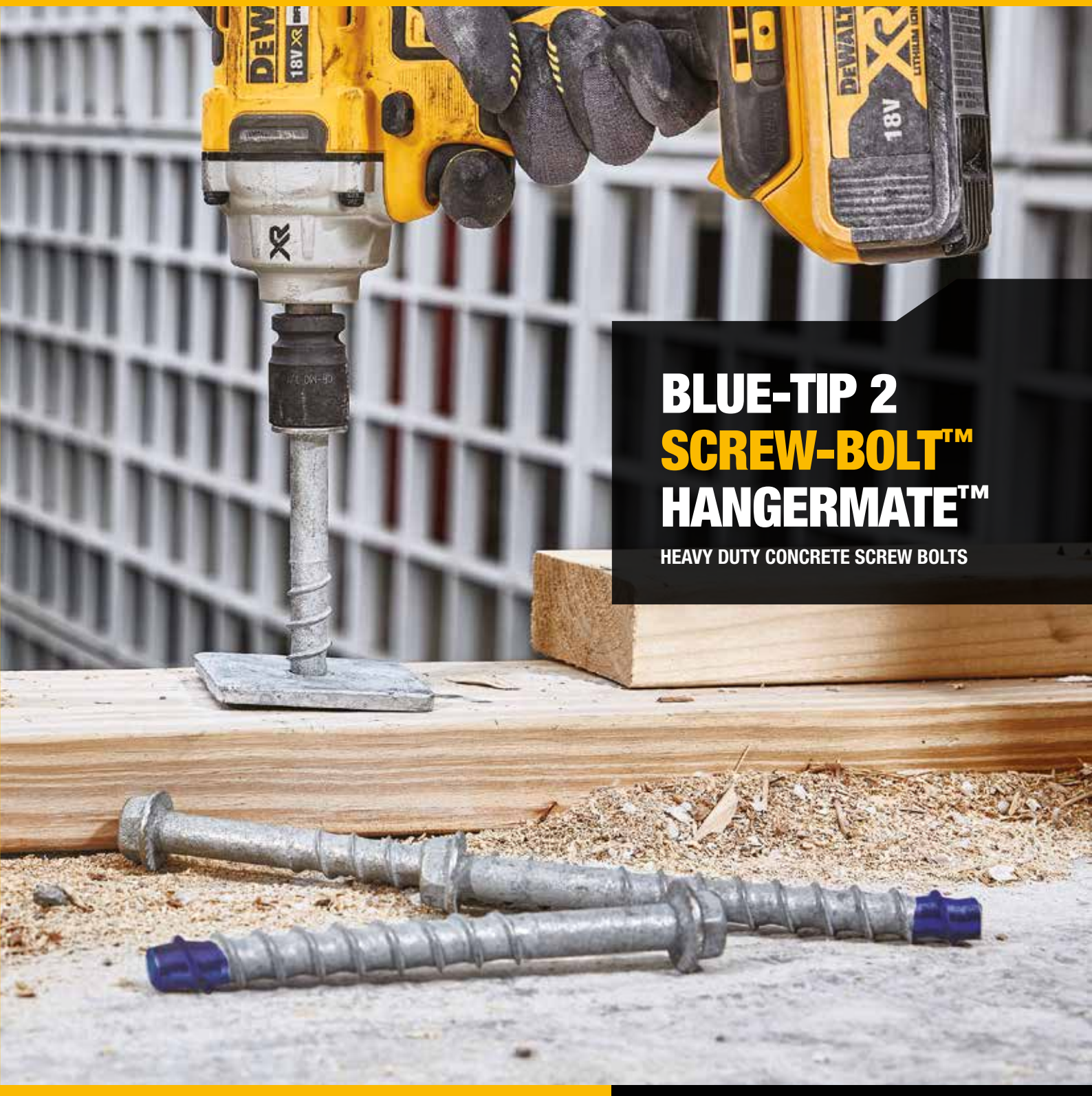
DEWALT®

ENGINEERED BY Powers™



BLUE-TIP 2 SCREW-BOLT™ HANGERMATE™

HEAVY DUTY CONCRETE SCREW BOLTS

www.DEWALT.com.au

GUARANTEED TOUGH®

THE PREFERRED BRAND FOR SERIOUS CONSTRUCTION.

Powers has been a pioneer in the fastening industry since 1921 and today is a recognised global leader in concrete and masonry fastening systems for the construction industry.

Powers is the worldwide leader in code-approved fastening solutions with product availability in more than 50 countries.

With over 90 years of experience, Powers can provide a worlds-best solution and technical advice for your anchoring requirements.

AEFAC
Australian Engineered Fasteners and Anchors Council
FOUNDING BOARD MEMBER

Powers a founding board member of AEFAC (Australian Engineered Fasteners and Anchor Council).

AEFAC is a consortium made of leading industry partners / suppliers of quality anchors and Swinburne University of Technology.

AEFAC is a new industry-focused initiative which aims to set the standard for the specification, selection, design, applications and installation of structural anchors and fasteners in the Australian construction industry.

AEFAC aims to enhance safety and efficiency associated with the use of structural anchors and fasteners. The guidelines and resources being developed by AEFAC are intended to become the codes of practice in Australia.

APPROVALS & REPORTS

To ensure maximum performance, Powers undergo the most rigorous manufacturing and testing procedures.

As a result, many have received some of the world's most demanding approvals including ETA and ICC-ES certification. For full technical information and to download the relevant approval and certification documentation please visit

www.DEWALT.com.au

CODE COMPLIANT

High Performance Anchoring Systems

The Powers Code Compliant range includes our highest performing mechanical and chemical anchoring systems that carry ETA assessment and can be used with confidence to meet National Construction Code (NCC) requirements for safety critical applications.

