GENERAL INFORMATION

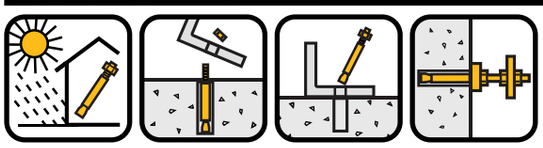
PTB-G-PRO

Throughbolt

PRODUCT DESCRIPTION

The PTB-G-PRO is a galvanised, fully threaded, torque controlled, wedge expansion anchor which is designed for consistent performance in cracked and uncracked concrete. The anchor is easy to install and suitable for a variety of base materials. The wide range of available PTB-G-PRO anchor sizes covers all common capacity demands. The superior load-displacement response qualifies the PTB-G-PRO for both standard and adverse loading conditions including seismic loading.

GENERAL APPLICATIONS AND USES



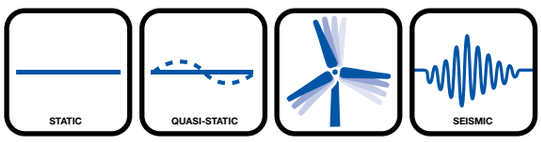
FEATURES AND BENEFITS

- Consistent performance in high and low strength concrete
- Full range available
- Nominal drill bit size is same as the anchor diameter
- Anchor can be installed through standard fixture holes
- Fully threaded bolt for highest flexibility
- M12 and M16: Two embedment depths approved for flexible fixture thicknesses

APPROVALS AND LISTINGS

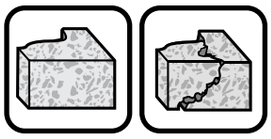
* Please refer to ETA-13/0036 for load capacities under fire

