

IADC Classification Chart

**Security DBS Drill Bits
Steel Tooth Bits**

Series	Formations	Type	Features																					
			1 - Standard Roller Bearing				4 - Sealed Roller Bearing				5 - Sealed Roller Bearing Gauge Protected				6- Sealed Friction Bearing				7 - Friction Bearing Gauge Protectioned					
			Security DBS	ReadHycalog	Hughes	Smith	Security DBS	ReadHycalog	Hughes	Smith	Security DBS	ReadHycalog	Hughes	Smith	Security DBS	ReadHycalog	Hughes	Smith	Security DBS	ReadHycalog	Hughes	Smith		
1	Soft formations with low compressive strength and high drillability	1	XN1	Y11	R1	DSJ					GTX-1	ET1 XBXT1	T11 EMS11G ETS11G	GTX-G1 MAX GT1 MX-1	MSDSH MSDSSH MGSSH+, MGSH+	XS1	HP11	GT1	FDS FDSS+	XSC1, XLC1, EBXS1, EBXSC1 EBXLC1	SL11, TC10 TC11, TD11 D11	XLX-1, GT-G1H, GT-G1 STX-1, MX-1, STR-1, GT-1	MFDSH, FDS+, FDS+2, MFDSSH, FDSS+2 FGS+, FGS+2, FGSH+, FGSS+ XR+, FGSSH+	
		2																HP12		FTD				
		3	XN3	Y13	R3	DTJ					GTX-3		GA135, GAT135		GTX-G3 MAX-GT3 MX-3	SDGH MSDGH MGGH+		HP13		FDG	XS3 EBXS3	SL12, HP12	MX-3	FDGH, MFDGH
2	Medium to medium-hard formations with high compressive strength	1	XN4			DGJ						XT3 EBXT3	T13 EMS13G ETS136		SVH MSVH				ATJ-4	FV	XS4 EBXS4	D13 HP13G	ATJ-G4	FVH
		2				DR5	V2J					XT4										HP21G		
3	Hard semi- abrasive or abrasive formations	1	XN5			L4H																FB, FBOY		
		2				R7																	F8SY	
		4																					F9, F90Y, SR90Y	ATJ-G8

In 1987, the International Association of Drilling Contractors (IADC) initiated the use of a four-character IADC system for roller cone bits. In 1992, the system was expanded to include more features. The system involves the combination of the traditional three-numeral system with a fourth alpha character. This fourth character more clearly defines additional features of roller cone bits with regard to cutting structures, bearings, seals, hydraulics and specific applications. The codes to the right are used in the fourth position of the fourth-character IADC bit classification system.

IADC Code – 4th Character Classification		
4th Code Character	Feature Security	DBS Nomenclature
A	Air application (journal bearing with air nozzles)	A
B	Special bearing seal	—
C	Center jet	C
D	Deviation control	—
E	Extended jets (full length)	—
G	Extra gauge/body protection	G
H	Horizontal/steering application	—
J	Jet deflection	—
L	Lug pads	L
M	Motor application	—
M	Standard steel tooth model	—
T	Two cone	—
W	Enhanced cutting structure	C*, D*
X	Predominantly chisel tooth inserts	Even 2nd digit
Y	Predominantly conical inserts	Odd 2nd digit
Z	Other shape inserts	—

* — Prefix (usually precedes bit number, others are suffixes)

