Rods & Casing

Product Information Catalogue

FORDIA®

Powered by Epiroc

Wireline drill rods and casing

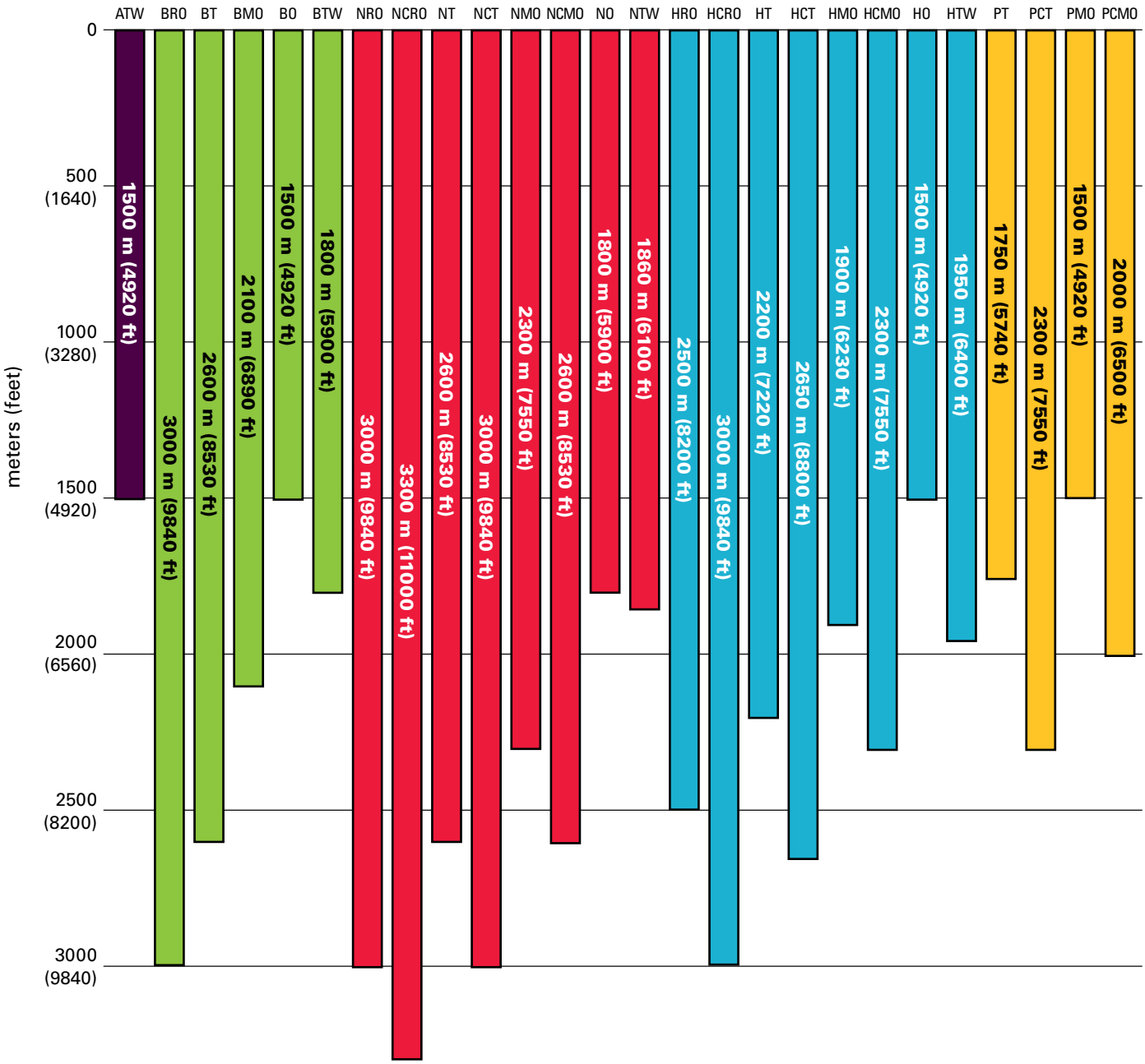
Today's drilling industry has extremely high expectations for the people, equipment and the tools they use. When it comes to drill rods, it's very simple, they just need to perform, and nothing else is acceptable. When the failure of a rod could mean the loss of a drill hole and possibly the revenues that comes with it, there is no room for mistakes, lower quality or sub-standard products.