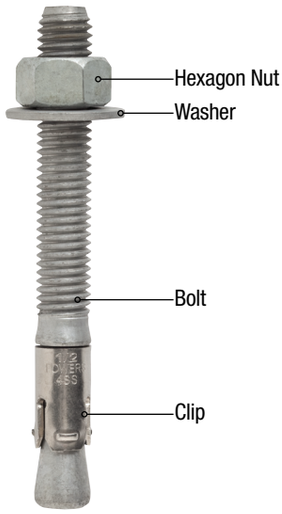
LOADING CONDITIONS



* Please refer to ETA-13/0036 for seismic performance load data

SUITABLE BASE MATERIALS





VERSIONS

Hexagon Nut

Carbon Steel, Galvanised

APPROVALS

- ETA-13/0036

MECHANICAL ANCHORS

PB-PRO-S
HEAVY DUTY ANCHOR

DDA
DEWALT DESIGN ASSIST

Real-Time Anchor Design Software

anchors.dewalt.com/anchors/tech-support-software/dewalt_design_assist.php

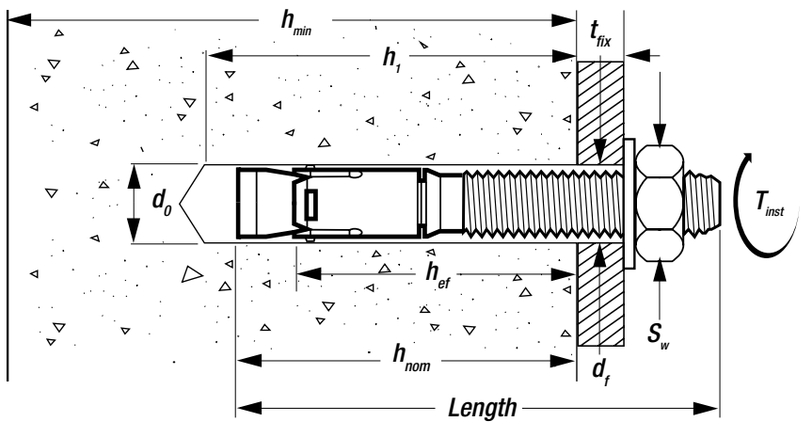
PRINTED MAY 2023

076809 - DEWALT - ANZ PTB-G Throughbolt Tech Manual 2023.indd 1 08/09/2023 14:39

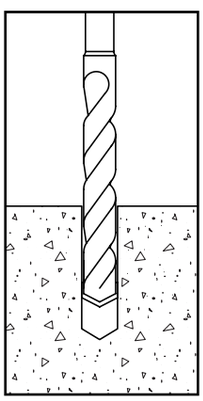
INSTALLATION INFORMATION

INSTALLATION DATA

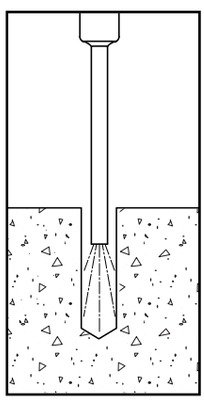
	Notation	Unit	PTB-G-PRO					
			M8	M10	M12	M16		M20
Anchor diameter	d	[mm]	8	10	12	16		20
Nominal drill bit diameter	d_0	[mm]	8	10	12	16		20
Diameter of hole clearance in fixture	d_f	[mm]	9	12	14	18		22
Effective embedment depth 1 Effective embedment depth 2	$h_{ef,1}$ $h_{ef,2}$	[mm] [mm]	40 -	60 -	60 80	80 100		110 -
Drill hole depth for $h_{ef,1}$ Drill hole depth for $h_{ef,2}$	$h_{1,1}$ $h_{1,2}$	[mm] [mm]	55 -	75 -	75 95	100 120		150 -
Minimum member thickness for $h_{ef,1}$ Minimum member thickness for $h_{ef,2}$	$h_{min,1}$ $h_{min,2}$	[mm] [mm]	100 -	120 -	120 160	150 -	160 200	250 -
Minimum spacing	s_{min}	[mm]	50	55	60	85	70	95
Corresponding edge distance	for c ≥	[mm]	90	90	100	160	130	240
Minimum edge distance	c_{min}	[mm]	55	60	65	100	85	95
Corresponding spacing	for s ≥	[mm]	120	150	190	190	160	240
Installation torque	T_{inst}	[Nm]	30	37.5	60	80		115
Torque wrench socket size	S_w	[mm]	13	17	19	24		30



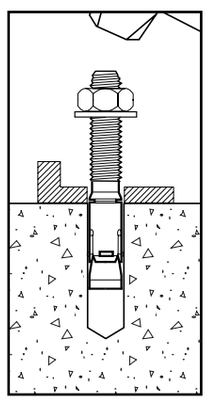
INSTALLATION INSTRUCTIONS



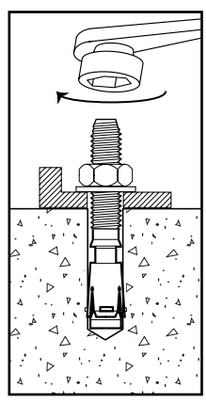
1.) *Using the proper drill bit size, drill a hole into the base material to the required depth.*



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



3.) *Drive the anchor into the hole at least to the minimum required embedment depth.*



4.) *Tighten the anchor with a torque wrench by applying the required installation torque T_{inst}.*

For complete installation instructions, see technical approval.