ETA assessment reports can be used to design anchors in accordance with AS5216:2018 which is referenced in the National Construction Code (NCC) 2019

ETA

Anchor products holding a European Technical Approval/Assessment (ETA) are qualified according to one of the following:

- European Assessment Document **EAD 330232** "Mechanical fasteners for use in concrete"
- European Assessment Document **EAD 330499** "Bonded fasteners for use in concrete"
- European Assessment Document **EAD 330747** "Fasteners for use in concrete for redundant non-structural systems"
- European Assessment Document **EAD 330076** "Metal injection anchors for use in masonry"
- European Assessment Document **EAD 330087** "Systems for post-installed rebar connections with mortar" Product complying with European standards or assessments are marked with CE marking

ICC ES

The Evaluation Service of the International Code Council (ICC-ES) provides test guidelines for anchor qualification in the US. The technical reports issued on the basis of these guidelines are internationally recognized and provide a high degree of safety.

SEISMIC

Loads evolving from earthquakes are termed seismic loads and are characterized by cyclic loading. The suitability of the seismic load is classified as:

Seismic Category C1

Seismic Category C2

FIRE RATED

A fire resistance rating provides the duration of fire exposure for which the anchor product is qualified based on ETA or other relevant evaluation reports. Ratings within the context of the ETA are based on the following Technical Report:

EOTA TR 020 Evaluation of anchorages in concrete concerning resistance to fire.

NSF

NSF International is an independent organization that provides standards for product certification for public health and the environment.

LEED

The Leadership in Energy and Environmental Design (LEED) Green Building Rating system™ is the preeminent program for the design, construction, maintenance and operations of high-performance green buildings.

The use of products listed contribute toward satisfying Credit 4.1-Low Emitting Materials under LEED®.

VOC CLASSIFICATION A+ A+ A B C

Products tested for the emission of volatile substances in indoor air, with a risk of inhalation toxicity, on a scale ranging from class A + (very low emissions) to C (high emissions) level.

Detailed performance data is available for all DEWALT anchor products

BLUE-TIP 2 SCREW-BOLT™ AND HANGERMATE™

HEAVY DUTY CONCRETE SCREW BOLTS

The BLUE-TIP 2 SCREW-BOLT™ and HANGERMATE™ is a state-of-the-art product line of heavy duty screw anchors which is available with a wide variety of head types. The one piece design makes it is easy to install and the preferred choice for fast but reliable anchoring which is also fully removable. This anchor is designed to resist structural and nonstructural loading in cracked and uncracked concrete. The patented thread design has been designed for use with standard drill bits, reduces installation torque and enhances productivity.

Applications

Attaching steel / timber to concrete, ventilation systems, racking and shelving, temporary supports, fencing, railings, stadium seating, base plates, substructures, windows and door frames, scaffolding, facade.

CODE COMPLIANT

Approvals & Reports

High Performance Anchoring Systems
The Powers Code Compliant range includes our highest performing mechanical and chemical anchoring systems that carry ETA assessment and can be used with confidence to meet National Construction Code (NCC) requirements for safety critical applications.

The below ETA assessment reports can be used to design anchors in accordance with AS5216:2018 which is referenced in the National Construction Code (NCC) 2019.

ETA-16/0867
Cracked & uncracked concrete

ETA-15/0810
Redundant non-structural applications

Fire Rated
F120 (refer to ETA-16/0867 and ETA-15/0810 for load capacities under fire)

Seismic C1
C1 (refer to ETA-16/0867 for seismic load capacities)

HEX HEAD - ZINC AND GALVANISED

									ZINC CLEAR	GALVANISED
Size (mm)	Length (mm)	Nominal Embedment Depth (mm)	Maximum Fixture Thickness (mm)	Drilled Hole Ø (mm)	Fixture Hole Ø (mm)	Socket Size (mm)	Box Qty	Carton Qty	Part No.	Part No.
6	35*	30	5	6	9	10	100	800	PBT635-PWR	PBTG635-PWR
6	50	40	10	6	9	10	100	800	PBT650-PWR	PBTG650-PWR
6	80	40 / 55	40 / 25	6	9	10	50	400	PBT680-PWR	PBTG680-PWR
6	100	40 / 55	60 / 45	6	9	10	50	400	PBT6100-PWR	PBTG6100-PWR
8	55	50	5	8	12	13	50	400	PBT855-PWR	PBTG855-PWR
8	65	50	15	8	12	13	50	400	PBT865-PWR	PBTG865-PWR
8	75	50	25	8	12	13	50	200	PBT875-PWR	PBTG875-PWR
8	100	50 / 75	50 / 25	8	12	13	25	100	PBT8100-PWR	PBTG8100-PWR
8	140	50 / 75	90 / 65	8	12	13	25	100		PBTG8140-PWR
10	60*	55	5	10	14	17	50	200	PBT1060-PWR	PBTG1060-PWR
10	80	60	20	10	14	17	25	200	PBT1080-PWR	PBTG1080-PWR
10	100	60 / 85	40 / 15	10	14	17	25	100	PBT10100-PWR	PBTG10100-PWR
10	120	60 / 85	60 / 35	10	14	17	25	100	PBT10120-PWR	PBTG10120-PWR
10	140	60 / 85	80 / 55	10	14	17	25	100		PBTG10140-PWR
12	80	75	5	12	16	19	25	100	PBT1280-PWR	PBTG1280-PWR
12	100	75	25	12	16	19	25	100	PBT12100-PWR	PBTG12100-PWR
12	150	75 / 100	75 / 50	12	16	19	20	80	PBT12150-PWR	PBTG12150-PWR
16	100	95	5	16	20	24	10	40	PBT16100-PWR	
16	150	95 / 130	55 / 20	16	20	24	10	40	PBT16150-PWR	

NOTES: * Sizes not covered by ETA. 6mm size is covered by both ETA-16/0867 (Option 1) and ETA-15/0810 (Redundant non-structural applications)

BLUE-TIP 2 SCREW-BOLT™

COUNTERSUNK HEAD - GALVANISED

									GALVANISED
Size (mm)	Length (mm)	Nominal Embedment Depth (mm)	Maximum Fixture Thickness (mm)	Drilled Hole Ø (mm)	Fixture Hole Ø (mm)	Drive Type	Box Qty	Carton Qty	Part No.
6	80	40 / 55	40 / 25	6	9	T40	50	400	PBTCSKG680-PWR
8	75	50	25	8	12	T45	50	200	PBTCSKG875-PWR
8	100	50 / 75	50 / 25	8	12	T45	50	200	PBTCSKG8100-PWR
10	75	60	15	10	14	T50	25	200	PBTCSKG1075-PWR
10	100	60 / 85	40 / 15	10	14	T50	25	100	PBTCSKG10100-PWR
12	100	75	25	12	16	T55	25	100	PBTCSKG12100-PWR