Fordia Powered by Epiroc has listened to the industry and we understand what our customers needs are. This is why we make no compromise on our rods. We only use very high quality steel from world class suppliers and manufacture our drill rods to the highest possible standards. All this to ensure quality, reliability and performance. We worry about our wireline rods so our customers don't have to.

- All rods longer than 5 ft/1.5 m are heat treated for better wear resistance in all drilling applications
- All rods longer than 5ft/1.5m (except RO thread Rods) we manufacture are phosphate treated. Phosphating provides more protection to the threads on drills rods. It improves friction properties for parts that slide or thread together and it protects steel against corrosion
- Manufactured to strict quality standards. We control and verify every rod thread and adapter we make.
- Complies with ISO 9001:2015 certification standards

Wireline
Drill Rod Depth Capacity Chart

Depth capacities for vertical and straight holes filled with water



Drill rod recommended usage

Do not mix drill rods from different manufacturers. This may lead to failure or loss of drill string down the hole.

The use of high quality drill rod thread compound is essential to drill rod thread performance and to maintain your warranty. Failure to use it will cause premature wear and galling. For best results we recommend the use of thread compound containing metal particulate, ideally zinc, copper or graphite compositions. The use of NTW, HTW rods is not recommended with top-drive drills.

Rev-2021-09-17

Wireline
Drill Rod Dimensions

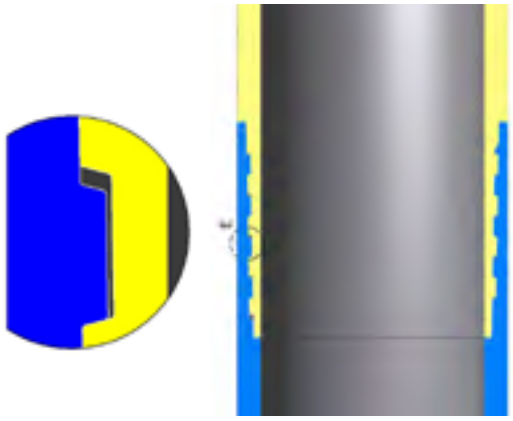
Drill rod dimensions

O Rod Metric	Length m	Part No.	T Rod Metric	Length m	Part No.	R Rod Metric	Length m	Part No.	TW Rod Metric	Length m	Part No.	MO Rod Metric	Length m	Part No.	Tube Walls
									ATW	0,6 m	3760007873				Parallel
									ATW	1,5 m	3760006094				Parallel
									ATW	3,0 m	3760006095				Parallel
BO	0,6 m	3760003436	BT	0,6 m	3760001223	BRO	0,6 m	3760014014	BTW	0,6 m	3760005631				Parallel
BO	1,5 m	3760001250	BT	1,5 m	3760001224	BRO	1,5 m	3760014015	BTW	1,5 m	3760005632				Parallel
BO	3,0 m	3760001251	BT	3,0 m	3760001225	BRO	3,0 m	3760014016	BTW	3,0 m	3760005633				Parallel
NO	0,6 m	3760003440	NT	0,6 m	3760001229	NRO	0,6 m	3760014020							Parallel
NO	1,5 m	3760001254	NT	1,5 m	3760-001230	NRO	1,5 m	3760014021	NTW	1,5 m	9469705787				Parallel
NO	3,0 m	3760001255	NT	3,0 m	3760001231	NRO	3,0 m	3760014022	NTW	3,0 m	9469705788				Parallel
			NCT	3,0 m	3760005313	NCRO	3,0 m	3760014030							Internally Upset
HO	0,6 m	3760003438	HT	0,6 m	3760001235	HRO	0,6 m	3760014026	HTW	1,5 m	9469705765				Parallel
HO	1,5 m	3760001258	HT	1,5 m	3760001236	HRO	1,5 m	3760014027	HTW	3,0 m	9469705766				Parallel
HO	3,0 m	3760001259	HT	3,0 m	3760001237	HRO	3,0 m	3760014028							Parallel
			HCT	3,0 m	3760015208	HCRO	3,0 m	3760014050							Internally Upset
			PT	0,6 m	3760001238							PMO (HWT)	0,6 m	3760015249	Parallel
			PT	1,5 m	3760001239							PMO (HWT)	1,5 m	3760015244	Parallel
			PT	3,0 m	3760001240							PMO (HWT)	3,0 m	3760015245	Parallel
Imperial	**ft**	**Part No.**	**Imperial**	**ft**	**Part No.**	**Imperial**	**ft**	**Part No.**	**Imperial**	**ft**		**Imperial**	**ft**	**Part No.**	**Tube Walls**
BO	2 ft	On request	BT	2 ft	3760016415	BRO	2 ft	3760014011							Parallel
BO	5 ft	3760001248	BT	5 ft	On request	BRO	5 ft	3760014012							Parallel
BO	10 ft	3760001249	BT	10 ft	On request	BRO	10 ft	3760014013							Parallel
NO	2 ft	3760003441	NT	2 ft	3760001226	NRO	2 ft	3760014017	NTW	2 ft	9469705784				Parallel
NO	5 ft	3760001252	NT	5 ft	On request	NRO	5 ft	3760014018	NTW	5 ft	9469705785				Parallel
NO	10 ft	3760001253	NT	10 ft	3760001228	NRO	10 ft	3760014019	NTW	10 ft	9469705786				Parallel
			NCT	10 ft	3760015141	NCRO	10 ft	3760014029							Internally Upset
HO	2 ft	3760003439	HT	2 ft	3760001232	HRO	2 ft	3760014023	HTW	3 ft	9469711535				Parallel
HO	5 ft	3760001256	HT	5 ft	3760001233	HRO	5 ft	3760014024	HTW	5 ft	9469705763				Parallel
HO	10 ft	3760001257	HT	10 ft	3760001234	HRO	10 ft	3760014025	HTW	10 ft	9469705764				Parallel
			HCT	10 ft	3760015142	HCRO	10 ft	3760014049							Internally Upset
												PMO (HWT)	2 ft	3760015246	Parallel
												PMO (HWT)	5 ft	3760015247	Parallel
												PMO (HWT)	10 ft	3760015248	Parallel

