

IADC CLASSIFICATION FOR ROLLER CONE BITS

IADC code consists of four characters, indicating bit design and formation type being drilled. First three characters are numerical, fourth one – literal. The numerical code characters sequence is determined as «series-type-bearing/gauge». Fourth literal code character defines «additional features».

First code digit – roller cone bit series (1-8).

Eight categories of roller cone bit series correspond to general characteristics of rock formations being drilled. Series from 1 to 3 determine Steel Tooth bits, and series from 4 to 8 – Tungsten Carbide Tooth. Increasing of inside group digits designates increasing of rock formation hardness.

Second code digit – roller cone bit type (1-4). Each series divided into 4 types according to rock formation hardness. Type 1 corresponds to drill bits for the softest rock formations within the series, and type 4 – for the hardest ones.

Third code digit (1-7) characterizes bearing type and gauge protection availability.

Fourth literate code character – «additional features» (unrequired). 16 letters are used to describe specific cutting structures, bearings, jets and gauge protections of a bit. If bit has more than one additional feature the only most significant one is to be indicated.

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1		2		3						
Series	Formation type	Bearing / Gauge								
		1	2	3	4	5	6	7		
Steel Tooth	1	Soft	1	Standard open roller bearing	Standard open roller bearing, air-cooled	Standard open roller bearing with gauge protection	Sealed roller bearing	Sealed roller bearing with gauge protection	Sealed friction bearing	Sealed friction bearing with gauge protection
			2							
			3							
			4							
	2	Medium	1							
			2							
			3							
			4							
	3	Hard	1							
			2							
			3							
			4							
Tungsten Carbide Tooth	4	Soft	1							
			2							
			3							
			4							
	5	Soft to medium	1							
			2							
			3							
			4							
	6	Medium	1							
			2							
			3							
			4							
	7	Hard	1							
			2							
			3							
			4							
8	Very hard	1								
		2								
		3								
		4								

4 (unrequired)	
Additional features	
A	Air application (journal bearing with air nozzles)
B	Special bearing seal
C	Center jet
D	Deviation control
E	Extended jets (full length)
G	Extra gauge/body protection
H	Horizontal/steering application
J	Jet deflection
L	Lug pads
M	Motor application
S	Standard steel tooth model
T	Two cone
W	Enhanced cutting structure
X	Predominantly chisel tooth inserts
Y	Predominantly conical inserts
Z	Other shape inserts