EYEBOLT - ZINC

							ZINC CLEAR
Size (mm)	Length (mm)	Nominal Embedment Depth (mm)	Eyelet Ø (mm)	Drilled Hole Ø (mm)	Box Qty	Carton Qty	Part No.
8	55*	55	15.2	8	50	400	PBTEYE855-PWR
10	65*	65	17.1	10	50	200	PBTEYE1065-PWR
12	75*	75	21.6	12	50	200	PBTEYE1275-PWR

TIE DOWN INTERNAL THREADED HEAD - GALVANISED (REPORT PENDING)

									GALVANISED
Size (mm)	Length (mm)	Nominal Embedment Depth (mm)	Maximum Fixture Thickness (mm)	Drilled Hole Ø (mm)	Fixture Hole Ø (mm)	Socket Size (mm)	Box Qty	Carton Qty	Part No.
12	100*	62	38	12	14	19	25	100	PBTTDG12100-PWR
12	150*	102	48	12	14	19	25	100	PBTTDG12150-PWR

PAN HEAD - ZINC

									ZINC CLEAR
Size (mm)	Length (mm)	Nominal Embedment Depth (mm)	Maximum Fixture Thickness (mm)	Drilled Hole Ø (mm)	Fixture Hole Ø (mm)	Drive Type	Box Qty	Carton Qty	Part No.
6	40	35**	5	6	9	T40	50	400	PBTP640-PWR
6	60	40 / 55	20 / 5	6	9	T40	50	400	PBTP660-PWR
6	100	40 / 55	60 / 45	6	9	T40	50	400	PBTP6100-PWR

NOTES: * Sizes not covered by ETA
** Size covered in ETA-15/0810 (Redundant non-structural applications)

BLUE-TIP 2 SCREW-BOLT™ AND HANGERMATE™

DOME HEAD - GALVANISED

									GALVANISED
Size (mm)	Length (mm)	Nominal Embedment Depth (mm)	Maximum Fixture Thickness (mm)	Drilled Hole Ø (mm)	Fixture Hole Ø (mm)	Drive Type	Box Qty	Carton Qty	Part No.
6	50	40	10	6	9	T30	100	800	**PBTDG650-PWR**
6	60	40 / 55	20 / 5	6	9	T30	50	400	**PBTDG660-PWR**
6	80	40 / 55	40 / 25	6	6	T30	50	400	**PBTDG680-PWR**

HANGERMATE™ INTERNAL THREADED HEAD - ZINC

									ZINC CLEAR
Size (mm)	Length (mm)	Drilled Hole Depth Ø (mm)	Nominal Embedment Depth (mm)	Internal Thread Size (mm)	Drilled Hole Ø (mm)	Socket Size (mm)	Box Qty	Carton Qty	Part No.
6	35	45	35	M6	6	10mm	100	800	**HM6M635-PWR**
6	40	50	40	M10	6	13mm	100	800	**HM6M1040-PWR**
6	40	50	40	M10	6	13mm	-	500	**HM6M1040KIT-PWR**
8	50	60	50	M12	8	15mm	100	400	**HM8M1250-PWR**
8	50	60	50	M12	8	15mm	-	300	**HM8M1250KIT-PWR**

HANGERMATE™ SETTING TOOLS

Description	Box Qty	Carton Qty	Part No.
Socket for M6 HANGERMATE™	1	16	**HMSTM6-PWR**
Socket for M10 HANGERMATE™	1	16	**HMSTM810-PWR**
Socket for M12 HANGERMATE™	1	16	**HMSTM12-PWR**

HANGERMATE™ EXTERNAL THREADED - ZINC

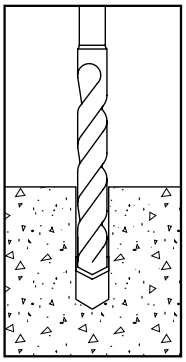
									ZINC CLEAR
Size (mm)	Length (mm)	Drilled Hole Depth Ø (mm)	Embedment Depth (mm)	Metric External Thread Size (mm)	Drilled Hole Ø (mm)	Socket Size (mm)	Box Qty	Carton Qty	Part No.
6	35**	45	35	M10	6	13mm	50	400	**HMEM10635-PWR**
6	55	65	55	M10	6	13mm	50	400	**HMEM10655-PWR**

NOTES: ** Size covered in ETA-15/0810 (Redundant non-structural applications)

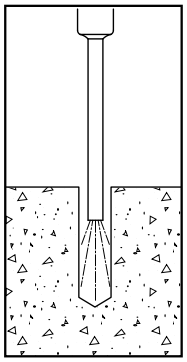
BLUE-TIP 2 SCREW-BOLT™

INSTALLATION INSTRUCTIONS INTO CONCRETE

Standard Drill Bit

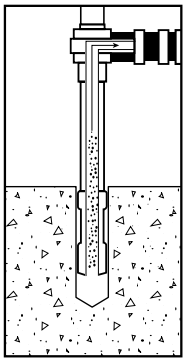


1.) Using the proper drill bit size, drill a hole into the base material to the required depth.

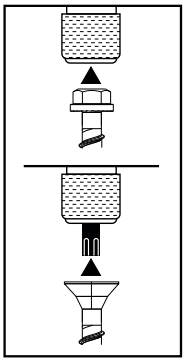


2.) Remove dust and debris from the hole using a hand pump or compressed air.

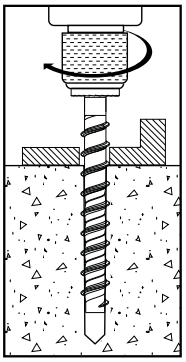
Hollow Drill Bit



1. & 2.) Connect the hollow drill bit of proper size to a vacuum, and drill a hole into the base material to the required depth while the vac is running. The dust is removed during the drilling process.



