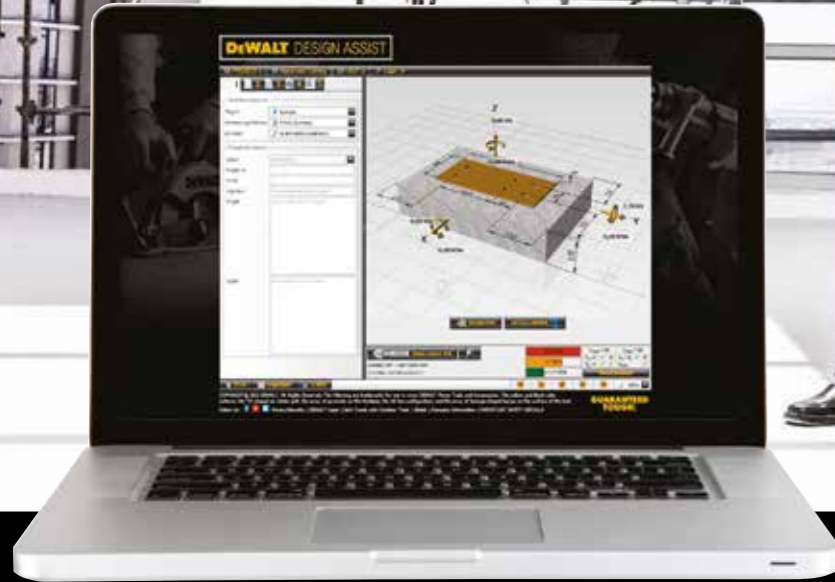


# ONLINE ANCHOR DESIGN SOFTWARE



- 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.DEWALTDISIGNASSIST.COM](http://WWW.DEWALTDISIGNASSIST.COM)**

Your DeWALT Dealer

**DEWALT**

### DISCLAIMER FOR RECOMMENDATIONS, INFORMATION AND USE OF DATA

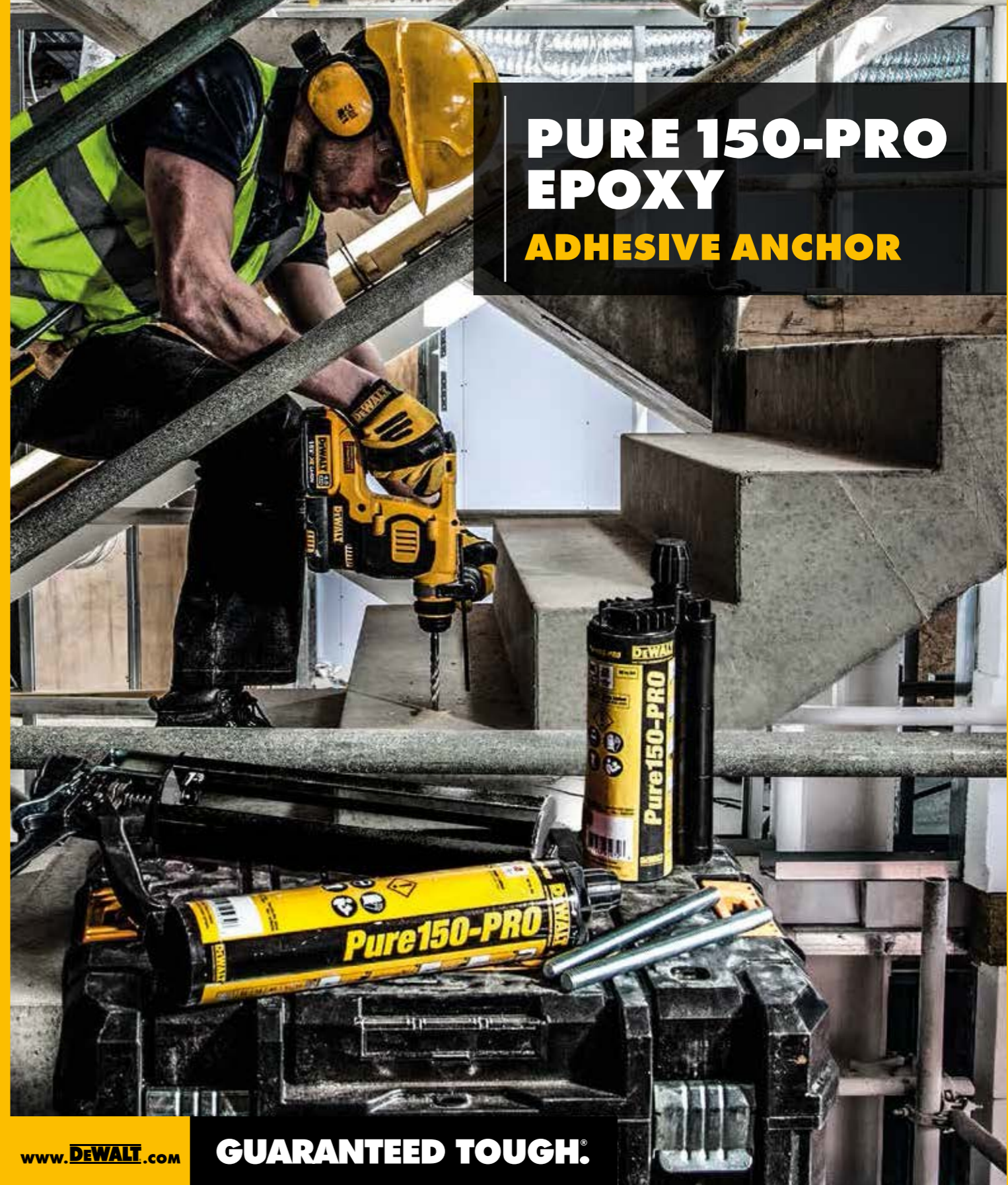
The recommendations, information and data contained in this manual are put together with the greatest care and accuracy possible. It is based on principles, equations and safety factors set out in the technical documentation of DeWALT Anchors & Fasteners, Inc. that are believed to be correct and current as of June 1, 2014. 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.