Wireline
O-T Drill Rods

O rods

Overview technical specifications



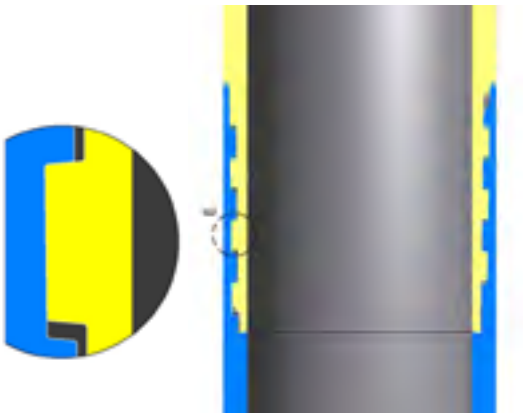
Description	BO	NO	HO
Rated maximum depth (m)	1 500	1 800	1 500
Outer diameter	55,6	69,9	88,9
Inner (Tool joint) diameter (mm)	46,0	60,3	77,8
3 m rod weight (kg)	17,9	22,7	34,3
Raw material minimum specification			
Yield strength minimum	690 Mpa		
Tensile strength minimum	813 Mpa		
Joint destructive test results			
Ultimate traction (kN)	257	356	488
Ultimate tortion (kN/m)	3,9	5,3	10,5
Minimum make-up torque (Nm / Ft-Lbs)	405 / 300	600 / 442	1010 / 750

Specifications					
Size	Inner diameter		Outer diameter		Threads
	mm	in	mm	in	Per inch
*BO	46,0	1 13/16	55,6	2 3/16	3
*NO	60,3	2 3/8	69,9	2 3/4	3
*HO	77,8	3 1/16	88,9	3 1/2	3

* Box and pin ends are through heat treated. Pin end phosphated to minimize galling.

T rods

Overview technical specifications



Description	BT	NT	HT	PT
Rated maximum depth (m)	2 600	2 600	2 200	1 750
Outer diameter	55,6	69,9	88,9	114,3
Inner (Tool joint) diameter (mm)	46,0	60,3	77,8	101,6
3 m rod weight (kg)	17,9	22,7	34,3	50,9
Raw material minimum specification				
Yield strength minimum	690 Mpa			
Tensile strength minimum	813 Mpa			
Joint destructive test results				
Ultimate traction (kN)	432	525	820	822
Ultimate tortion (kN/m)	6,0	8,7	20,3	17,2
Minimum make-up torque (Nm / Ft-Lbs)	405 / 300	600 / 442	1010 / 750	1010 / 750

Specifications					
Size	Outer diameter		Inner diameter		Threads
	in	mm	in	mm	Per inch
*BT	2 3/16	55,6	1 13/16	46,0	3
*NT	2 3/4	69,9	2 3/8	60,3	3
*HT	3 1/2	88,9	3 1/16	77,8	3
PT	4 1/2	114,3	4	101,6	2