3.) Select impact wrench and mount the screw anchor head onto the appropriate socket or bit.

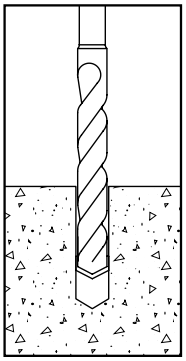


4.) Drive the anchor through the fixture into the hole at least to the minimum required embedment depth and until the head of the anchor comes into contact with the fixture.

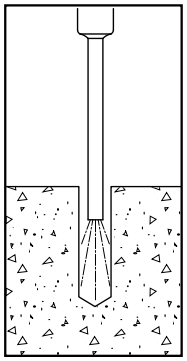
EYEBOLT

INSTALLATION INSTRUCTIONS INTO CONCRETE

Standard Drill Bit

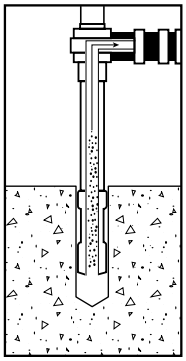


1.) Using the proper drill bit size, drill a hole into the base material to the required depth.

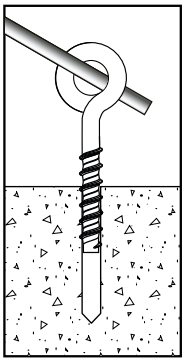


2.) Remove dust and debris from the hole using a hand pump or compressed air.

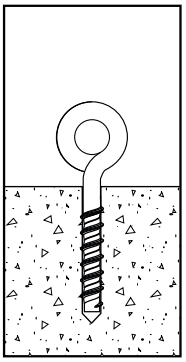
Hollow Drill Bit



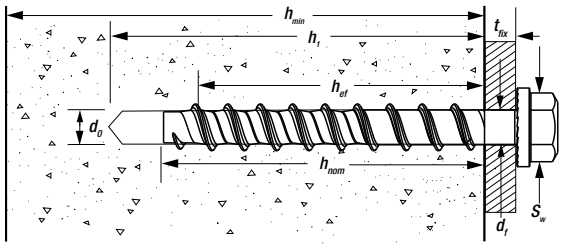
1. & 2.) Connect the hollow drill bit of proper size to a vacuum, and drill a hole into the base material to the required depth while the vac is running. The dust is removed during the drilling process.

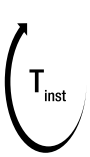


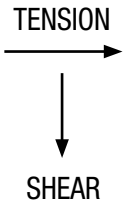
3.) Insert proper size steel rod through the eye head. Insert the anchor directly into the drilled hole. Begin tightening the anchor by applying forward pressure when engaging the first thread. Continue tightening the anchor until the eye is firmly seated against the concrete surface.



4.) The installation is complete once the head is firmly seated against the concrete surface.

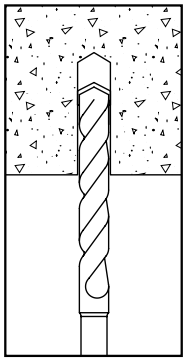




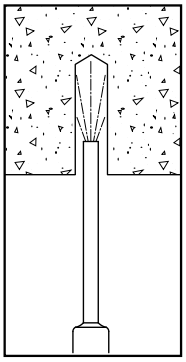


HANGERMATE™

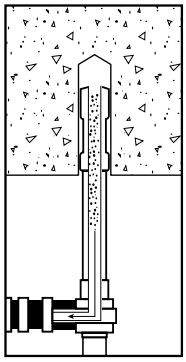
INSTALLATION INSTRUCTIONS INTO CONCRETE



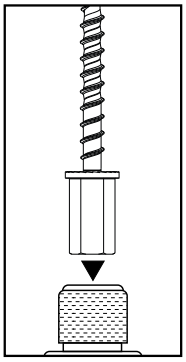
1.) Using the proper drill bit size, drill a hole into the base material to the required depth.



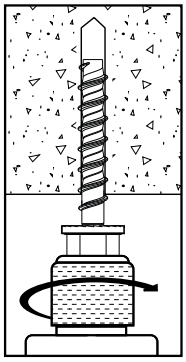
2.) Remove dust and debris from the hole using a hand pump or compressed air.



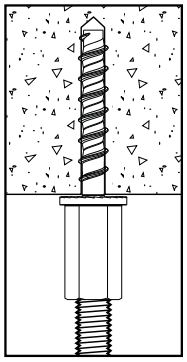
1. & 2.) Connect the hollow drill bit of proper size to a vacuum, and drill a hole into the base material to the required depth while the vac is running. The dust is removed during the drilling process.



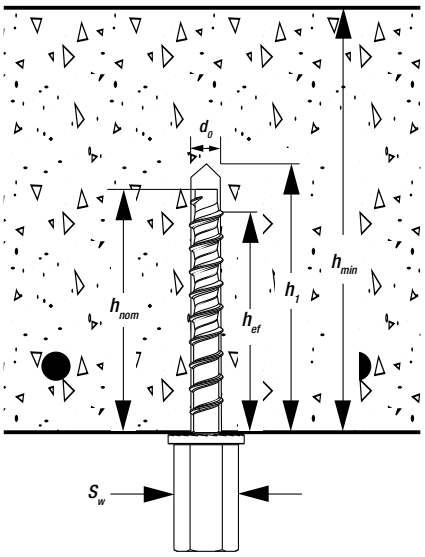
3.) Select impact wrench and mount the screw anchor head into the hex socket.

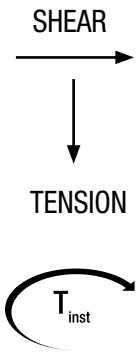


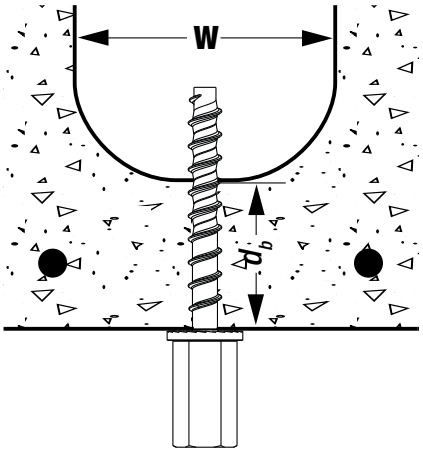
4.) Drive the anchor into the hole at least to the minimum required embedment depth and until the head of the anchor comes into contact with the base material.