PRINTED MAY 2023

076809 - DEWALT - ANZ PTB-G Throughbolt Tech Manual 2023.indd 2 08/09/2023 14:39

DESIGN INFORMATION

TENSION LOAD CAPACITIES - PARAMETERS FOR CALCULATION OF DESIGN STRENGTH

According to EN 1992-4 and AS 5216

	Notation	Unit	PTB-G-PRO				
			M8	M10	M12	M16	M20
Steel failure							
Characteristic resistance	$N^0_{Rk,s}$	[kN]	22	31	43	79	95
Partial safety factor	γ_{Ms} 1)	[-]	1.5				
Pullout failure							
Cracked concrete C20/25							
Characteristic resistance ($h_{ef,min}$)	$N^0_{Rk,p}$	[kN]	2	8	8.5	22	24
Characteristic resistance ($h_{ef,max}$)	$N^0_{Rk,p}$	[kN]	-	-	15	26	-
Partial safety factor for cracked concrete	γ_{Mp} 1)	[-]	1.8 2)				
Uncracked concrete C20/25							
Characteristic resistance ($h_{ef,min}$)	$N^0_{Rk,p}$	[kN]	6.5	12	16	32	42
Characteristic resistance ($h_{ef,max}$)	$N^0_{Rk,p}$	[kN]		-	19	34	-
Partial safety factor for uncracked concrete	γ_{Mp} 1)	[-]	1.5 3)				1.8 3)
Increasing factor for concrete strength							
C30/37	ψ_c	[-]	1.22				
C40/50	ψ_c	[-]	1.41				
C50/60	ψ_c	[-]	1.58				
Concrete failure							
Concrete cone failure							
Characteristic spacing ($h_{ef,min}$)	$s_{cr,N,1}$	[mm]	120	180	180	240	330
Characteristic spacing ($h_{ef,max}$)	$s_{cr,N,2}$	[mm]	-	-	240	300	-
Characteristic edge distance ($h_{ef,min}$)	$c_{cr,N,1}$	[mm]	60	90	90	120	165
Characteristic edge distance ($h_{ef,max}$)	$c_{cr,N,2}$	[mm]	-	-	120	150	-
Partial safety factor for cracked concrete	γ_{Mc} 1)	[-]	1.8 2)				
Partial safety factor for uncracked concrete	γ_{Mc} 1)	[-]	1.5 3)				1.8 3)
Splitting failure							
Characteristic spacing ($h_{ef,min}$)	$s_{cr,sp,1}$	[mm]	200	300	300	400	550
Characteristic spacing ($h_{ef,max}$)	$s_{cr,sp,2}$	[mm]	-	-	400	500	-
Characteristic edge distance ($h_{ef,min}$)	$c_{cr,sp,1}$	[mm]	100	150	150	225 5) 200	275
Characteristic edge distance ($h_{ef,max}$)	$c_{cr,sp,2}$	[mm]	-	-	200	250	-
Partial safety factor for cracked concrete	γ_{Msp} 1)	[-]	1.8 2)				
Partial safety factor for uncracked concrete	γ_{Msp} 1)	[-]	1.5 3)				1.8 2)
Increasing factor for concrete strength							
C30/37	ψ_c	[-]	1.22				
C40/50	ψ_c	[-]	1.41				
C50/60	ψ_c	[-]	1.58				

1) In absence of other national regulations
2) The value contains an installation safety factor of γ_{inst}=1,2
3) The value contains an installation safety factor of γ_{inst}=1,0
4) Pullout failure not decisive; Use Equation 7.2 acc. to EN 1992-4 for concrete cone failure
5) For h_{min} = 150 mm

DDA DEWALT DESIGN ASSIST

The DEWALT Design Assist is a powerful anchor design software which helps you to design simple and complex anchorages. The design data of all DEWALT anchor products is readily available. To download this software for free, go to anchors.DEWALT.com/anchors/tech-support-software/DEWALT_design_assist.php

PRINTED MAY 2023

076809 - DEWALT - ANZ PTB-G Throughbolt Tech Manual 2023.indd 3 08/09/2023 14:39

SHEAR LOAD CAPACITIES - PARAMETERS FOR CALCULATION OF DESIGN STRENGTH

According to EN 1992-4 and AS 5216

Parameter for calculation of ultimate strength	Notation	Unit	PTB-G-PRO				
			M8	M10	M12	M16	M20
Steel failure							
Steel failure without level arm							
Characteristic resistance	$V_{Rk,s}$	[kN]	12	17	24	44	67
Partial safety factor	γ_{Mc} 1)	[-]	1.25				
Steel failure with level arm (bending)							
Characteristic resistance	$M^0_{Rk,s}$	[Nm]	23	45	77	194	380
Partial safety factor	γ_{Mc} 1)	[-]	1.25				
Concrete failure							
Pry-out failure							
Factor k_8 to determine $V_{rk,cp}$	k_8	[-]	1	2	2	2	2
Partial safety factor	γ_{Mc} 1)	[-]	1.5 2)				
Edge failure							
Effective length of anchor for $h_{ef,1}$	$l_{f,1}$	[mm]	40	60	60	80	110
Effective length of anchor for $h_{ef,2}$	$l_{f,2}$	[mm]	-	-	80	100	-
Outside diameter of anchor	d_{nom}	[mm]	8	10	12	16	20
Partial safety factor	γ_{Mc} 1)	[-]	1.5 2)				

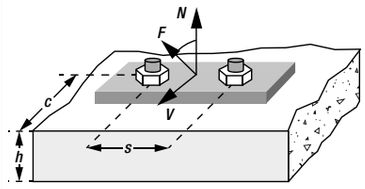
1) In absence of other national regulations

