



**RED
MONSTER**
- GO ANYWHERE -



**GREEN
MONSTER**
- GO BEYOND -

**Get the Right Monster
for the Job!**

IMPREGNATED BITS

A simplified offering that covers the broadest range of applications! Our world class experts will work with you to get the right Pilot Coring Bit for the job.

Decades of development have resulted in a consistent and reliable product making Pilot's impregnated bits an excellent choice for your coring projects. We have looked at the overall drillability of the rock rather than concentrating only on hardness. By considering the combined effects of abrasiveness, hardness, and strength of the rock, Pilot has developed a series of five standard matrices and three focused matrices that will simplify and meet all your drilling challenges.

By its very nature, exploration takes on the unknown, so Pilot has eliminated the need to try to pick the right specialized product for a formation that has yet to be drilled. Instead, we listened to the concerns of the professional driller and, by giving careful thought to the metallurgical design, provided a small group of matrices which can perform well in a broad variety of conditions.



NEW LOOK, SAME GREAT 100-500 SERIES

Coring Bits for Going Anywhere!

Red Monster is versatile enough to handle a broad range of Mohs hardness scale conditions to give you dependable performance from the beginning. Reach for a Red Monster first and Go Anywhere!

Series 2-4 (SERIES 100)

Designed for the most broken and abrasive formations, where rock hardness is of secondary consideration. The SERIES 100 bit has a combination of matrix metallurgy and diamond selection that provides productivity while resisting premature wear from the formation.

Series 4-6 (SERIES 200)

This SERIES is for formations of medium abrasiveness and hardness, as in many sedimentary rocks and overburden conditions. Coarse-grained and fairly broken formations are the usual areas of application for this general purpose matrix.

Series 5-7 (SERIES 300)

A productive bit in medium to medium-hard formations, with moderate abrasion. The matrix is designed to provide sustained performance in most igneous rock formations and is a good starting point for those cases where the rock characteristics are unknown.

Series 7-9 (SERIES 400)

Finer grained rocks which offer little abrasive assistance to penetration need a freer-cutting matrix. This SERIES is the likely choice for the harder igneous and metamorphic formations, where there may still be some broken areas to pass through. Productivity is assured with this smooth-cutting matrix.

Series 9-11 (SERIES 500)

The least drillable, least abrasive and often hardest rocks present the greatest challenge to an impregnated bit because there is no natural mechanism for the matrix to erode, exposing fresh cutting surfaces. The SERIES 500 was developed to address this hurdle, allowing fresh diamonds to be presented without constant intervention from the driller.



Coring Bits for Going Beyond

Use the Green Monster when you know the conditions and really want to dial-in the performance. Choose your best fit according to the Mohs Hardness scale. Our bit selection chart makes it easy!

Series 7 (SERIES FS7)

This series of matrices forms a continuous range of solutions concentrating on the upper end of the rock hardness spectrum (6 and up), where a more focused product may be required, rather than a broadly tolerant range of application.

Series 9 (SERIES FS9)

Although there is some overlap of application between neighbouring members of the series, the driller should select the product closest to the expected geology shown in the Pilot application chart. This closely targeted range of products is easily matched and compared with the ranges from competing suppliers.

Series 11 (SERIES F11)



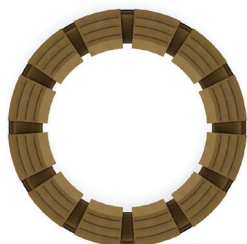
CROWN PROFILES

GREEN
MONSTER
- GO BEYOND -



Productivity can only be truly maximized when the simple effect of pushing up the penetration rate is balanced by efficient flushing to prevent uneven wear and premature failure. By paying close attention to the hydraulic effects that take place at the bit face, Pilot has redesigned the following crown profiles to ensure maximum penetration, even at high rotational speeds.

Our waterways provide reinforcement where it is most needed, while minimizing the risk of unwanted deviation.



Standard crown

The waterway design and number of segments on the standard profile have been selected to provide a robust yet productive tool which can take on variable formations without seriously affecting performance. It is the default choice when facing the unexpected.



Turbo crown

This waterway stays effectively flushed and cooled even when higher rotational speeds are being applied, and the reduced face contact area permits the matrix to self sharpen more readily. Not recommended for unconsolidated formations.



Face Discharge crown

For use in unconsolidated formations, where there is a chance that the drilling fluid could be lost to the formation without performing vital flushing. Pilot has taken a different approach from the conventional face discharge design, optimizing the chance of adequately clearing the cuttings while minimizing the chance of washing away the more fragile core.