**DEWALT**



**PURE 150-PRO  
EPOXY  
ADHESIVE ANCHOR**

[www.DEWALT.com](http://www.DEWALT.com)

**GUARANTEED TOUGH.**

# PURE150-PRO STYRENE FREE PURE EPOXY ANCHOR.

## FAST CURING & HIGH STRENGTH ADHESION.

The PURE150-PRO is a two-component high strength epoxy adhesive anchoring system designed for bonding steel elements or post-installing reinforcement bars to cracked and uncracked concrete.

### FAST CURING TIMES

- Quick install compared to other pure epoxies

### LONG SHELF LIFE

- 24 month shelf life for longevity

### EXTENSIVE RANGE

- Wide range of steel element diameter and embedment depths

## APPROVED PERFORMANCE.

The PURE150-PRO anchor system is a pure epoxy mortar with ETA Option 1 approval, for use in cracked and uncracked concrete and is approved to the highest international standards.

- ETA Option 1 approved
- Ideal for installation in dry, wet and water filled holes
- Approved for overhead applications
- Approved for diamond drilled holes for C20/25 to C50/60 concrete

### APPROVALS

ETA CE 12 0756-CPD-0553  
EUROPEAN TECHNICAL APPROVAL  
ETA-12/0605 - ETAG 001 - Option 1

F120

ICC ES

ETA CE 12 0756-CPD-0554  
EUROPEAN TECHNICAL APPROVAL  
ETA-12/0606 - ETAG 001 - Core Drill

NSF

ETA CE 13 0756-CPD-0556  
EUROPEAN TECHNICAL APPROVAL  
ETA 13/0049 - TR 023- PI Rebar

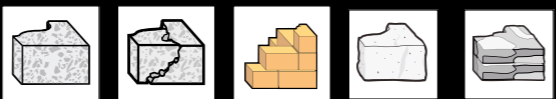
AGB  
Zulassung

DEWALT  
2.21.9.1993  
Erweitert für  
Massivbau  
Technische  
Universität  
Darmstadt

### ACCESSORIES

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

### MATERIALS



### RANGE

**DFC1110100**  
1400ml

**DFC1110050**  
585ml

**DFC1110000**  
385ml



## APPLICATIONS GUIDE

The PURE150-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](http://www.DEWALT.com)