* Box and pin ends are through heat treated. Pin end phosphated to minimize galling

RO drill rods

RO-series (parallel wall rods)

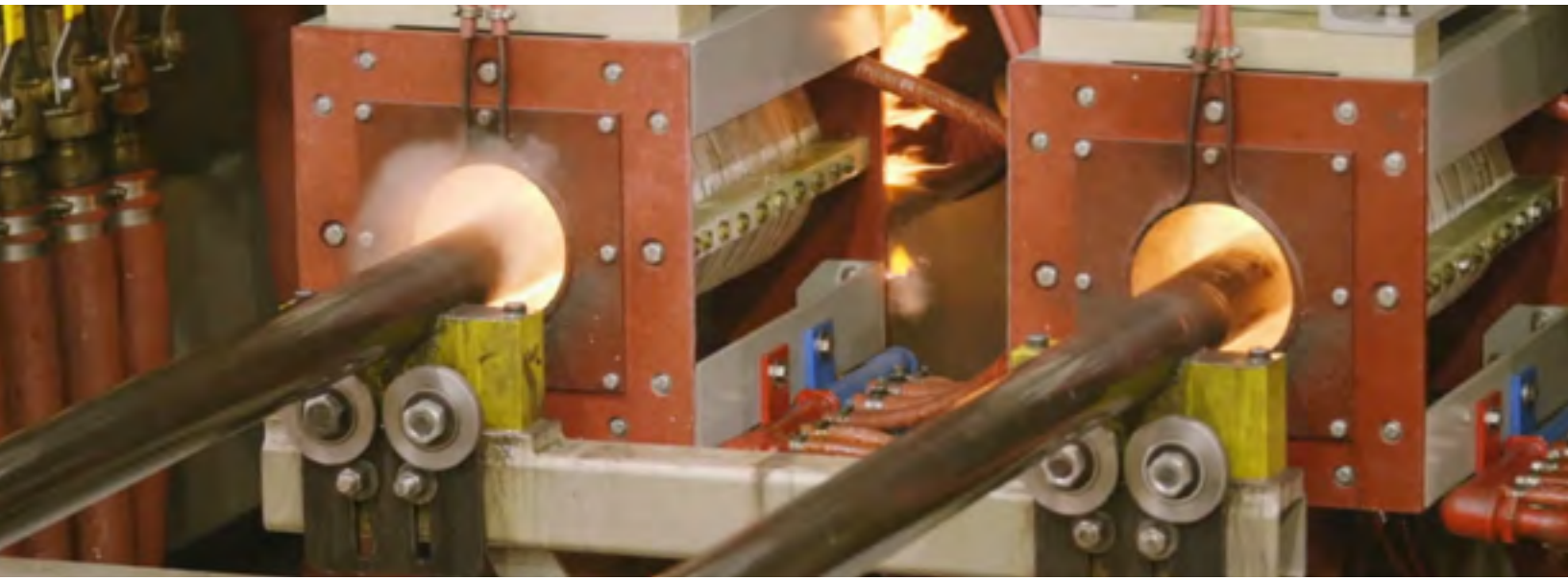
- High depth capacity and demanding drilling
- Flexible thread suitable for deviation drilling
- Works in Shallow hole just as well as O type threadbut with way more pull back and torsion capacity
- RO thread is perfectly matched to our lightweight wireline drill rods. CRO rods with a saving of 13 - 27% in weight while keeping all of the proven RO thread performance is the ideal drill rod for deep hole applications or when weight is an issue

Through heat treated and case hardened rods

RO and CRO rods goes through 2-stage heat treatment process. Initial through heat treatment on both ends provides superior mechanical properties due to change in steel microstructure. Final case hardening on pin end and 4.5" above prevents from thread galling during make and break operations and dramatically increases resistance for thread wearas well as body above pin thread where usually clamps and wrenches are placed.

Quality

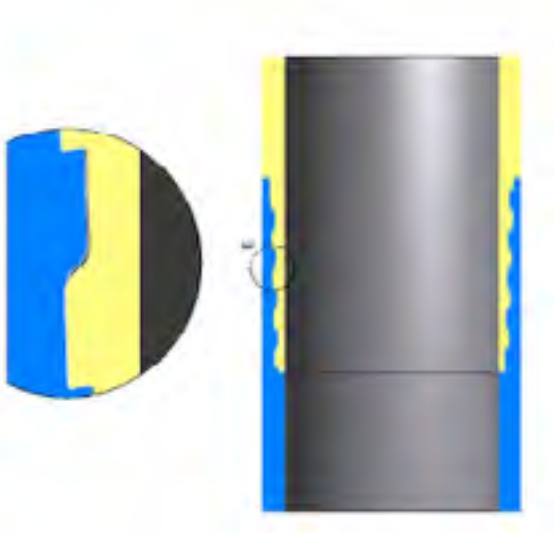
We use only top rated seamless cold drawn steel blanks from world class suppliers. Fordia Powered by Epiroc's uncompromising standards in all aspects of material specifications ensure our customers are getting the very best we have to offer.