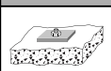
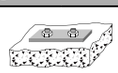
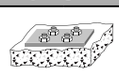
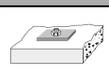
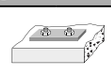
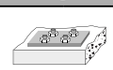
2) The value contains an installation safety factor of γ_2=1.0

PRECALCULATED TENSION AND SHEAR CAPACITIES

According to EN 1992-4 and AS 5216

- The following tables are meant to give the designer aid in the preliminary design process. No responsibility is taken for the correctness of these data.
- The given values are valid for normal concrete C20/25 (f'_c = 20 MPa) and static/quasi-static loads with the exact dimensional information given. For any other conditions, the use of DDA is recommended.
- The values in the table below are design level loads. This assumes a safety factor is included both on the loading and the resistance.
- For cracked concrete, splitting failure is not considered assuming that a reinforcement is present which limits the crack width to 0.3 mm.
- For further details and background information please see the introduction of this manual.



M8	C20/25	Anchoring located far from any edge					Anchoring located close to an edge				
											
Embedment depth	h_{ef} [mm]	40									
Member thickness	h [mm]	100									
Edge distance	c [mm]	-	-	-	-	-	55.0	55.0	55.0	55.0	55.0
Anchor spacing	s [mm]	-	50.0	120	50.0	120	-	120.0	120	120.0	120
	N_{Rd} [kN]	1.1	2.2	2.2	4.4	4.4	1.1	2.2	2.2	4.4	4.4
	$F_{Rd}{}^{45°}$ [kN]	1.6	3.0	3.1	5.5	6.3	1.4	2.8	2.8	4.4	4.4
	V_{Rd} [kN]	6.1	8.6	12.2	12.2	24.3	3.5	6.1	6.1	6.1	6.1
	N_{Rd} [kN]	4.3	8.7	8.7	17.1	17.3	4.3	8.7	8.7	17.3	17.3
	$F_{Rd}{}^{45°}$ [kN]	4.9	8.6	9.7	14.5	19.5	3.9	7.3	7.3	9.8	9.8
	V_{Rd} [kN]	8.5	12.1	17.0	17.1	34.1	5.0	8.6	8.6	8.6	8.6

■ - Steel strengths controls ■ - Concrete strength controls ■ - Anchor pullout strength controls

DDA DEWALT DESIGN ASSIST

The DEWALT Design Assist is a powerful anchor design software which helps you to design simple and complex anchorages. The design data of all DEWALT anchor products is readily available. To download this software for free, go to anchors.DEWALT.com/anchors/tech-support-software/DEWALT_design_assist.php

PRINTED MAY 2023

076809 - DEWALT - ANZ PTB-G Throughbolt Tech Manual 2023.indd 4 08/09/2023 14:39

M10	C20/25	Anchoring located far from any edge					Anchoring located close to an edge				
Embedment depth	h_{ef} [mm]	60									
Member thickness	h [mm]	120									
Edge distance	c [mm]	-	-	-	-	-	60.0	60.0	60.0	60.0	60.0
Anchor spacing	s [mm]	-	55.0	180	55.0	180	-	150.0	180	150.0	180
	N_{Rd} [kN]	4.4	8.9	8.9	15.9	17.8	4.4	8.9	8.9	17.8	17.8
	$F_{Rd}^{45°}$ [kN]	5.7	11.4	11.4	19.0	22.7	3.8	7.2	7.5	9.4	10.0
	V_{Rd} [kN]	13.6	27.2	27.2	38.1	54.4	4.4	8.1	8.8	8.1	8.8
	N_{Rd} [kN]	8.0	16.0	16.0	26.7	32.0	8.0	13.5	14.4	23.1	26.7
	$F_{Rd}^{45°}$ [kN]	8.5	17.1	17.1	30.2	34.2	5.9	10.5	11.3	13.0	14.4
	V_{Rd} [kN]	13.6	27.2	27.2	53.3	54.4	6.2	11.4	12.5	11.4	12.5

■ - Steel strengths controls ■ - Concrete strength controls ■ - Anchor pullout strength controls