- ✓ Suitable
- ✓ Suitable depending on the steel material used

APPLICATIONS	Concrete	Core Drilled	Post-Installed Rebar
Interior Installation	✓	✓	
Exterior Installation	✓	✓	
Adverse Atmosphere	✓	✓	
High Service Temperature Range	✓	✓	✓
Moderate Installation Temperature Range	✓	✓	✓
Dry and Wet Base Material	✓	✓	✓
Water Filled Holes	✓	✓	
Post-Installed Rebar Design			✓
Preset Installation	✓	✓	
Stand-off Installation	✓	✓	
LOADING CONDITIONS			
Static Load	✓	✓	✓
Quasi-Static Loads	✓	✓	✓
Seismic Loads	✓		
Moderate Wind Loads	✓	✓	✓
High Wind Loads	✓		

# LOADING DATA

## UNCRAKED CONCRETE - HAMMER DRILLED, ETA 12/0605

		M8	M10	M12	M16	M20	M24	M27	M30
Min. effective anchorage depth	$h_{ef}$ min (mm)	60	60	70	80	90	96	108	120
<b>Dry or wet concrete</b>									
Design Load at $h_{ef}$ min, 8.8 threaded rod, C20/25	Tension $N_{Rd}$ (kN)	12.6	13.0	16.4	20.1	20.5	22.6	27.0	31.6
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
<b>Water filled drill hole</b>									
Design Load at $h_{ef}$ min, 8.8 threaded rod, C20/25	Tension $N_{Rd}$ (kN)	10.8	11.2	14.1	17.2	20.5	22.6	27.0	31.6
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
Max. effective anchorage depth	$h_{ef}$ max (mm)	160	200	240	320	400	480	540	600
<b>Dry or wet concrete</b>									
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	245.3	299.3
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
Max. effective anchorage depth	$h_{ef}$ max (mm)	96	120	144	192	240	288	324	360
<b>Water filled drill hole</b>									
Design Load at $h_{ef}$ max, 8.8 threaded rod, C20/25	Tension $N_{Rd}$ (kN)	17.2	25.1	33.6	46.0	68.2	87.9	98.2	113.1
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

## CRACKED CONCRETE - HAMMER DRILLED, ETA 12/0605

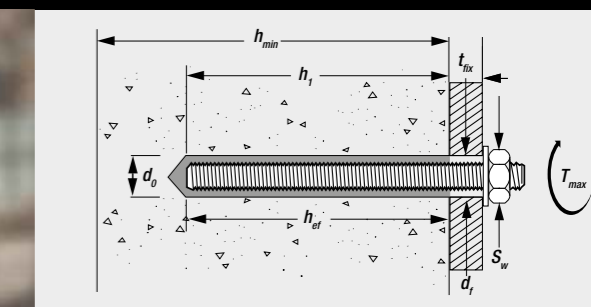
		M12	M16	M20	M24	M27	M30
Min. effective anchorage depth	$h_{ef}$ min (mm)	70	80	90	96	108	120
<b>Dry or wet concrete</b>							
Design Load at $h_{ef}$ min, 8.8 threaded rod, C20/25	Tension $N_{Rd}$ (kN)	11.0	14.3	14.6	16.1	19.2	22.5
Design Load at $h_{ef}$ min, 8.8 threaded rod, C20/25	Shear $V_{Rd}$ (kN)	26.4	34.3	41.0	45.1	53.9	63.1
<b>Water filled drill hole</b>							
Design Load at $h_{ef}$ min, 8.8 threaded rod, C20/25	Tension $N_{Rd}$ (kN)	9.4	11.5	13.5	15.5	17.4	21.5
Design Load at $h_{ef}$ min, 8.8 threaded rod, C20/25	Shear $V_{Rd}$ (kN)	26.4	32.2	37.7	43.4	48.9	60.3
Max. effective anchorage depth	$h_{ef}$ max (mm)	240	320	400	480	540	600
<b>Dry or wet concrete</b>							
Design Load at $h_{ef}$ max, 8.8 threaded rod, C20/25	Tension $N_{Rd}$ (kN)	35.2	58.1	71.8	94.8	120.0	148.1
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
Max. effective anchorage depth	$h_{ef}$ max (mm)	144	192	240	288	324	360
<b>Water filled drill hole</b>							
Design Load at $h_{ef}$ max, 8.8 threaded rod, C20/25	Tension $N_{Rd}$ (kN)	19.4	27.4	35.9	46.5	52.3	64.6
Design Load at $h_{ef}$ max, 8.8 threaded rod, C20/25	Shear $V_{Rd}$ (kN)	27.2	50.4	78.4	112.8	146.6	179.2