Deep ID

Suitable for mixed formations. Slightly wider and deeper waterways allow more fluid to the face of the bit for better flushing without washing the core.



Get the Right Monster for the Job!

Talc, Shales,
Limestone

Schist, Dolomite
Serpentine

Basalt, Sandstone,
Dolerite

Gabbro, Quartz,
Pegmatite

Diorite, Granite,
Gneiss, Quartzite,
Andesite

Glassy Quartzite,
Rhyolite,
Porphyry

Jasperite, Chert,
Ironstone

TYPICALLY, AS ROCK HARDNESS INCREASES, IT BECOMES LESS ABRASIVE AND MORE DIFFICULT TO BREAK OR FRACTURE

Series 2-4 (SERIES 100)

Series 7 (SERIES FS7)

Series 4-6 (SERIES 200)

Series 9 (SERIES FS9)

Series 5-7 (SERIES 300)

Series 11 (SERIES FS11)

Series 7-9 (SERIES 400)

Series 9-11 (SERIES 500)

MOHS
HARDNESS
SCALE

2

3

4

5

6

7

8

HARDEST
FORMATIONS

If the crown tends to polish or cut too slowly with the available bit weight, the formation may not be abrasive enough to expose new diamonds: try using the next higher SERIES bit which will allow the matrix to wear easier. Switching to a turbo waterway may also help prevent polishing; it has less surface area and the restricted flow promotes regrinding of the cuttings to stripping away the matrix.

If the crown wears too quickly the formation may be too abrasive or broken, switch to a lower SERIES bit for a more durable matrix.

We'll Work with You to Get the Right Pilot Coring Bit for the Job

Our knowledgeable team will make sure you get the right bit for the job and be there for the long haul, providing the world-class support and aftercare you expect from Pilot.

Contact us now to learn more, and stake your claim on the next batch of Red and Green Monster Coring Bits!

Steve Perrin

Sales & Business Development Manager

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Owned.
Engineered.
Made.

1851 Seymour Street, North Bay, Ontario P1A 0C7



SIZES & PARAMETERS

GREEN MONSTER
- GO BEYOND -



Available Bit Sizes and Dimensions

Systems	Outside Diameter		Outside Diameter Gauge		Inside Diameter		Inside Diameter Gauge	
	inch	mm	inch max/min	mm max/min	inch	mm	inch max/min	mm max/min
IEW/ IEW-S	1.470	37.34	1.475 / 1.465	37.47 / 37.21	0.995	25.27	1.000 / 0.990	25.40 / 25.15
TT-46/LTK-46	1.815	46.10	1.820 / 1.810	46.23 / 45.97	1.385	35.18	1.390 / 1.380	35.31 / 35.05
JKT48/LTK48	1.882	47.80	1.887 / 1.877	47.93 / 47.68	1.385	35.18	1.390 / 1.380	35.31 / 35.05
A-TK	1.875	47.63	1.880 / 1.870	47.75 / 47.50	1.202	30.53	1.207 / 1.197	30.66 / 30.40
B-TK	2.345	59.56	2.350 / 2.340	59.69 / 59.44	1.601	40.67	1.606 / 1.596	40.79 / 40.54
AW-34	1.882	47.80	1.887 / 1.877	47.93 / 47.68	1.315	33.40	1.320 / 1.310	33.53 / 33.27
ATW	1.875	47.63	1.880 / 1.870	47.75 / 47.50	1.185	30.10	1.190 / 1.180	30.23 / 29.97
BTW	2.345	59.56	2.350 / 2.340	59.69 / 59.44	1.670	42.42	1.675 / 1.665	42.55 / 42.29
NTW	2.970	75.44	2.975 / 2.965	75.57 / 75.31	2.215	56.26	2.220 / 2.210	56.39 / 56.13
A-W/L	1.875	47.63	1.880 / 1.870	47.75 / 47.50	1.062	26.97	1.067 / 1.057	27.10 / 26.85
B-W/L	2.345	59.56	2.350 / 2.340	59.69 / 59.44	1.433	36.40	1.438 / 1.428	36.53 / 36.27
N3-W/L	2.965	75.31	2.970 / 2.960	75.44 / 75.18	1.775	45.09	1.780 / 1.770	45.21 / 44.96
N-W/L	2.965	75.31	2.970 / 2.960	75.44 / 75.18	1.875	47.63	1.880 / 1.870	47.75 / 47.50
N2-W/L	2.965	75.31	2.970 / 2.960	75.44 / 75.18	1.995	50.67	2.000 / 1.990	50.80 / 50.55
H3-W/L	3.763	95.58	3.770 / 2.756	95.76 / 95.40	2.406	61.11	2.411 / 2.401	61.24/ 60.99
H-W/L	3.763	95.58	3.770 / 2.756	95.76 / 95.40	2.500	63.50	2.505 / 2.495	63.63 / 63.37
P3-W/L	4.805	122.05	4.815 / 4.795	122.30 / 121.79	3.270	83.06	3.275 / 3.265	83.19 / 82.93
P-W/L	4.805	122.05	4.815 / 4.795	122.30 / 121.79	3.345	84.96	3.350 / 3.340	85.09 / 84.84