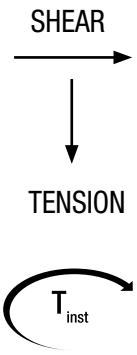


5.) Screw the threaded rod into the anchor head.









Note: Concrete breaks / spalls on the far end of drilling and the amount of spalling varies. d_b is the minimum thickness required after the hole has been drilled.

INSTALLATION DATA

Size	6	8	10	12	16
Maximum instalation torque (Nm)	22.5	40	70	75	120
Maximum impact wrench torque (Nm)	203	203	440	950	950
Example of setting tool	Dewalt DCF880 Dewalt DCF887		DCF894 (Pos 3) DCF899 (Pos 2)	DCF894 (Pos 3) DCF899 (Pos 3)	

BLUE-TIP 2 SCREW-BOLT™

ALLOWABLE LOADS: STATIC / QUASI-STATIC LOAD CAPACITIES

						20MPa		32MPa		40MPa		50MPa	
Size (mm)	Nominal Embedment Depth h_{ef} (mm)	Drill Hole Depth h_1 (mm)	Drill Hole Dia. h_0 (mm)	Clearance Hole Dia. d_f (mm)	Concrete Thickness (mm)	Tension (kN)	Shear (kN)	Tension (kN)	Shear (kN)	Tension (kN)	Shear (kN)	Tension (kN)	Shear (kN)
ALLOWABLE LOADS: Static / Quasi-Static Load Capacities in Uncracked Concrete													
6	40	50	6	9	80	2.6	2.4	3.2	2.4	3.6	2.4	4.0	2.4
	55	65			100	4.8	3.8	6.0	3.8	6.7	3.8	7.5	3.8
8	50	60	8	12	100	4.8	5.2	6.0	5.2	6.7	5.2	7.5	5.2
	75	85			120	7.9	7.6	10.0	7.6	11.2	7.6	12.5	7.6
10	60	70	10	14	105	7.1	7.1	9.0	8.3	10.0	8.3	11.2	8.3
	85	95			140	10.5	11.6	13.3	11.6	14.9	11.6	16.7	11.6
12	75	85	12	16	125	8.3	17.9	10.5	17.9	11.8	17.9	13.2	17.9
	100	110			160	16.1	20.1	20.4	20.1	22.8	20.1	25.5	20.1
16	95	115	16	20	160	11.7	28.0	14.7	35.4	16.5	37.1	18.4	37.1
	130	150			195	16.9	37.1	21.4	37.1	23.9	37.1	26.7	37.1

						20MPa		32MPa		40MPa		50MPa	
Size (mm)	Nominal Embedment Depth h_{ef} (mm)	Drill Hole Depth h_1 (mm)	Drill Hole Dia. h_0 (mm)	Clearance Hole Dia. d_f (mm)	Concrete Thickness (mm)	Tension (kN)	Shear (kN)	Tension (kN)	Shear (kN)	Tension (kN)	Shear (kN)	Tension (kN)	Shear (kN)
ALLOWABLE LOADS: Static / Quasi-Static Load Capacities in Cracked Concrete													
6	40	50	6	9	80	1.2	2.4	1.5	2.4	1.7	2.4	1.9	2.4
	55	65			100	1.8	3.8	2.3	3.8	2.5	3.8	2.8	3.8
8	50	60	8	12	100	1.0	3.8	1.2	4.8	1.3	5.2	1.5	5.2
	75	85			120	3.6	7.5	4.5	7.6	5.1	7.6	5.6	7.6
10	60	70	10	14	105	2.4	5.0	3.0	6.3	3.4	7.0	3.8	7.9
	85	95			140	4.4	11.6	5.5	11.6	6.2	11.6	6.9	11.6
12	75	85	12	16	125	5.6	14.0	7.0	17.7	7.9	17.9	8.8	17.9
	100	110			160	7.1	20.1	9.0	20.1	10.1	20.1	11.3	20.1
16	95	115	16	20	160	4.0	19.6	5.0	24.8	5.6	27.7	6.3	31.0
	130	150			195	9.5	33.1	12.0	37.1	13.5	37.1	15.1	37.1

NOTES:

- Allowable loads incorporate capacity reduction factors as per AS5216:2018 and ETA-16/0867 and are inclusive of partial safety factor γ=1.4 for load actions. Refer to relevant national codes regarding load types and associated factors for further guidance.
- The given capacities are for single anchor not influenced by spacing from other anchors and distance from edge/s of concrete.
- For un-cleaned holes deeper drill depths are required to minimize the possibility of over-torquing the anchor

BLUE-TIP 2 SCREW-BOLT™

ULTIMATE LIMIT STATE DESIGN: STATIC / QUASI-STATIC LOAD CAPACITIES

						20MPa		32MPa		40MPa		50MPa	
Size (mm)	Nominal Embedment Depth h_{ef} (mm)	Drill Hole Depth h_1 (mm)	Drill Hole Dia. h_0 (mm)	Clearance Hole Dia. d_f (mm)	Concrete Thickness (mm)	Tension (kN)	Shear (kN)	Tension (kN)	Shear (kN)	Tension (kN)	Shear (kN)	Tension (kN)	Shear (kN)
ULTIMATE LIMIT STATE DESIGN: Static / Quasi-Static Load Capacities in Uncracked Concrete													
6	40	50	6	9	80	3.6	3.4	4.5	3.4	5.1	3.4	5.6	3.4
	55	65			100	6.7	5.3	8.4	5.3	9.4	5.3	10.5	5.3
8	50	60	8	12	100	6.7	7.3	8.4	7.3	9.4	7.3	10.5	7.3
	75	85			120	11.1	10.6	14.1	10.6	15.7	10.6	17.6	10.6
10	60	70	10	14	105	9.9	9.9	12.6	11.7	14.0	11.7	15.7	11.7
	85	95			140	14.8	16.2	18.7	16.2	20.9	16.2	23.3	16.2
12	75	85	12	16	125	11.7	25.1	14.8	25.1	16.5	25.1	18.4	25.1
	100	110			160	22.6	28.2	28.6	28.2	32.0	28.2	35.7	28.2
16	95	115	16	20	160	16.3	39.2	20.6	49.5	23.1	51.9	25.8	51.9
	130	150			195	23.7	51.9	29.9	51.9	33.5	51.9	37.4	51.9