RO rods

Overview technical specifications

Description	BRO	NRO	HRO
Rated maximum depth (m)	3 000	3 000	2 500
Outer diameter	55,6	69,9	88,9
Mid body inner diameter (mm)	46,0	60,3	77,8
Inner (tool joint) diameter (mm)	46,0	60,3	77,8
3m rod weight (kg)	17,9	22,7	34,3
Threads per inch	3	3	3
Raw material minimum specification			
Yield strength minimum	690 Mpa		
Tensile strength minimum	813 Mpa		
Joint destructive test results			
Ultimate traction (kN)	252	335	510
Ultimate tortion (kN/m)	1 530	2 450	3 530
Minimum make-up torque (Nm / Ft-Lbs)	405 / 300	600 / 442	1010 / 750



All RO and CRO rods are through heat treated on both ends and case hardened on pin end.

Composite (C) rods (internally upset walls)

Overview technical specifications

Description	NCT/NCRO	NT/NRO	HCT/HCRO	HT/HRO
Rated maximum depth (m)	3 000 / 3 300	2 600 / 3 000	2 650 / 3 000	2 200 / 2 500
Outer diameter (mm)	69,9	69,9	88,9	88,9
Mid body inner diameter (mm)	61,8	60,9	80,9	77,8
Inner (tool joint) diameter (mm)	60,3	60,3	77,8	77,8
3 m rod weigth (kg)	19,9	22,7	25,0	34,3
Minimum make-up torque (Nm / Ft-Lbs)	600 / 442		1010 / 750	

Weight comparison

Weight differential parallel wall versus Internally upset wall - kgs			
	T/RO parallel wall	CT/CRO internally upset wall	% Weight decrease
N 3 m rod	22,7	19,9	13
H 3 m rod	34,3	25,0	27

CT rods have the same thread design as T rods, where CRO rods have the same thread design as RO rods. Wall thickness varies between joint section (where it is the same as for paralel RO,T & O rods) and mid body where is thinner to reduce overall weight of drill string, although provides same as RO & T rod yeld and tensile strenghts.

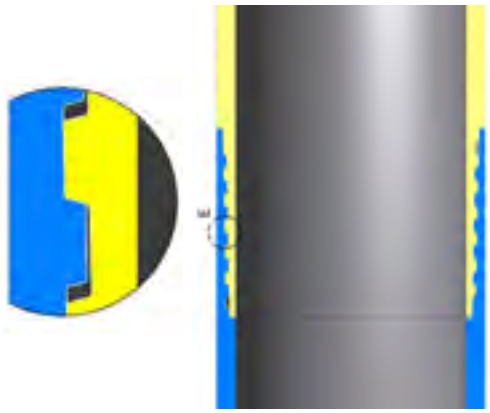
TW rods

Overview technical specifications

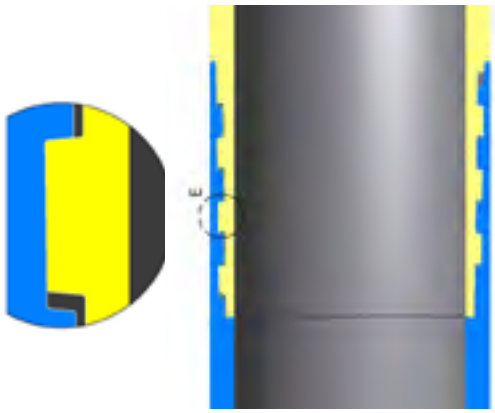
Specifications					
Size	Inner diameter		Outer diameter		Threads
	mm	in	mm	in	Per inch
*ATW	36,8	1.45	44,5	1.75	**4
*BTW	48,8	1.92	56,5	2.23	**4
*NTW	64,3	2.53	73,0	2.87	**4
*HTW	81,5	3.21	90,1	3.58	2.5

* Box and pin ends are through heat treated.