Operating Parameters Guidelines

Systems	Fluid Volume		Rock Hardness	Rotation Speed	Penetration Rate				Bit Weight	
	gpm	l/min		rpm	200 r/inch	250 r/inch	80 r/cm	100 r/cm	lb	kg
A	6.0 - 8.0	10 - 23	Hard	1200 - 1800	6 - 9	4.8 - 7.2	15 - 22.5	12 - 18	4000 - 6000	1800 - 2725
			Medium						3000 - 5000	1350 - 2275
			Soft						2000 - 4000	900 - 1800
B	7.0 - 8.5	27 - 36	Hard	1000 - 1400	5 - 7	4 - 5.6	12.5 - 17.5	10 - 12	5000 - 8000	2275 - 3650
			Medium	1000 - 1200	5 - 6	4 - 4.8	12.5 - 15	10 - 12	3500 - 6000	1600 - 2725
			Soft	800 - 1200	4 - 6	3.2 - 4.8	10 - 15	8 - 12	2500 - 3500	1150 - 1600
N	8.6 - 12.0	30 - 45	Hard	1000 - 1200	5 - 6	4 - 4.8	12.5 - 15	10 - 12	6000 - 8000	2725 - 3650
			Medium	800 - 1200	4 - 6	3.2 - 4.8	10 - 15	8 - 12	4000 - 6000	1800 - 2725
			Soft	800 - 1000	3 - 5	2.4 - 4	7.5 - 12.5	6 - 10	2500 - 3500	1150 - 1600
H	12.0 - 14.6	45 - 55	Hard	800 - 1000	4 - 5	3.2 - 4	10 - 12.5	8 - 10	6000 - 10000	2725 - 4550
			Medium		3 - 5	2.4 - 4	7.5 - 12.5	6 - 10	4000 - 8000	1800 - 3650
			Soft		3 - 4	2.4 - 3.2	7.5 - 10	6 - 8	3000 - 6000	1350 - 2725
P	20.0 - 30.0	75 - 100	Hard	400 - 800	2 - 3	1.6 - 2.4	5 - 7.5	4 - 6	6000 - 12000	2725 - 5500
			Medium						5000 - 10000	2275 - 4550
			Soft						4000 - 8000	1800 - 3650