M12 Embedment Depth 1	C20/25	Anchoring located far from any edge					Anchoring located close to an edge				
Embedment depth	h_{ef} [mm]	60									
Member thickness	h [mm]	120									
Edge distance	c [mm]	-	-	-	-	-	65.0	65.0	-	65.0	-
Anchor spacing	s [mm]	-	60.0	180	60.0	180	-	190.0	-	190.0	-
	N_{Rd} [kN]	4.7	9.4	9.4	16.6	18.9	4.7	9.4	-	18.9	-
	$F_{Rd}^{45°}$ [kN]	6.4	12.2	12.9	19.8	25.7	4.1	8.2	-	11.1	-
	V_{Rd} [kN]	19.2	29.8	38.4	39.7	76.8	5.0	10.0	-	10.0	-
	N_{Rd} [kN]	10.7	20.9	21.3	27.8	42.7	9.3	15.2	-	28.6	-
	$F_{Rd}^{45°}$ [kN]	11.6	22.9	23.3	31.5	46.5	6.9	12.4	-	16.0	-
	V_{Rd} [kN]	19.2	38.4	38.4	55.6	76.8	7.1	14.1	-	14.1	-

■ - Steel strengths controls ■ - Concrete strength controls ■ - Anchor pullout strength controls

M12 Embedment Depth 2	C20/25	Anchoring located far from any edge					Anchoring located close to an edge				
Embedment depth	h_{ef} [mm]	80									
Member thickness	h [mm]	160									
Edge distance	c [mm]	-	-	-	-	-	65.0	65.0	65.0	65.0	65.0
Anchor spacing	s [mm]	-	60.0	240	60.0	240	-	190.0	240	190.0	240
	N_{Rd} [kN]	8.3	16.7	16.7	22.4	33.3	8.3	16.7	16.7	33.3	33.3
	$F_{Rd}^{45°}$ [kN]	9.9	19.7	19.7	26.8	39.4	5.5	11.0	11.1	13.6	13.7
	V_{Rd} [kN]	19.2	38.4	38.4	53.8	76.8	5.3	10.6	10.7	10.6	10.7
	N_{Rd} [kN]	12.7	25.3	25.3	37.6	50.7	12.7	18.8	20.4	32.2	38.8
	$F_{Rd}^{45°}$ [kN]	13.0	25.9	25.9	42.6	51.8	8.0	14.1	14.7	17.3	18.4
	V_{Rd} [kN]	19.2	38.4	38.4	75.3	76.8	7.5	14.9	15.1	14.9	15.1

■ - Steel strengths controls ■ - Concrete strength controls ■ - Anchor pullout strength controls

DDA DEWALT DESIGN ASSIST The DEWALT Design Assist is a powerful anchor design software which helps you to design simple and complex anchorages. The design data of all DEWALT anchor products is readily available. To download this software for free, go to anchors.DEWALT.com/anchors/tech-support-software/DEWALT_design_assist.php

PRINTED MAY 2023

076809 - DEWALT - ANZ PTB-G Throughbolt Tech Manual 2023.indd 5 08/09/2023 14:39

M16 Embedment Depth 1	C20/25	Anchoring located far from any edge					Anchoring located close to an edge				
Embedment depth	h_{ef} [mm]	80									
Member thickness	h [mm]	160									
Edge distance	c [mm]	-	-	-	-	-	85.0	85.0	85.0	85.0	85.0
Anchor spacing	s [mm]	-	70.0	240	70.0	240	-	160.0	240	160.0	240
	N_{Rd} [kN]	12.2	18.5	24.4	23.9	48.9	11.2	18.6	22.4	33.2	48.5
	$F_{Rd}^{45°}$ [kN]	15.3	22.2	30.6	28.7	61.2	7.9	13.0	15.5	15.8	19.9
	V_{Rd} [kN]	34.4	44.5	68.8	57.4	137.7	8.0	12.9	15.4	12.9	15.4
	N_{Rd} [kN]	21.3	31.1	42.7	40.2	85.3	14.2	19.9	22.7	31.0	41.9
	$F_{Rd}^{45°}$ [kN]	22.5	35.2	45.1	45.5	90.2	10.6	16.2	18.9	19.5	24.3
	V_{Rd} [kN]	35.2	62.2	70.4	80.4	140.8	11.2	18.3	21.8	18.3	21.8

■ - Steel strengths controls ■ - Concrete strength controls ■ - Anchor pullout strength controls