						20MPa		32MPa		40MPa		50MPa	
Size (mm)	Nominal Embedment Depth h_{ef} (mm)	Drill Hole Depth h_1 (mm)	Drill Hole Dia. h_0 (mm)	Clearance Hole Dia. d_f (mm)	Concrete Thickness (mm)	Tension (kN)	Shear (kN)	Tension (kN)	Shear (kN)	Tension (kN)	Shear (kN)	Tension (kN)	Shear (kN)
ULTIMATE LIMIT STATE DESIGN: Static / Quasi-Static Load Capacities in Cracked Concrete													
6	40	50	6	9	80	1.7	3.4	2.1	3.4	2.4	3.4	2.6	3.4
	55	65			100	2.5	5.3	3.2	5.3	3.5	5.3	4.0	5.3
8	50	60	8	12	100	1.3	5.4	1.7	6.8	1.9	7.3	2.1	7.3
	75	85			120	5.0	10.4	6.3	10.6	7.1	10.6	7.9	10.6
10	60	70	10	14	105	3.3	7.0	4.2	8.8	4.7	9.8	5.3	9.9
	85	95			140	6.1	16.2	7.7	16.2	8.6	16.2	9.7	16.2
12	75	85	12	16	125	7.8	19.6	9.8	24.8	11.0	25.1	12.3	25.1
	100	110			160	10.0	28.2	12.6	28.2	14.1	28.2	15.8	28.2
16	95	115	16	20	160	5.6	27.4	7.0	34.7	7.9	38.8	8.8	43.3
	130	150			195	13.3	46.4	16.9	51.9	18.9	51.9	21.1	51.9

NOTES:

- Ultimate limit state design capacities incorporate capacity reduction factors as per AS5216:2018 and ETA-16/0867.
- The given capacities are for single anchor not influenced by spacing from other anchors and distance from edge/s of concrete.
- For un-cleaned holes deeper drill depths are required to minimize the possibility of over-torquing the anchor

BLUE-TIP 2 SCREW-BOLT™ AND HANGERMATE™

ALLOWABLE LOADS AND ULTIMATE LIMIT DESIGN: STATIC / QUASI-STATIC LOAD CAPACITIES FOR REDUNDANT NON-STRUCTURAL APPLICATIONS

UNCRACKED CONCRETE

Size	Nominal Embedment Depth h_{ef}	Drill Hole Depth h_1	Drill Hole Dia. h_0	Clearance Hole Dia. d_f	Concrete Thickness	20MPa		32MPa		40MPa		50MPa	
						Tension	Shear	Tension	Shear	Tension	Shear	Tension	Shear
(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(kN)	(kN)	(kN)	(kN)	(kN)	(kN)	(kN)	(kN)
ALLOWABLE LOADS: Static / Quasi-Static Load Capacities in Uncracked Concrete													
BLUE-TIP 2 SCREWBOLT™ 6	35	45	6	9	80	1.2							
HANGERMATE™ 6	35	45	6	-	80	1.2							
ULTIMATE LIMIT STATE DESIGN: Static / Quasi-Static Load Capacities in Uncracked Concrete													
BLUE-TIP 2 SCREWBOLT™ 6	35	45	6	9	80	1.7							
HANGERMATE™ 6	35	45	6	-	80	1.7							

CRACKED CONCRETE

Size	Nominal Embedment Depth h_{ef}	Drill Hole Depth h_1	Drill Hole Dia. h_0	Clearance Hole Dia. d_f	Concrete Thickness	20MPa		32MPa		40MPa		50MPa	
						Tension	Shear	Tension	Shear	Tension	Shear	Tension	Shear
(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(kN)	(kN)	(kN)	(kN)	(kN)	(kN)	(kN)	(kN)
ALLOWABLE LOADS: Static / Quasi-Static Load Capacities in Cracked Concrete													
BLUE-TIP 2 SCREWBOLT™ 6	35	45	6	9	80	1.2							
HANGERMATE™ 6	35	45	6	-	80	1.2							
ULTIMATE LIMIT STATE DESIGN: Static / Quasi-Static Load Capacities in Cracked Concrete													
BLUE-TIP 2 SCREWBOLT™ 6	35	45	6	9	80	1.7							
HANGERMATE™ 6	35	45	6	-	80	1.7							

HOLLOW CORE CONCRETE

(available bottom flange thickness $d_b \geq 35$ mm)

Size	Nominal Embedment Depth h_{ef}	Drill Hole Depth h_1	Drill Hole Dia. h_0	Clearance Hole Dia. d_f	Concrete Thickness	20MPa		32MPa		40MPa		50MPa	
						Tension	Shear	Tension	Shear	Tension	Shear	Tension	Shear
(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(kN)	(kN)	(kN)	(kN)	(kN)	(kN)	(kN)	(kN)
ALLOWABLE LOADS: Static / Quasi-Static Load Capacities in Hollow Core Concrete													
BLUE-TIP 2 SCREWBOLT™ 6	35	35	6	9	35	0.9							
HANGERMATE™ 6	35	35	6	-	35	0.9							
ULTIMATE LIMIT STATE DESIGN: Static / Quasi-Static Load Capacities in Hollow Core Concrete													
BLUE-TIP 2 SCREWBOLT™ 6	35	35	6	9	35	1.2							
HANGERMATE™ 6	35	35	6	-	35	1.2							

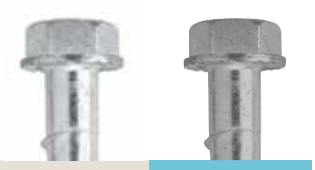
NOTES:

- Ultimate limit state design capacities incorporate capacity reduction factors as per AS5216:2018 and ETA-15/0810.
- Allowable loads incorporate capacity reduction factors as per AS5216:2018 and ETA-16/0867 and are inclusive of partial safety factor γ=1.4 for load actions. Refer to relevant national codes regarding load types and associated factors for further guidance.
- The given capacities are for single anchor not influenced by spacing from other anchors and distance from edge/s of concrete.
- For un-cleaned holes deeper drill depths are required to minimize the possibility of over-torquing the anchor.