13 MM CROWN HEIGHT

16 MM CROWN HEIGHT

PART DESCRIPTION	Standard	Turbo	Face Discharge	Deep ID	Standard	Turbo	Face Discharge	Deep ID
BIT, B-W/L IMPREG RED SERIES 2-4 (100)	100085	100090	NA	NA	100085-16	100090-16	NA	NA
BIT, B-W/L IMPREG RED SERIES 4-6 (200)	100086	100091			100086-16	100091-16		
BIT, B-W/L IMPREG RED SERIES 5-7 (300)	100087	100092			100087-16	100092-16		
BIT, B-W/L IMPREG RED SERIES 7-9 (400)	100088	100093			100088-16	100093-16		
BIT, B-W/L IMPREG RED SERIES 9-11 (500)	100089	100094			100089-16	100094-16		
BIT, BTW IMPREG RED SERIES 2-4 (100)	100125	100130	NA	NA	100125-16	100130-16	NA	NA
BIT, BTW IMPREG RED SERIES 4-6 (200)	100126	100131			100126-16	100131-16		
BIT, BTW IMPREG RED SERIES 5-7 (300)	100127	100132			100127-16	100132-16		
BIT, BTW IMPREG RED SERIES 7-9 (400)	100128	100133			100128-16	100133-16		
BIT, BTW IMPREG RED SERIES 9-11 (500)	100129	100134			100129-16	100134-16		
BIT, N3-W/L IMPREG RED SERIES 2-4 (100)	100185	100190	100195	100200	NA			
BIT, N3-W/L IMPREG RED SERIES 4-6 (200)	100186	100191	100196	100201				
BIT, N3-W/L IMPREG RED SERIES 5-7 (300)	100187	100192	100197	100202				
BIT, N3-W/L IMPREG RED SERIES 7-9 (400)	100188	100193	100198	100203				
BIT, N3-W/L IMPREG RED SERIES 9-11 (500)	100189	100194	100199	100204				
BIT, N-W/L IMPREG RED SERIES 2-4 (100)	100205	100210	100215	100220	100505-16	100210-16	NA	NA
BIT, N-W/L IMPREG RED SERIES 4-6 (200)	100206	100211	100216	100221	100206-16	100211-16		
BIT, N-W/L IMPREG RED SERIES 5-7 (300)	100207	100212	100217	100222	100207-16	100212-16		
BIT, N-W/L IMPREG RED SERIES 7-9 (400)	100208	100213	100218	100223	100208-16	100213-16		
BIT, N-W/L IMPREG RED SERIES 9-11 (500)	100209	100214	100219	100224	100209-16	100214-16		
BIT, N2-W/L IMPREG RED SERIES 2-4 (100)	100225	100230	100235	100240	100225-16	100230-16	NA	100240-16
BIT, N2-W/L IMPREG RED SERIES 4-6 (200)	100226	100231	100236	100241	100226-16	100231-16		100241-16
BIT, N2-W/L IMPREG RED SERIES 5-7 (300)	100227	100232	100237	100242	100227-16	100232-16		100242-16
BIT, N2-W/L IMPREG RED SERIES 7-9 (400)	100228	100233	100238	100243	100228-16	100233-16		100243-16
BIT, N2-W/L IMPREG RED SERIES 9-11 (500)	100229	100234	100239	100244	100229-16	100234-16		100244-16
BIT, H3-W/L IMPREG RED SERIES 2-4 (100)	100285	100290	100295	100300	NA			
BIT, H3-W/L IMPREG RED SERIES 4-6 (200)	100286	100291	100296	100301				
BIT, H3-W/L IMPREG RED SERIES 5-7 (300)	100287	100292	100297	100302				
BIT, H3-W/L IMPREG RED SERIES 7-9 (400)	100288	100293	100298	100303				
BIT, H3-W/L IMPREG RED SERIES 9-11 (500)	100289	100294	100299	100304				
BIT, H-W/L IMPREG STD RED SERIES 2-4 (100)	100305	100310	100315	100320	100305-16	100310-16	NA	NA
BIT, H-W/L IMPREG STD RED SERIES 4-6 (200)	100306	100311	100316	100321	100306-16	100311-16		
BIT, H-W/L IMPREG STD RED SERIES 5-7 (300)	100307	100312	100317	100322	100307-16	100312-16		
BIT, H-W/L IMPREG STD RED SERIES 7-9 (400)	100308	100313	100318	100323	100308-16	100313-16		
BIT, H-W/L IMPREG STD RED SERIES 9-11 (500)	100309	100314	100319	100324	100309-16	100314-16		
BIT, P-W/L IMPREG RED SERIES 2-4 (100)	100345	100350	100355	NA	NA			
BIT, P-W/L IMPREG RED SERIES 4-6 (200)	100346	100351	100356					
BIT, P-W/L IMPREG RED SERIES 5-7 (300)	100347	100352	100357					
BIT, P-W/L IMPREG RED SERIES 7-9 (400)	100348	100353	100358					
BIT, P-W/L IMPREG RED SERIES 9-11 (500)	100349	100354	100359					
BIT, P3-W/L IMPREG RED SERIES 2-4 (100)	100365	NA	100375	NA	Also available upon request: RSG (reaming shell gauge), oversize, wide waterway, extra abrasion resistance.			
BIT, P3-W/L IMPREG RED SERIES 4-6 (200)	100366		100376					
BIT, P3-W/L IMPREG RED SERIES 5-7 (300)	100367		100377					
BIT, P3-W/L IMPREG RED SERIES 7-9 (400)	100368		100378					
BIT, P3-W/L IMPREG RED SERIES 9-11 (500)	100369		100379					



