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 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.

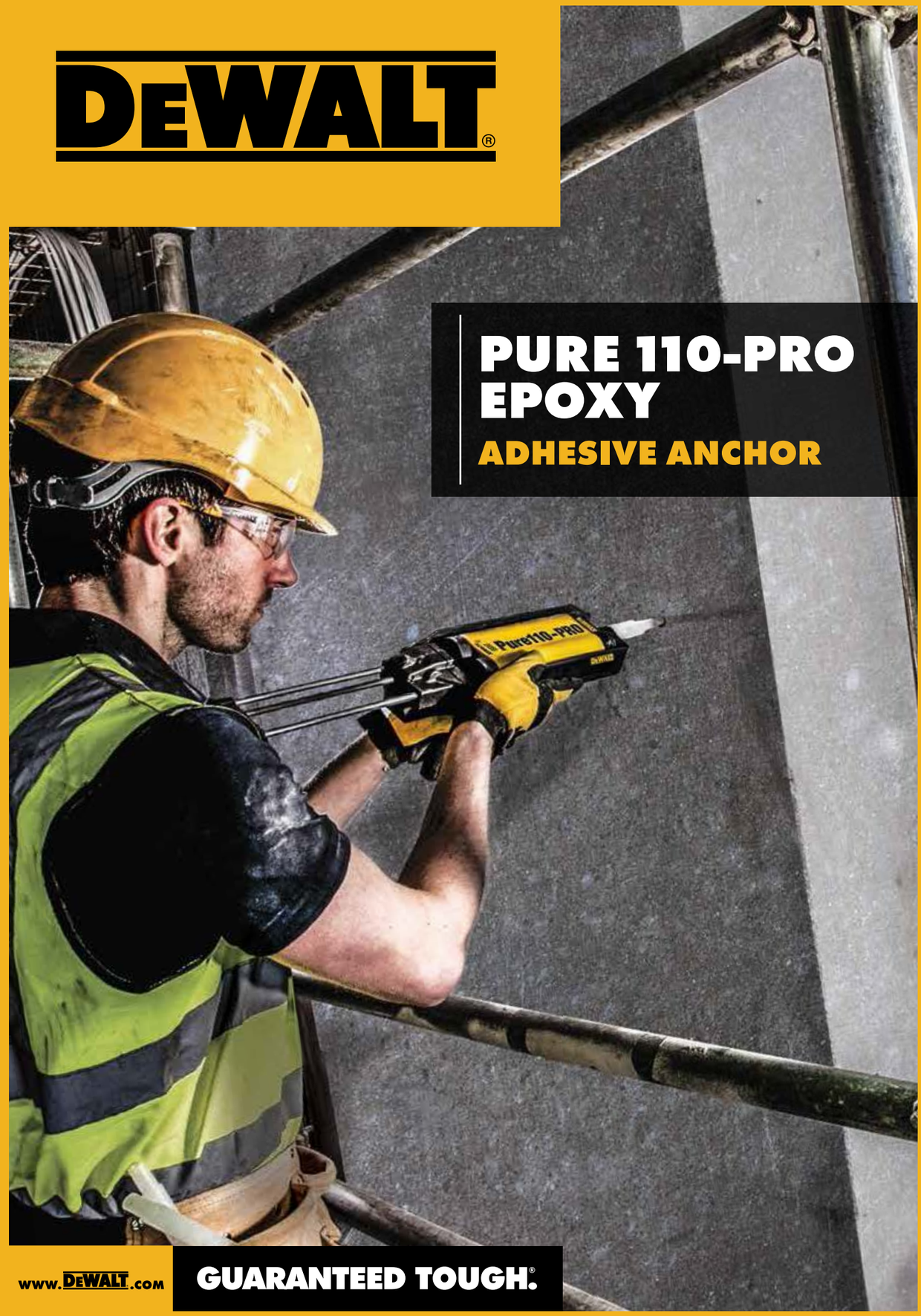
It is the responsibility of the design professional to ensure that a suitable product is selected, properly designed and used in the intended application. This includes that the selected product and its use is compliant with the applicable building codes and other legal requirements and will satisfy 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.

09/2014 MP16765-GB

DEWALT®

PURE 110-PRO EPOXY
ADHESIVE ANCHOR



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GUARANTEED TOUGH.®

PURE110-PRO STYRENE FREE PURE EPOXY ANCHOR.

TWO COMPONENT ANCHORING SYSTEM.

PURE110-PRO is a high strength pure epoxy mortar that uses a completely new chemical formulation to give high approved loads even at elevated temperatures.

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

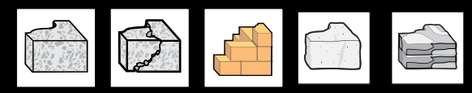
APPROVED PERFORMANCE.