**Security DBS Drill Bits
Insert Bits**

Series	Formations	Type	Features							
			5 Sealed Roller Bearing Gauge Protected				7 Sealed Friction Bearing Gauge Protected			
			Security DBS	ReedHycalog	Hughes	Smith	Security DBS	ReedHycalog	Hughes	Smith
4	Soft formations with low compressive strength and high drillability	1	XT(D)00 to 05(D) EBXT(D)00 to 05(D)	T41 EMS41H	GTX-00, GTX03, MAXGT-00 MAXGT-03, MX-00, MX-03	MGS01, 01GMS, 02MG, MGO2T, MG04, MGS04, G04	XS(D)00 to 05(D), XL(D)00 to 05(D) EBXS(D)00 to 05(D), EBXL(D)00 to 05(D)	TD41H, TD41, TD41A	GT-00, GT-03, H-03, STR-03, MX-00, MX-03	F02T, MFS04 GF04, FGS04, 04GFS
		2	XT(D)06 to 09(D) EBXT(D)06 to 09(D)	T42 EMS42H	GTX-03C	MGS05, 05GM G05, 05GMS	XS(D)06 to 09(D), XL(D)06 to 09(D) EBXS(D)06 to 09(D), EBXL(D)06 to 09(D)	TD42H	STR-05C HX-05C	05MF, F05T, F07, MF05T, GF05 F07Y, MF07DD, 05MF, 05MFD
		3	XT(D)10 to 13(D) EBXT(D)10 to 13(D)	T43, EMS43A EMS43H	GTX-09, GTX-11H MAXGT-09, MX-09, MX-11	M10T, MGS10, MG10T 10GMS, 10GM, G10	XS(D)10 to 13(D), XL(D)10 to 13(D) EBXS(D)10 to 13(D), EBXL(D)10 to 13(D)	SL43H, TD43, TD43A, TD43H D43, HP43A, HP43H	GT-09, STR-09, STX-09C H-09, MX-09, MX-11	10GF, 10MF, F1, F10T, F12T, F12Y, 12MF, MF10T, XR10T F14T, 12MFD, D, FG10T, 10GFD, FGS10, GF10, GF11Y
		4	XT(D)14 to 17(D) EBXT(D)14 to 17(D)	T44, EMS44H EMS44A	MAXGT-18, MX-18	M15T, 15GM, G15 15GMD, MGS18, G18	XS(D)14 to 17(D), XL(D)14 to 17(D) EBXS(D)14 to 17(D), EBXL(D)14 to 17(D)	TD44, TD44H, TD44X D44, HP44H, HP44X	GT-18, STR-18, H-18, HX-18, MX-18	F15, MF15, MF14TY, 15MF, FG15T, 15MFD, 15GFDY, 15GFD, XR15T, F15T, FGS15, 15GF, GF15, XR15, GF18, MF15T
5	Soft to medium formations with high compressive strength	1	XT(D)18 to 23(D) EBXT(D)18 to 23(D)	T51, EMS51A EMS51H	GTX-20, GTX-20G, GTX-20H MAXGT-20, MX-20	MA1SL, M20T, MGS20, 21GMS 20GM, G20, 20GMS, 20GMD	XS(D)18 to 23(D), XL(D)18 to 23(D) EBXS(D)18 to 23(D), EBXL(D)18 to 23(D)	SL51H, TD51, TD51A, TD51H, TD51X D51, HP51, HP51A, HP51H, HP51X	GT-20, STR-20, STX-20 H-20, HX-20, MX-20	F15H, F17, F2, F20T, MF2, MF20T, MFS20T, 20MF, F25 MF25T, 25MF, FG20T, FGS20, GF20F, 25GF, XR20, XR25, F15HT F2H, 20MFD, 20MFDY, 20GFD, XR20T, XR20HT, XR20TY, XR25T
		2	XT(D)24 to 27(D) EBXT(D)24 to 27(D)	T52 EMS52H	GTX-20C, MAXGT-20CG MX-28G	M27D	XS(D)24 to 27(D), XL(D)24 to 27(D) EBXS(D)24 to 27(D), EBXL(D)24 to 27(D)	TD52, TD52A, TD52H, TD52I, TD52X HP52, HP52X	GT-20C, GT-28, H-28, H-20C HX-28, MX-20C, MX-28	F26Y, F27, F27I, MF27, FGS260D, 26GFD, XR20TY, XR25TY, 28MYOD, 26GFSOD
