #16	#16	Ø12	M14	10	100
DFC1690150	Adhesive Piston Plug #20	#20	Ø16	M18	10	100
DFC1690250	Adhesive Piston Plug #25	#25	Ø20	-	10	100
DFC1690300	Adhesive Piston Plug #28(27/29)	#28(27/29)	Ø22	M24	10	100
DFC1690350	Adhesive Piston Plug #32	#32	Ø24-25	M27	10	100
DFC1690400	Adhesive Piston Plug #35(34/36)	#35(34/36)	Ø28-32	M30	10	100

BLOW PUMP & STEEL BRUSHES

BLOW PUMP

Cat No.	Description	Box Quantity	Carton Quantity
DFC1650050	DEWALT Manual blow pump	1	-

STEEL BRUSHES AND SDS EXTENSIONS

DFC1670000

DFC1670050

DFC1670000 - DFC1670600

Cat No.	Description	Length [mm]	Drill Dia [mm]	Rebar Size [mm]	Thread Size [mm]	Box Quantity	Carton Quantity
DFC1670000	SDS Connection for Steel Brushes	-	-	-	-	1	100
DFC1670050	300MM Extension for Steel Brushes	300	-	-	-	1	100
DFC1670100	Steel Brush for SDS - 12mm Diameter	170	10	-	M8	1	100
DFC1670150	Steel Brush for SDS - 14mm Diameter	170	12	Ø8	M10	1	100
DFC1670200	Steel Brush for SDS - 16mm Diameter	200	14	Ø10	M12	1	100
DFC1670250	Steel Brush for SDS - 18mm Diameter	200	16	Ø12	-	1	100
DFC1670300	Steel Brush for SDS - 20mm Diameter	300	18	Ø14	M16	1	100
DFC1670350	Steel Brush for SDS - 22mm Diameter	300	20	Ø16	-	1	100
DFC1670400	Steel Brush for SDS - 26mm Diameter	300	24	Ø20	M20	1	100
DFC1670450	Steel Brush for SDS - 30mm Diameter	300	28	-	M24	1	100
DFC1670500	Steel Brush for SDS - 34mm Diameter	300	32	Ø25	M27	1	100
DFC1670550	Steel Brush for SDS - 37mm Diameter	300	35	Ø28	M30	1	100
DFC1670600	Steel Brush for SDS - 40mm Diameter	300	37	Ø32	-	1	100

BRUSHES

Cat No.	Description	Drill Dia [mm]	Box Quantity	Carton Quantity
DFC1660000	Nylon Brush - 8-10mm Diameter	8-10	1	100
DFC1660050	Nylon Brush - 10-14mm Diameter	10-14	1	100
DFC1660100	Nylon Brush - 16-28mm Diameter	16-28	1	100

NOTE: Nylon brushes are not suggested for approved applications

ADHESIVE ANCHOR SLEEVES

PLASTIC SLEEVES

Cat No.	Description	Length [mm]	Drill Dia [mm]	Diameter [mm]	Thread Size [mm]	Box Quantity	Carton Quantity
DFC4710000	12mm x 80mm Plastic Sleeves	80	12	12	M6-M8	10	-
DFC4710050	15mm x 85mm Plastic Sleeves	85	16	16	M8-M10	10	-
DFC4710100	20mm x 85mm Plastic Sleeves	85	20	20	M12-M16	10	-

PLASTIC SLEEVES FOR AC100-PRO

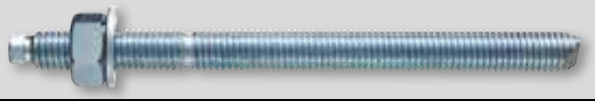
Cat No.	Description	Length [mm]	Drill Dia [mm]	Diameter [mm]	Thread Size [mm]	Box Quantity	Carton Quantity
DFC4720000	13mm x 100mm PRO Plastic Sleeve (AC100PRO)	100	14	13	M8	10	-
DFC4720050	15mm x 100mm PRO Plastic Sleeve (AC100PRO)	100	16	15	M10 - M12	10	-

MESH SLEEVES

Cat No.	Description	Length [mm]	Drill Dia [mm]	Diameter [mm]	Thread Size [mm]	Box Quantity	Carton Quantity
DFC4730000	12 x 1000 Mesh Sleeves	1000	12	11	M8	1	10
DFC4730050	16 x 1000 Mesh Sleeves	1000	16	15	M10 - M12	1	10
DFC4730100	20 x 1000 Mesh Sleeves	1000	22	20	M16 - M18	1	10

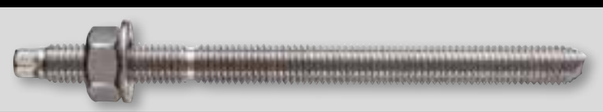
CHISEL POINT THREADED RODS

ZINC PLATED CLASS 5.8 STEEL



Cat No.	Description	Length [mm	Drill Dia [mm]	Thread Size [mm]	Box Quantity	Carton Quantity
DFC4130000	Chisel Point Threaded Rod with Nut & Washer	110	10	M8	10	200
DFC4130050	Chisel Point Threaded Rod with Nut & Washer	130	12	M10	10	200
DFC4130100	Chisel Point Threaded Rod with Nut & Washer	160	14	M12	10	100
DFC4130150	Chisel Point Threaded Rod with Nut & Washer	190	18	M16	10	80
DFC4130200	Chisel Point Threaded Rod with Nut & Washer	260	24	M20	5	25
DFC4130250	Chisel Point Threaded Rod with Nut & Washer	300	28	M24	5	20

A4 STAINLESS STEEL



Cat No.	Description	Length [mm	Drill Dia [mm]	Thread Size [mm]	Box Quantity	Carton Quantity
DFC4150000	Chisel Point Threaded Rod with Nut & Washer	110	10	M8	10	200
DFC4150050	Chisel Point Threaded Rod with Nut & Washer	130	12	M10	10	200
DFC4150100	Chisel Point Threaded Rod with Nut & Washer	160	14	M12	10	100
DFC4150150	Chisel Point Threaded Rod with Nut & Washer	190	18	M16	10	80
DFC4150200	Chisel Point Threaded Rod with Nut & Washer	260	24	M20	5	25
DFC4150250	Chisel Point Threaded Rod with Nut & Washer	300	28	M24	5	20

STRAIGHT CUT THREADED RODS

HOT DIPPED GALVANIZED

Cat No.	Description	Length [mm	Drill Dia [mm]	Thread Size [mm]	Box Quantity	Carton Quantity
DFC4170000	Straight Cut Threaded Rod with Nut & Washer	110	10	M8	25	200
DFC4170040	Straight Cut Threaded Rod with Nut & Washer	130	12	M10	25	100
DFC4170160	Straight Cut Threaded Rod with Nut & Washer	160	14	M12	10	100
DFC4170200	Straight Cut Threaded Rod with Nut & Washer	190	18	M16	10	40
DFC4170320	Straight Cut Threaded Rod with Nut & Washer	260	24	M20	10	40
DFC4170400	Straight Cut Threaded Rod with Nut & Washer	290	28	M24	10	40