M16 Embedment Depth 2	C20/25	Anchoring located far from any edge					Anchoring located close to an edge				
Embedment depth	h_{ef} [mm]	100									
Member thickness	h [mm]	200									
Edge distance	c [mm]	-	-	-	-	-	85.0	85.0	85.0	85.0	85.0
Anchor spacing	s [mm]	-	70.0	300	70.0	300	-	160.0	300	160.0	300
	N_{Rd} [kN]	14.4	24.7	28.9	30.5	57.8	13.7	20.9	27.3	35.2	57.8
	$F_{Rd}^{45°}$ [kN]	17.4	29.6	34.8	36.5	69.5	8.8	14.0	17.6	16.6	22.0
	V_{Rd} [kN]	35.2	59.3	70.4	73.2	140.8	8.3	13.6	16.7	13.6	16.7
	N_{Rd} [kN]	22.7	41.5	45.3	51.2	90.7	18.1	23.9	28.9	35.3	54.9
	$F_{Rd}^{45°}$ [kN]	23.4	44.3	46.8	57.9	93.6	12.1	18.0	22.0	21.1	28.0
	V_{Rd} [kN]	35.2	70.4	70.4	102.4	140.8	11.8	19.2	23.6	19.2	23.6

■ - Steel strengths controls ■ - Concrete strength controls ■ - Anchor pullout strength controls

M20	C20/25	Anchoring located far from any edge					Anchoring located close to an edge				
Embedment depth	h_{ef} [mm]	110									
Member thickness	h [mm]	250									
Edge distance	c [mm]	-	-	-	-	-	95.0	95.0	95.0	95.0	95
Anchor spacing	s [mm]	-	95.0	330	95.0	330	-	240.0	330	240.0	330
	N_{Rd} [kN]	13.3	26.7	26.7	38.3	53.3	13.3	26.7	26.7	52.8	53.3
	$F_{Rd}^{45°}$ [kN]	18.1	33.0	36.2	45.9	72.5	9.8	18.7	19.6	23.5	25.1
	V_{Rd} [kN]	53.6	71.5	107.2	92.0	214.4	10.2	18.8	20.4	18.8	20.4
	N_{Rd} [kN]	23.3	41.7	46.7	53.7	93.3	19.1	27.4	30.5	45.1	57.7
	$F_{Rd}^{45°}$ [kN]	27.6	49.9	55.2	64.3	110.4	13.9	22.9	25.2	28.4	32.6
	V_{Rd} [kN]	53.6	100.0	107.2	128.8	214.4	14.4	26.6	28.9	26.6	28.9

■ - Steel strengths controls ■ - Concrete strength controls ■ - Anchor pullout strength controls

DDA DEWALT DESIGN ASSIST

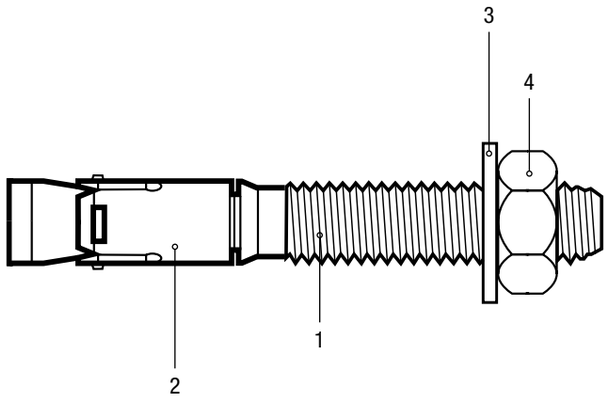
The DEWALT Design Assist is a powerful anchor design software which helps you to design simple and complex anchorages. The design data of all DEWALT anchor products is readily available. To download this software for free, go to anchors.DEWALT.com/anchors/tech-support-software/DEWALT_design_assist.php

PRINTED MAY 2023

076809 - DEWALT - ANZ PTB-G Throughbolt Tech Manual 2023.indd 6 08/09/2023 14:39

MATERIAL INFORMATION

MATERIAL SPECIFICATION



Part no.	Designation	Material	Protection
1	Bolt M8 to M20	Coldformed steel, grade C-1035	Galvanised 50 µm
2	Expansion clip	Stainless steel	SS430
3	Washer	EN ISO 7089	Galvanised 50 µm
4	Hexagonal nut	DIN EN ISO 4032	Galvanised 50 µm