BLUE-TIP 2 SCREW-BOLT™

TENSION LOAD CAPACITIES FOR CLOSE TO EDGE BOTTOM PLATE APPLICATIONS IN UNCRACKED CONCRETE

Tension capacities in accordance with "AEFAC test and evaluation procedure for concrete screw anchors



ZINC CLEAR | GALVANISED

Part No.	Part No.	Size (mm)	Length (mm)	Washer Thickness (mm)	Bottom Plate Thickness (mm)	Drill Hole Dia. h_0 (mm)	Nominal Embedment Depth h_{ef} (mm)	Drill Hole Depth h_1 (mm)	Minimum Concrete Thickness (mm)	Distance from edge (mm)	Design strength for limit state design* (kN)
PBT650-PWR	PBTG650-PWR	6	50	1.6	1.2	6	47	57	85	35	2.3
PBT865-PWR	PBTG865-PWR	8	65	2		8	62	72	110		2.8
PBT1080-PWR	PBTG1080-PWR	10	80	2.5		10	76	86	120		3.5
PBT10100-PWR	PBTG10100-PWR		100				96	106	155		4.8
PBT1280-PWR	PBTG1280-PWR	12	80	3		12	76	86	140		4.1
PBT1280-PWR	PBTG1280-PWR									45	6.5
PBT680-PWR	PBTG680-PWR	6	80	1.6	35	6	43	53	80	35	2.3
PBT6100-PWR	PBTG6100-PWR		100				63	73	105		3.2
PBT8100-PWR	PBTG8100-PWR	8	100	2		8	63	73	110		2.8
PBT10100-PWR	PBTG10100-PWR	10	100	2.5		10	62	72	105		3.5
PBT10120-PWR	PBTG10120-PWR		120				82	92	140		4.8
PBT12100-PWR	PBTG12100-PWR	12	100	3		12	62	72	125		4.1
PBT12150-PWR	PBTG12150-PWR		150				112	122	170		9.2
PBT12100-PWR	PBTG12100-PWR		100				62	72	125	45	6.5
PBT12150-PWR	PBTG12150-PWR		150				112	122	170		11.5
PBT6100-PWR	PBTG6100-PWR	6	100	1.6	45	6	53	63	92	35	2.3
PBT8100-PWR	PBTG8100-PWR	8	100	2		8	53	63	100		2.8
PBT10120-PWR	PBTG10120-PWR	10	120	2.5		10	72	82	115		3.5
	PBTG10140-PWR		140				92	102	150		4.8
PBT12150-PWR	PBTG12150-PWR	12	150	3		12	102	112	160		9.2
PBT12150-PWR	PBTG12150-PWR		150				102	112	160	45	11.5
	PBTG8140-PWR	8	140	2	70	8	68	78	115	35	2.8
	PBTG10140-PWR	10	140	2.5		10	68	78	115		3.5
PBT12150-PWR	PBTG12150-PWR	12	150	3		12	77	87	140		4.1
PBT12150-PWR	PBTG12150-PWR									45	6.5

NOTES:

- For applications where no washer is used please ensure you add the washer thickness to the drill hole depth.
- For un-cleaned holes deeper drill depths are required to minimize the possibility of over-torquing the anchor.

BLUE-TIP 2 SCREW-BOLT™

TENSION LOAD CAPACITIES FOR CLOSE TO EDGE BOTTOM PLATE APPLICATIONS IN UNCRACKED CONCRETE

Tension capacities in accordance with "AEFAC test and evaluation procedure for concrete screw anchors"

ZINC CLEAR | GALVANISED

Part No.	Part No.	Size (mm)	Length (mm)	Washer Thickness (mm)	Bottom Plate Thickness (mm)	Drill Hole Dia. h_0 (mm)	Nominal Embedment Depth h_{ef} (mm)	Drill Hole Depth h_1 (mm)	Minimum Concrete Thickness (mm)	Distance from edge (mm)	Design strength for limit state design* (kN)
	PBTDG650-PWR	6	50	1.6	1.2	6	47	57	85	35	2.3
PBTP660-PWR	PBTDG660-PWR		60				57	67	100		3.2
	PBTDG680-PWR		80		35		43	53	80		2.3
PBTP6100-PWR			100				63	73	105		3.2
PBTP6100-PWR			100		45		53	63	90		2.3

GALVANISED

Part No.	Size (mm)	Length (mm)	Washer Thickness (mm)	Bottom Plate Thickness (mm)	Drill Hole Dia. h_0 (mm)	Nominal Embedment Depth h_{ef} (mm)	Drill Hole Depth h_1 (mm)	Minimum Concrete Thickness (mm)	Distance from edge (mm)	Design strength for limit state design* (kN)
PBTTDG12150-PWR	12	100	3	1.2	12	96	106	160	35	4.1
									45	6.5
PBTTDG12100-PWR		100		35		62	72	125	35	4.1
PBTTDG12150-PWR		150				112	122	170		9.2
PBTTDG12100-PWR		100				62	72	125	45	6.5
PBTTDG12150-PWR		150				112	122	170		11.5
PBTTDG12150-PWR		150		45		102	112	160	35	9.2
PBTTDG12150-PWR									45	11.5
PBTTDG12150-PWR		150		70		77	87	140	35	4.1
PBTTDG12150-PWR									45	6.5

NOTES:

- For applications where no washer is used please ensure you add the washer thickness to the drill hole depth.
- For un-cleaned holes deeper drill depths are required to minimize the possibility of over-torquing the anchor.