With ETA Option 1 approval for bonding steel elements to cracked and uncracked concrete as well as seismic approval and suitablility for diamond drilled holes, the PURE110-PRO system is an extremely cost-effective adhesive anchor for heavy duty applications.

- ETA Option 1 approved
- Approved for installation in dry, wet and water filled holes
- Excellent performance in applications with elevated temperatures (e.g. in tunnels or behind glass facades)
- Approved for seismic loads according to category C1

The cracked concrete approval is valid for fixing with normal threaded rods M10-M30 and rebars Ø10-Ø32.

MATERIALS



APPROVALS

RANGE

DFC1130050
620ml

DFC1130000
265ml

ACCESSORIES

For the full range of accessories see **page 8.**

APPLICATIONS GUIDE

The PURE110-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
Interior Installation	✓
Exterior Installation	✓
Adverse Atmosphere	✓
High Service Temperature Range	✓
Dry and Wet Base Material	✓
Water Filled Holes	✓
Preset Installation	✓
Stand-off Installation	✓
LOADING CONDITIONS	
Static Load	✓
Quasi-Static Loads	✓
Seismic Loads	✓
Moderate Wind Loads	✓
High Wind Loads	✓

LOADING DATA

UNCRACKED CONCRETE, ETA-13/0397 (DRY OR WET CONCRETE AND WATER FILLED DRILL HOLE)

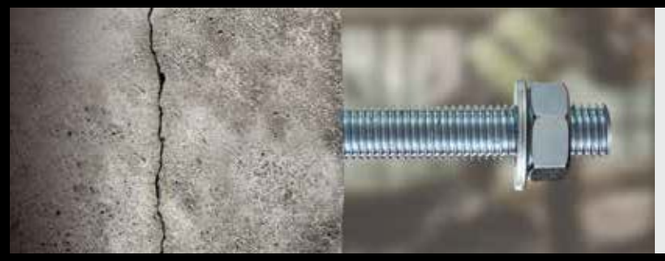
		M10	M12	M16	M20	M24	M27	M30
Min. effective anchorage depth	h_{ef} min (mm)	60	70	80	90	96	108	120
40/24°C								
Design Load at h_{ef} min, 8.8 threaded rod, C20/25	Tension N_{Rd} (kN)	13.0	16.4	20.1	24.0	26.4	31.5	36.9
Design Load at h_{ef} min, 8.8 threaded rod, C20/25	Shear V_{Rd} (kN)	18.4	27.2	48.2	57.5	63.3	75.6	88.5
72/43°C								
Design Load at h_{ef} min, 8.8 threaded rod, C20/25	Tension N_{Rd} (kN)	12.6	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)	18.4	27.2	48.2	57.5	63.3	75.6	88.5
Max. effective anchorage depth	h_{ef} max (mm)	200	240	320	400	480	540	600
40/24°C								
Design Load at h_{ef} max, 8.8 threaded rod, C20/25	Tension N_{Rd} (kN)	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)	18.4	27.2	50.4	78.4	112.8	147.2	179.2
72/43°C								
Design Load at h_{ef} max, 8.8 threaded rod, C20/25	Tension N_{Rd} (kN)	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)	18.4	27.2	50.4	78.4	112.8	147.2	179.2

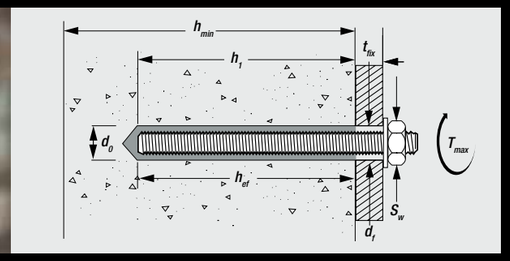
CRACKED CONCRETE, ETA-13/0397 (DRY OR WET CONCRETE AND WATER FILLED DRILL HOLE)

		M10	M12	M16	M20	M24	M27	M30
Min. effective anchorage depth	h_{ef} min (mm)	60	70	80	90	96	108	120
40/24°C								
Design Load at h_{ef} min, 8.8 threaded rod, C20/25	Tension N_{Rd} (kN)	6.4	8.3	12.7	16.2	17.8	21.3	24.9
Design Load at h_{ef} min, 8.8 threaded rod, C20/25	Shear V_{Rd} (kN)	16.3	21.1	32.2	41.0	45.1	53.9	63.1
72/43°C								
Design Load at h_{ef} min, 8.8 threaded rod, C20/25	Tension N_{Rd} (kN)	6.0	8.3	11.6	16.2	17.8	21.3	24.9
Design Load at h_{ef} min, 8.8 threaded rod, C20/25	Shear V_{Rd} (kN)	15.1	21.1	29.5	41.0	45.1	53.9	63.1
Max. effective anchorage depth	h_{ef} max (mm)	200	240	320	400	480	540	600
40/24°C								
Design Load at h_{ef} max, 8.8 threaded rod, C20/25	Tension N_{Rd} (kN)	21.5	28.6	50.8	79.4	114.3	144.6	163.7
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	147.2	179.2
72/43°C								
Design Load at h_{ef} max, 8.8 threaded rod, C20/25	Tension N_{Rd} (kN)	19.8	28.6	46.6	72.8	104.8	120.5	148.8
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	147.2	179.2