		3	XT(D)28 to 33(D) EBXT(D)28 to 33(D)	T53, EMS53 EMS53A, ETS53A	MX-30H MAXGT-30	3JS, M3S	XS(D)28 to 33(D), XL(D)28 to 33(D) EBXS(D)28 to 33(D), EBXL(D)28 to 33(D)	SL53, SL53A, TD53, TD53A, TD53B TD53H, D53, HP53, HP53A, HP53H, JA53	XL-30A, STR-30, STX-35, GT-30, H-30, HX-30, MX-30	F3, MF3, F3H, FG3H F30T, 30MF, MF30T, XR32TD XR30, 30MFD, XR32TYD, XR30T
		4	XT(D)34 to 39(D) EBXT(D)34 to 39(D)	T54	GTX-30C MAXGT-30CG		XS(D)34 to 39(D), XL(D)34 to 39(D) EBXS(D)34 to 39(D), EBXL(D)34 to 39(D)	TD54A, TD54X, TD54	GT-30C, STR-30C, STR-35C STX-30C, H-30C, HR-38C HR-30C, HR-35, MX-35C	F35, F37, MF37 XR30Y, 30MFDY F37H, MF37DDPD, XR30TY
6	Medium-hard formations with high compressive strength	1	XT(D)40 to 45(D) EBXT(D)40 to 45(D)	ETS61A		4JS	XS(D)40 to 45(D), XL(D)40 to 45(D) EBXS(D)40 to 45(D), EBXL(D)40 to 45(D)	SL61, SL61A, TD61, TD61A HP61A, HP61H	STR-40, HR-40, HR-44, STX-40, MX-40	F4, F45H, F47, F47A, F4H XR40, MF47, F4A, F45A
		2	XT(D)46 to 51(D) EB(D)46 to 51(D)	EMS62	GTX-40C	5JS, 47JS	XS(D)46 to 51(D), XL(D)46 to 51(D) EBXS(D)46 to 51(D), EBXL(D)46 to 51(D)	SL62, SL62A, SL62X TD62, TD62A, HP62, HP62A, HP62H, JA62	XL-40A, STR-40C, STR-44C STX-44C, HR-40C, HR-44C MX-40C, MX-44CH	F47H, F5, MF5, XR40Y XR45YDD, XR50
		3	XT(D)52 to 59(D)			M57S	XS(D)52 to 59(D), EBXS(D)52 to 59(D)	SL63, TD63, HP63	XL-50A, STR-50, STX-50 HR-50, HR-55, MX-50, MX-55	F57, MF57 XR50Y, F57DD
		4	XT(D)61, 63, 67, 69(D)				XS(D)61, 63, 67, 69(D) EBXS(D)61, 63, 67, 69(D)	TD64, TD64H HP64, HP64H	HR-60 HR-66	F59, F59Y F65, F67, F67Y
7	Hard semi-abrasive and abrasive formations	1	XT(D)71, 73, 75(D)				XS(D)71, 73, 75(D) EBXS(D)71, 73, 75(D)			
		3	XT(D)77, 79, 81(D)				XS(D)77, 79, 81(D) EBXS(D)77, 79, 81(D)	SL73, HP73	STR-70, STX-70, HR-70	F7, XR68Y, XR70Y, F7DDPD
		4	XT(D)83, 85, 87, 89(D)				XS(D)83, 85, 87, 89(D) EBXS(D)83, 85, 87, 89(D)	TD74, HP74		
8	Extremely hard and abrasive formations	1	XT(D)91, 93(D)				XS(D)91, 93(D) EBXS(D)91, 93(D)	TD81, HP81	HR-80, HR-88 STX-80, STR-80	F8, F80Y
		2	XT(D)95, 97(D)				XS(D)95, 97(D) EBXS(D)95, 97(D)			F85Y
		3	XT(D)99(D)				XS(D)99(D), EBXS(D)99(D)	SL83, TD83, HP83	HR-90, HR-99, STX-90, STR-90	F9, F90Y, XR90Y

Note: Bits shown are based on individual manufacturer, Vs published available data. Comparisons may differ in particular drilling areas. Your Security DBS representative can provide specific data for your needs.
Security DBS Drill Bits