ORDERING INFORMATION

Part no.	Description	Dia. [mm]	Length [mm]	$h_{nom,1}$ / $h_{nom,2}$ [mm]	Max. t_{fix} [mm]	Box qty.	Carton qty.
PTB-G-PRO through bolt - carbon steel, zinc plated							
PTB0865G-PWR	PTB-G-PRO 8/10x65mm Gal	M8	65	48	10	100	400
PTB0885G-PWR	PTB-G-PRO 8/30x85mm Gal	M8	85	48	30	100	400
PTB08105G-PWR	PTB-G-PRO 8/50x105mm Gal	M8	105	48	50	100	400
PTB08130G-PWR	PTB-G-PRO 8/75x130mm Gal	M8	130	48	75	100	200
PTB1090G-PWR	PTB-G-PRO 10/10x90mm Gal	M10	90	71	10	50	200
PTB10120G-PWR	PTB-G-PRO 10/40x120mm Gal	M10	120	71	40	50	200
PTB10160G-PWR	PTB-G-PRO 10/80x160mm Gal	M10	160	71	80	50	200
PTB12100G-PWR	PTB-G-PRO 12/15x100mm Gal	M12	100	71	15	50	200
PTB12120G-PWR	PTB-G-PRO 12/35x120mm Gal	M12	120	71 / 91	35 / 15	25	100
PTB12135G-PWR	PTB-G-PRO 12/50x135mm Gal	M12	135	71 / 91	50 / 30	25	100
PTB16115G-PWR	PTB-G-PRO 16/5x115mm Gal	M16	115	95	5	25	100
PTB16125G-PWR	PTB-G-PRO 16/15x125mm Gal	M16	125	95	15	20	80
PTB16150G-PWR	PTB-G-PRO 16/40x150mm Gal	M16	150	95 / 115	40 / 20	20	80
PTB16210G-PWR	PTB-G-PRO 16/100x210mm Gal	M16	210	95 / 115	100 / 80	10	40
PTB20160G-PWR	PTB-G-PRO 20/25x160mm Gal	M20	160	130	5	10	40
PTB20215G-PWR	PTB-G-PRO 20/60x215mm Gal	M20	215	130	60	10	40

PTB-G-PRO

PRINTED MAY 2023

076809 - DEWALT - ANZ PTB-G Throughbolt Tech Manual 2023.indd 7 08/09/2023 14:39

TECHNICAL SUPPORT CONTACT INFORMATION

Australia

Stanley Black & Decker, Inc. ANZ
Level 2, 810 Whitehorse Road, Box Hill, VIC 3128, Australia
T: (03) 8669 5200
F: 1800 080 898

New Zealand

Stanley Black & Decker, Inc. ANZ
39 Business Parade North, East Tamaki, Auckland 2013
T: (09) 265 6714
F: (09) 273 3392

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 Stanley Black & Decker that are believed to be correct and current as of October 2019. The information and data is subject to change after such date as Stanley Black & Decker 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 Stanley Black & Decker.

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 Stanley Black & Decker.

Limitation of Liability

Stanley Black & Decker offers a limited product warranty to customers or end users that the product meets its applicable specifications. Except for the express warranty in the immediately preceding sentence, Stanley Black & Decker grants no other warranties, express or implied, regarding the products, their fitness for any purpose, their quality, their merchantability or otherwise. Further, Stanley Black & Decker shall have no liability with respect to changes in the design, materials and specifications in the products presented in this manual, nor with respect to any product which has been modified or installed improperly, regardless of any specific instructions to the installer. The responsible designer and installer shall indemnify, defend, and hold harmless Stanley Black & Decker for any and all claimed loss or damage occasioned, in a whole or in part, by the modified products or deviation in product installation procedures.

Limitation of Damages

Stanley Black & Decker or its affiliates or their respective officers, members, managers, directors, representatives, agents or employees are not obligated for direct, indirect, incidental or consequential damages, losses or expenses in connection with, or by reason of, the use of, or inability to use the products for any purpose. Implied warranties of merchantability or fitness for a particular purpose are specifically excluded.

Stanley Black & Decker, Inc. ANZ
Level 2, 810 Whitehorse Road
Box Hill, VIC 3128
Australia

PRINTED MAY 2023

076809 - DEWALT - ANZ PTB-G Throughbolt Tech Manual 2023.indd 8 08/09/2023 14:39