13 MM CROWN HEIGHT

16 MM CROWN HEIGHT

PART DESCRIPTION	Standard	Turbo	Face Discharge	Deep ID	Standard	Turbo	Face Discharge	Deep ID
BIT, A-TK W/L IMPREG GREEN SERIES 7 (FS 7)	990192	NA	NA	NA	NA			
BIT, A-TK W/L IMPREG GREEN SERIES 9 (FS 9)	990193							
BIT, A-TK W/L IMPREG GREEN SERIES 11 (FS 11)	990324							
BIT, B-W/L IMPREG GREEN SERIES 7 (FS 7)	990328	990200	NA	NA	990328-16	990200-16	NA	NA
BIT, B-W/L IMPREG GREEN SERIES 9 (FS 9)	990329	990201			990329-16	990201-16		
BIT, B-W/L IMPREG GREEN SERIES 11 (FS 11)	990331	991035			990331-16	991035-16		
BIT, BTK-W/L IMPREG GREEN SERIES 7 (FS 7)	990227	990226	NA	NA	990277-16	990226-16	NA	NA
BIT, BTK-W/L IMPREG GREEN SERIES 9 (FS 9)	990203	990202			990203-16	990202-16		
BIT, BTK-W/L IMPREG GREEN SERIES 11 (FS 11)	990208	990848			990208-16	990848-16		
BIT, BTW IMPREG STD GREEN SERIES 7 (FS 7)	990204	991037	NA	NA	990204-16	991037-16	NA	NA
BIT, BTW IMPREG STD GREEN SERIES 9 (FS 9)	990205	991038			990205-16	991038-16		
BIT, BTW IMPREG STD GREEN SERIES 11 (FS 11)	991033	991039			991033-16	991039-16		
BIT, N-W/L IMPREG GREEN SERIES 7 (FS 7)	990209	990210	991015	990865	990209-16	990210-16	NA	990865-16
BIT, N-W/L IMPREG GREEN SERIES 9 (FS 9)	990213	990211	991016	990867	990213-16	990211-16		990867-16
BIT, N-W/L IMPREG GREEN SERIES 11 (FS 11)	990214	991007	991017	990868	990214-16	991007-16		990868-16
BIT, N2-W/L IMPREG GREEN SERIES 7 (FS 7)	990217	990215	991045	990219	990217-16	990215-16	NA	NA
BIT, N2-W/L IMPREG GREEN SERIES 9 (FS 9)	990218	990216	991046	990220	990218-16	990216-16		
BIT, N2-W/L IMPREG GREEN SERIES 11 (FS 11)	991043	990846	991047	990873	991043-16	990846-16		
BIT, N3-W/L IMPREG GREEN SERIES 7 (FS 7)	990386	991076	991079	990256	NA			
BIT, N3-W/L IMPREG GREEN SERIES 9 (FS 9)	990388	991077	991080	991082				
BIT, N3-W/L IMPREG GREEN SERIES 11 (FS 11)	991075	991078	991081	990259				
BIT, H-W/L IMPREG GREEN SERIES 7 (FS 7)	990232	990230	991018	990875	990232-16	990230-16	NA	990875-16
BIT, H-W/L IMPREG GREEN SERIES 9 (FS 9)	990233	990231	990239	990877	990233-16	990231-16		990877-16
BIT, H-W/L IMPREG GREEN SERIES 11 (FS 11)	990249	990412	991019	990878	990249-16	990412-16		990878-16
BIT, H3-W/L IMPREG GREEN SERIES 7 (FS 7)	990390	991061	990270	991064	NA			
BIT, H3-W/L IMPREG GREEN SERIES 9 (FS 9)	990241	990240	990244	991065				
BIT, H3-W/L IMPREG GREEN SERIES 11 (FS 11)	991060	991062	991063	991066				
BIT, P-W/L IMPREG GREEN SERIES 7 (FS 7)	990340	991102	991105	990880	NA			
BIT, P-W/L IMPREG GREEN SERIES 9 (FS 9)	990341	991103	991106	990882				
BIT, P-W/L IMPREGGREEN SERIES 11 (FS 11)	990342	991104	991107	990883				
BIT, P3-W/L IMPREG GREEN SERIES 7 (FS 7)	990393	991110	991113	991116	NA			
BIT, P3-W/L IMPREG GREEN SERIES 9 (FS 9)	990395	991111	991114	991117				
BIT, P3-W/L IMPREG GREEN SERIES 11 (FS 11)	990399	991112	991115	991118				

Also available upon request:
RSG (reaming shell gauge), oversize, wide waterway, extra abrasion resistance.