## UNCRAKED CONCRETE - CORE DRILLED, ETA 12/0606

		M10	M12	M16	M20	M24
Min. effective anchorage depth	$h_{ef}$ min (mm)	60	70	80	90	96
<b>Dry or wet concrete</b>						
Design Load at $h_{ef}$ min, 8.8 threaded rod, C20/25	Tension $N_{Rd}$ (kN)	13.8	14.7	20.1	24.0	26.4
Design Load at $h_{ef}$ min, 8.8 threaded rod, C20/25	Shear $V_{Rd}$ (kN)	18.4	27.2	48.2	57.5	63.3
<b>Water filled drill hole</b>						
Design Load at $h_{ef}$ min, 8.8 threaded rod, C20/25	Tension $N_{Rd}$ (kN)	11.2	14.1	17.2	20.5	22.6
Design Load at $h_{ef}$ min, 8.8 threaded rod, C20/25	Shear $V_{Rd}$ (kN)	18.4	27.2	48.2	57.5	63.3
Max. effective anchorage depth	$h_{ef}$ max (mm)	200	240	320	400	480
<b>Dry or wet concrete</b>						
Design Load at $h_{ef}$ max, 8.8 threaded rod, C20/25	Tension $N_{Rd}$ (kN)	30.7	44.7	83.3	130.7	181.0
Design Load at $h_{ef}$ max, 8.8 threaded rod, C20/25	Shear $V_{Rd}$ (kN)	18.4	27.2	50.4	78.4	112.8
Max. effective anchorage depth	$h_{ef}$ max (mm)	200	240	320	400	480
<b>Water filled drill hole</b>						
Design Load at $h_{ef}$ max, 8.8 threaded rod, C20/25	Tension $N_{Rd}$ (kN)	30.7	44.7	83.3	130.7	172.3
Design Load at $h_{ef}$ max, 8.8 threaded rod, C20/25	Shear $V_{Rd}$ (kN)	18.4	27.2	50.4	78.4	112.8

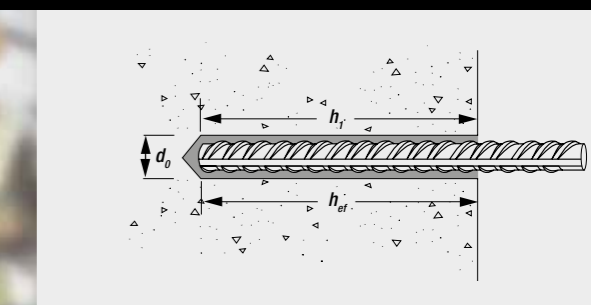
# INSTALLATION DATA - CONCRETE ANCHORING SYSTEM

## THREADED ROD



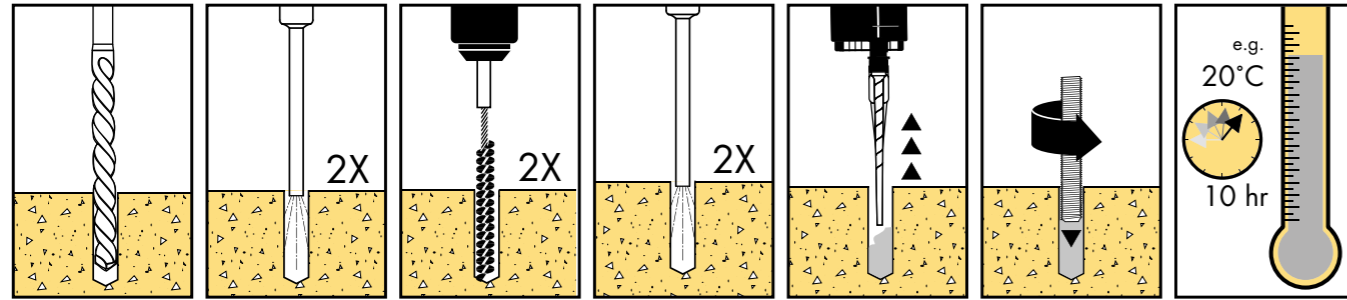
	Notation	Unit	Threaded rod								
			M8	M10	M12	M16	M20	M24	M27	M30	
Anchor diameter	$d$	[mm]	8	10	12	16	20	24	27	30	
Nominal drill bit diameter	$d_0$	[mm]	10	12	14	18	24	28	32	35	
Diameter of hole clearance in fixture	$d_f$	[mm]	9	12	14	18	22	26	30	33	
Diameter of steel brush	$d_b$	[mm]	12	14	16	20	26	30	34	37	
Minimum embedment and drill hole depth	$h_{ef,min} = h_1$	[mm]	60	60	70	80	90	96	108	120	
Maximum embedment and drill hole depth	$h_{ef,max} = h_1$	[mm]	160	200	240	320	400	480	540	600	
Minimum member thickness	$h_{min}$	[mm]	$h_{ef} + 30 \text{ mm} \geq 100 \text{ mm}$			$h_{ef} + 2 \cdot d_0$					
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]	$0 \text{ mm} \leq t_{fix} \leq 1500 \text{ mm}$								
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	$h_{ef,min} = h_1$	[mm]	60	60	70	75	80	90	100	112	128
Maximum embedment and drill hole depth	$h_{ef,max} = h_1$	[mm]	160	200	240	280	320	400	500	560	640
Minimum member thickness	$h_{min}$	[mm]	$h_{ef} + 30 \text{ mm} \geq 100 \text{ mm}$			$h_{ef} + 2 \cdot d_0$					
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 - CONCRETE ANCHORING SYSTEM