** Metric thread from 5.5 mm pitch.



Thread profile of ATW, BTW & NTW rods.



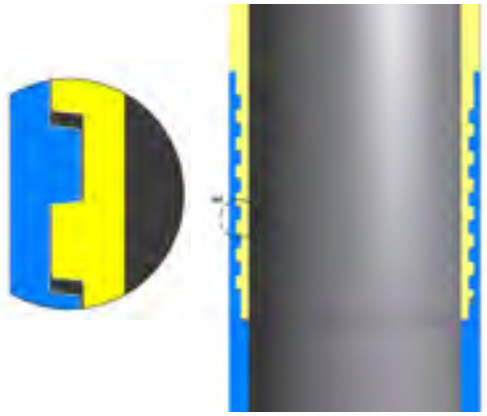
Thread profile of HTW rods.

Casing

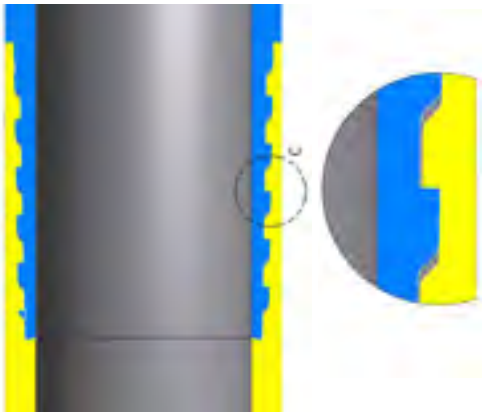
Overview technical specifications

All casings longer than 5ft/1.5m we manufacture are phosphate treated. Phosphating provides more protection to the threads on casing. It improves friction properties for parts that slide or thread together and it protects steel against corrosion.

Description	Length	Weight		Part No.
	m	Kg	Lbs	
AW	0,6 m	3,73	8.223	3760 0012 60
AW	1,5 m	8,85	19.510	3760 0012 61
AW	3,0 m	16,71	36.839	3760 0012 62
BW	0,6 m	6,26	13.800	3760 0012 63
BW	1,5 m	15,65	34.502	3760 0012 64
BW	3,0 m	31,27	68.938	3760 0012 65
NW	0,6 m	7,48	16.490	3760 0012 66
NW	1,5 m	18,6	41.005	3760 0012 67
NW	3,0 m	39,05	86.090	3760 0012 68
NWT	1,5 m	18,6	41.005	3760 0165 72
NWT	3,0 m	39,05	86.090	3760 0165 73
HW	0,6 m	10,24	22.575	3760 0012 69
HW	1,5 m	25,4	55.997	3760 0012 70
HW	3,0 m	50,8	112.100	3760 0012 71
HWT	0,6 m	10,24	22.575	3760 0050 93
HWT	1,5 m	25,4	55.997	3760 0050 94
HWT	3,0 m	50,8	112.100	3760 0048 21
PW	0,6 m	13,78	30.379	3760 0078 87
PW	1,5 m	34,02	75.001	3760 0078 88
PW	3,0 m	64,27	141.691	3760 0078 79
PWT	0,6 m	13,78	30.379	3760 0150 60
PWT	1,5 m	34,02	75.001	3760 0120 66
PWT	3,0 m	64,27	141.691	3760 0150 62



W casing.



WT casing.

WT thread advantages over W thread:

- Greater depth capacity.
- Coarser thread which makes it easier and quicker to make and break.
- Less prone for damage.
- More suitable for multiple installation.

Specifications					
Size	Inner diameter		Outer diameter		Threads
	mm	in	mm	in	Per inch
AW	48,4	1 29/32	57,1	2 1/4	4
BW	60,3	2 3/8	73,0	2 7/8	4
NW/NWT	76,2	3	88,9	3 1/2	4 / 2.5
HW / HWT	101,6	4	114,3	4 1/2	4 / 2.5
PW / PWT	127,0	5	140,0	5 1/2	3 / 2.5

All casings longer than 5ft/1.5m are phosphated on pin end to minimize galling.

Size	Recommended max installation depth
AW	1500 m / 4921 ft
BW	1200 m / 3937 ft
NW	1000 m / 3280 ft
NWT	1200 m / 3937 ft
HW	900 m / 2953 ft
HWT	1100 m / 3609 ft
PW	700 m / 2297 ft
PWT	900 m / 2953 ft

FORDIA®

Powered by Epiroc

www.fordia.com

T 514 336 9211 **TF** 1 800 768 7274 **Email :** info@fordia.com

2021.08