INSTALLATION DATA - CONCRETE ANCHORING SYSTEM

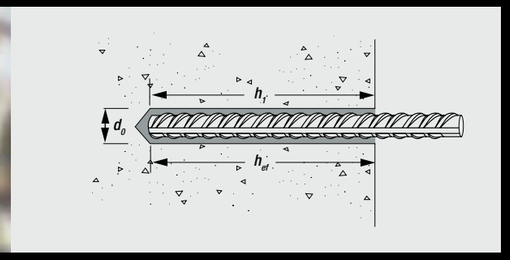
THREADED ROD





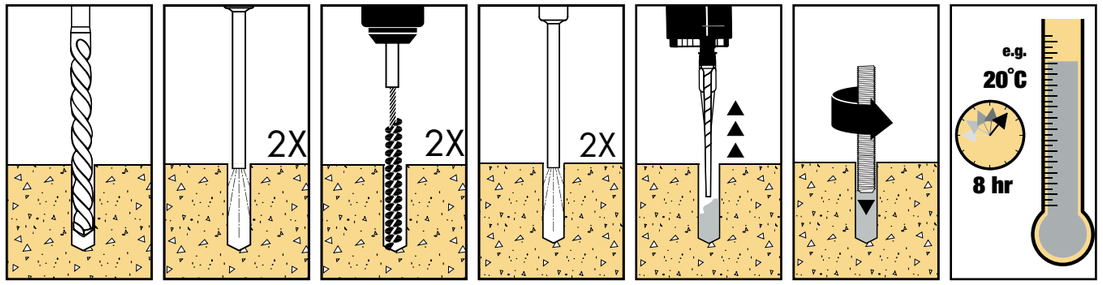
	Notation	Unit	Threaded rod						
			M10	M12	M16	M20	M24	M27	M30
Anchor diameter	d	[mm]	10	12	16	20	24	27	30
Nominal drill bit diameter	d_0	[mm]	12	14	18	24	28	32	35
Diameter of hole clearance in fixture	d_f	[mm]	12	14	18	22	26	30	33
Diameter of steel brush	d_b	[mm]	14	16	20	26	30	34	37
Minimum embedment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

REINFORCEMENT BAR



	Notation	Unit	Reinforcement bar							
			Ø10	Ø12	Ø14	Ø16	Ø20	Ø25	Ø30	Ø32
Nominal diameter of rebar	d_0	[mm]	10	12	14	16	20	25	30	32
Nominal drill bit diameter	d_{cut}	[mm]	14	16	18	20	24	32	35	37
Diameter of steel brush	d_b	[mm]	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]	60 200	70 240	75 280	80 320	90 400	100 500	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]	50	60	70	80	100	125	140	160
Minimum spacing	s_{min}	[mm]	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.

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 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
+20° C	25 min	8 h	16 h
+30° C	20 min	8 h	16 h
+40° C	12 min	4 h	8 h

ACCESSORIES

Professional accessories range for DEWALT adhesive anchors

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

DISPENSING TOOLS

DFC1610000

Cat No.	Type	Cartridge Size [ml]	Box Quantity	Carton Quantity
DFC1610000	Manual	265/300	1	12
DFC1610300	Manual	620	1	8

NOZZLES & PLUGS

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

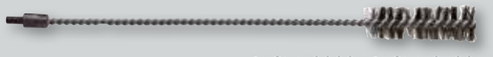
BLOW PUMP

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

STEEL BRUSHES AND SDS EXTENSIONS

DFC1670000

DFC1670050



DFC1670000 - DFC1670600

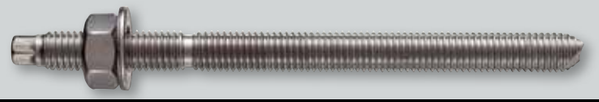
Cat No.	Description	Length [mm]	Drill Dia [mm]	Rebar Size [mm]	Thread Size [mm]	Box Quantity	Carton Quantity
DFC1670000	SDS Connection for Steel Brushes	-	-	-	-	1	100
DFC1670050	300MM Extension for Steel Brushes	300	-	-	-	1	100
DFC1670150	Steel Brush for SDS - 14mm Diameter	170	12	-	M10	1	100
DFC1670200	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

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
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

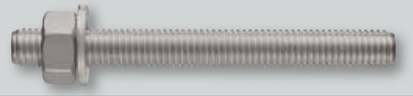
A4 STAINLESS STEEL



Cat No.	Description	Length [mm	Drill Dia [mm]	Thread Size [mm]	Box Quantity	Carton Quantity
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
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