- 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) 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.

For complete installation instructions, see technical approval.

## SETTING TIMES

TEMP °C	GEL	SET DRY	SET WET
5° C	2 h	50 h	100 h
10° C	90 min	30 h	60 h
20° C	30 min	10 h	20 h
30° C	20 min	6 h	12 h
40° C	12 min	4 h	8 h

## INSTALLATION DATA - CORE DRILLED CONCRETE ANCHORING SYSTEM

### THREADED ROD



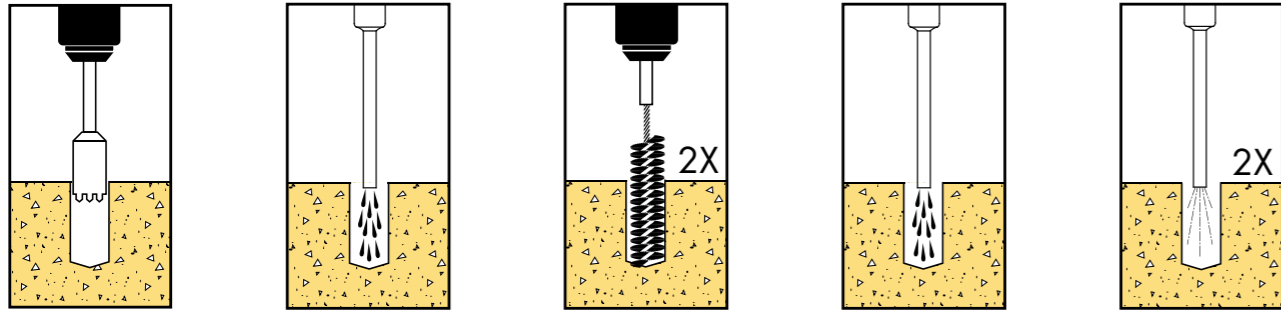
	Notation	Unit	Threaded rod				
			M10	M12	M16	M20	M24
Anchor diameter	d	[mm]	10	12	16	20	24
Nominal drill bit diameter	d <sub>0</sub>	[mm]	12	14	18	24	28
Diameter of hole clearance in fixture	d <sub>i</sub>	[mm]	12	14	18	22	26
Diameter of steel brush	d <sub>b</sub>	[mm]	14	16	20	26	30
Minimum embedment and drill hole depth	h <sub>ef,min</sub> = h <sub>1</sub>	[mm]	60	70	80	90	96
Maximum embedment and drill hole depth	h <sub>ef,max</sub> = h <sub>1</sub>	[mm]	200	240	320	400	480
Minimum member thickness	h <sub>min</sub>	[mm]	h <sub>ef</sub> + 30 mm ≥ 100 mm			h <sub>ef</sub> + 2 · d <sub>0</sub>	
Minimum spacing	s <sub>min</sub>	[mm]	50	60	80	100	120
Minimum edge distance	c <sub>min</sub>	[mm]	50	60	80	100	120
Thickness of fixture	t <sub>fix</sub>	[mm]	0 mm ≤ t <sub>fix</sub> ≤ 1500 mm				
Maximum torque	T <sub>max</sub>	[Nm]	20	40	80	120	160
Torque wrench socket size	S <sub>w</sub>	[mm]	17	19	24	30	36