BLUE-TIP 2 SCREW-BOLT™

RECOMMENDED LOADS - UNCRACKED CONCRETE

HEX HEAD - ZINC AND GALVANISED

							20MPa		32MPa		40MPa		50MPa	
Part No.	Size (mm)	Nominal Embedment Depth h_{ef} (mm)	Drill Hole Depth h_1 (mm)	Drill Hole Dia. h_0 (mm)	Clearance Hole Dia. d_f (mm)	Concrete Thickness (mnm)	Tension (kN)	Shear (kN)	Tension (kN)	Shear (kN)	Tension (kN)	Shear (kN)	Tension (kN)	Shear (kN)
PBT1060-PWR PBTG1060-PWR	10x60	40	50	10	14	85	2.8	4.0	3.5	4.0	4.0	4.0	4.4	4.0

EYEBOLT - ZINC

							20MPa		32MPa		40MPa		50MPa	
Part No.	Size (mm)	Nominal Embedment Depth h_{ef} (mm)	Drill Hole Depth h_1 (mm)	Drill Hole Dia. h_0 (mm)	Clearance Hole Dia. d_f (mm)	Concrete Thickness (mnm)	Tension (kN)	Shear (kN)	Tension (kN)	Shear (kN)	Tension (kN)	Shear (kN)	Tension (kN)	Shear (kN)
PBTEYE855-PWR	8x55	55	65	8	12	100	3.3	0.6	3.3	0.6	3.3	0.6	3.3	0.6
PBTEYE1065-PWR	10x65	65	75	10	14	110	4.4	1.0	4.4	1.0	4.4	1.0	4.4	1.0
PBTEYE1275-PWR	12x75	75	85	12	16	125	5.5	1.5	5.5	1.5	5.5	1.5	5.5	1.5

NOTES:

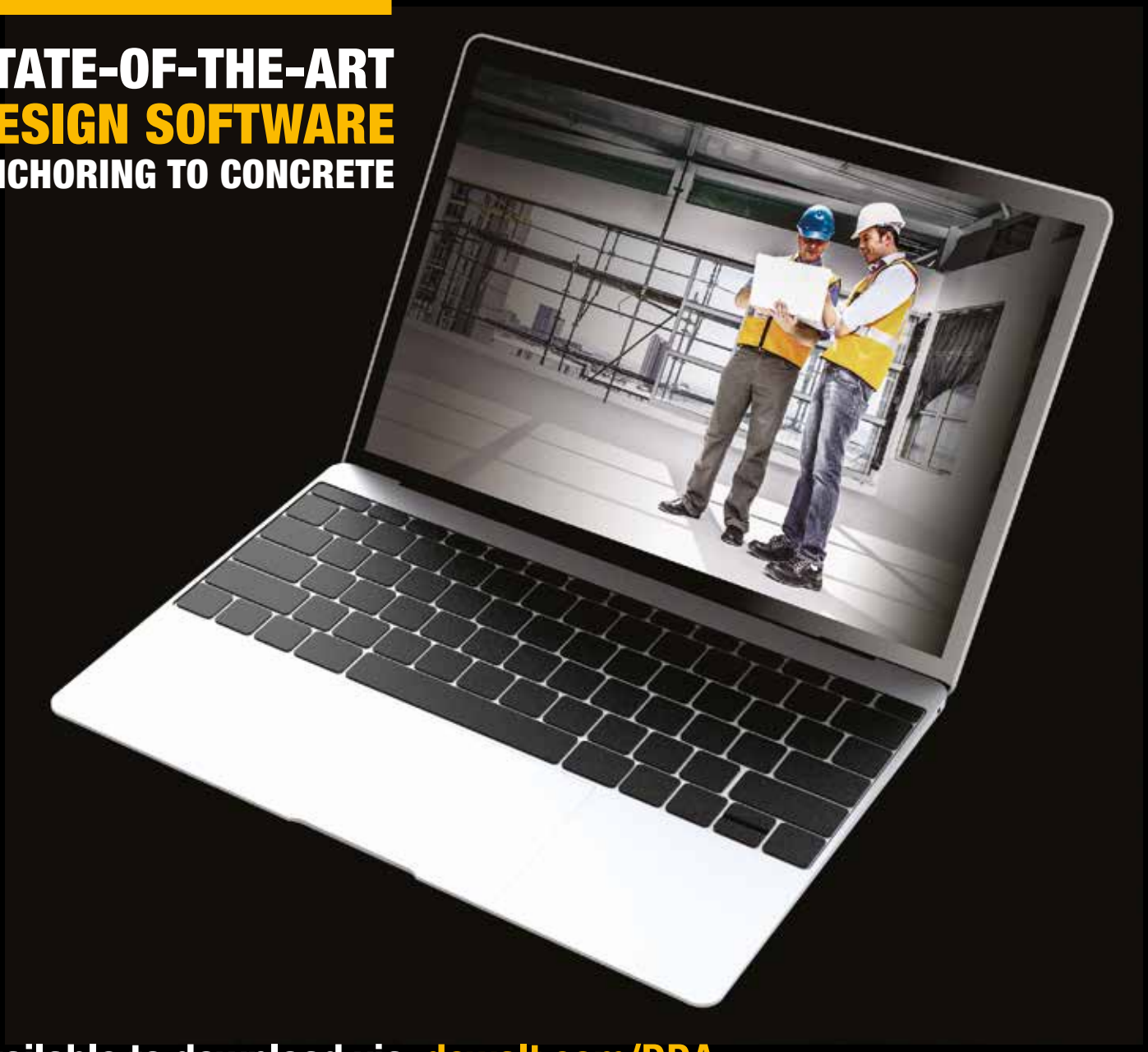
- Recommended loads are calculated using tested mean strength and an applied safety factor of 4.0.
- The given capacities are for single anchor not influenced by spacing from other anchors and distance from edge/s of concrete.
- For un-cleaned holes deeper drill depths are required to minimize the possibility of over-torquing the anchor.

NOTES

DDA

DEWALT DESIGN ASSIST

STATE-OF-THE-ART DESIGN SOFTWARE ANCHORING TO CONCRETE



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