### REINFORCEMENT BAR

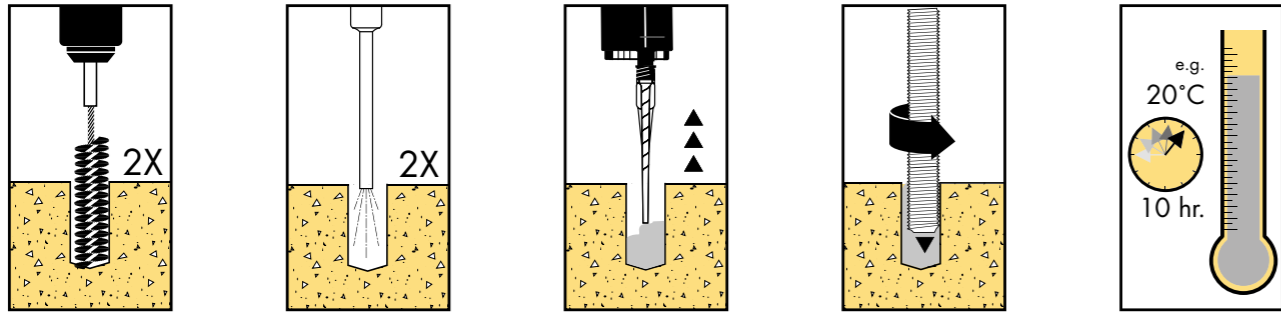


	Notation	Unit	Reinforcement bar					
			Ø10	Ø12	Ø14	Ø16	Ø20	Ø25
Nominal diameter of rebar	d	[mm]	10	12	14	16	20	25
Nominal drill bit diameter	d <sub>0</sub>	[mm]	14	16	18	20	24	32
Diameter of steel brush	d <sub>b</sub>	[mm]	16	18	20	22	26	34
Minimum embedment and drill hole depth	h <sub>ef,min</sub> = h <sub>1</sub>	[mm]	60	70	75	80	90	100
Maximum embedment and drill hole depth	h <sub>ef,max</sub> = h <sub>1</sub>	[mm]	200	240	280	320	400	500
Minimum member thickness	h <sub>min</sub>	[mm]	h <sub>ef</sub> + 30 mm ≥ 100 mm			h <sub>ef</sub> + 2 · d <sub>0</sub>		
Minimum edge distance	c <sub>min</sub>	[mm]	50	60	70	80	100	125
Minimum spacing	s <sub>min</sub>	[mm]	50	60	70	80	100	125

## INSTALLATION INSTRUCTIONS - CORE DRILLED CONCRETE ANCHORING SYSTEM



- 1) Using the proper drill bit size, drill a hole into the base material to the required depth.
- 2) Rinse the hole until access water is clear.
- 3) Brush the hole with the proper wire brush 2 times minimum.
- 4) Rinse the hole until access water is clear.
- 5) Blow the hole clean using a hand pump or compressed air 2 times minimum.



- 6) Brush the hole with the proper wire brush 2 times minimum.
- 7) Blow the hole clean using a hand pump or compressed air 2 times minimum.
- 8) After dispensing a minimum of 3 strokes, fill the hole up to approximately 2/3 with adhesive.
- 9) Push the steel element into the hole while turning slightly.
- 10) 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	2 h	50 h	100 h
10° C	90 min	30 h	60 h
20° C	30 min	10 h	20 h
30° C	20 min	6 h	12 h
40° C	12 min	4 h	8 h

## ACCESSORIES

### DISPENSING TOOLS



Cat No.	Type	Cartridge Size [ml]	Box Quantity	Carton Quantity
DFC1610350	Manual	385/585	1	5
DFC1610200	Heavy Duty Manual	385/585	1	10
DFC1630050	Pneumatic	385/585	1	-
DFC1630500	Pneumatic	1400	1	-

### MIXING NOZZLES



DFC1640350

Cat No.	Description	Box Quantity	Carton Quantity
DFC1640350	White - 18-Element	10	-

### EXTENSION NOZZLES



DFC1640500/DFC1640200/DFC1640250/DFC1640300

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

### 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



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

## 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