

Easy selection

We made it as easy as possible for you to select the right Epsilon² bit for each drilling operation. The bits are divided into only four categories based on the strength of the rock where they will be used. The Epsilon² diameter range is from 6-3/4 inches (171 mm) to 16 inches (406 mm), and the IADC code range is from 412 to 722.



Rock strength 0–8,000 UCS / SOFT

Bit diameter	IADC code		
	41E2	43E2	44E2
6-3/4" (171 mm)			
7-7/8" (200 mm)			
9" (229 mm)	5697000042		
9-7/8" (251 mm)		5697000046	
10-5/8" (270 mm)			5697000010
12-1/4" (311 mm)			
13-3/4" (349 mm)			
16" (406 mm)			



Rock strength 6,000–28,000 UCS / MEDIUM

Bit diameter	IADC code		
	52E2	53E2	54E2
6-3/4" (171 mm)		5697000054	
7-7/8" (200 mm)	5697000038	5697000039	
9" (229 mm)		5697000043	
9-7/8" (251 mm)			5697000047
10-5/8" (270 mm)	5697000028		5697000013
12-1/4" (311 mm)		5697000029	5697000030b 5697000031
13-3/4" (349 mm)			
16" (406 mm)			



Rock strength 24,000–46,000 UCS / HARD

Bit diameter	IADC code		
	62E2	63E2	64E2
6-3/4" (171 mm)		5697000037	
7-7/8" (200 mm)	5697000040		5697000041
9" (229 mm)	5697000044		5697000045
9-7/8" (251 mm)	5697000048		5697000049
10-5/8" (270 mm)	5697000025	5697000026	5697000027
12-1/4" (311 mm)	5697000032		5697000034b 5697000033
13-3/4" (349 mm)	5697000036b		
16" (406 mm)			



Rock strength 38,000+ UCS / VERY HARD

Bit diameter	IADC code		
	71E2	72E2	
6-3/4" (171 mm)			
7-7/8" (200 mm)			
9" (229 mm)			
9-7/8" (251 mm)			
10-5/8" (270 mm)			
12-1/4" (311 mm)		697000035b	
13-3/4" (349 mm)			
16" (406 mm)	697000053b		

Nozzles diameter

Based on bit diameter and compressor rating.

Target bit PSI: **45** Assume: **3,000 feet elevation, 70°F (21°C) intake air temp, 120°F (49°C) delivered air temp**

Bit diameter	Air compressor rating, iCFM							
	1000	1250	1400	1600	1900	2600	3000	3800
6-3/4" (171 mm)	5/16	3/8	7/16	1/2	5/8	-	-	-
7-7/8" (200 mm)	5/16	3/8	7/16	1/2	5/8	-	-	-
8-1/2" (216 mm)	1/4	5/16	3/8	7/16	9/16	13/16	-	-
9" (229 mm)	1/4	5/16	3/8	7/16	9/16	5/8	3/4	15/16
9-7/8" (251 mm)	3/16	5/16	5/16	7/16	1/2	9/16	11/16	15/16
10-5/8" (270 mm)	3/16	1/4	5/16	3/8	1/2	9/16	11/16	7/8
12-1/4" (311 mm)	1/8	1/4	5/16	3/8	7/16	1/2	5/8	7/8
13-3/4" (349 mm)	1/8	3/16	1/4	5/16	7/16	1/2	5/8	13/16
15" (381 mm)	1/8	3/16	1/4	5/16	7/16	1/2	5/8	13/16
16" (406 mm)	1/16	3/16	3/16	5/16	3/8	7/16	9/16	13/16

Target bit PSI: **60**

	1000	1250	1400	1600	1900	2600	3000	3800
6-3/4" (171 mm)	2/8	5/16	3/8	7/16	1/2	11/16	13/16	1-1/16
7-7/8" (200 mm)	3/16	5/16	5/16	3/8	1/2	11/16	13/16	1
8-1/2" (216 mm)	3/16	1/4	5/16	5/16	7/16	5/8	3/4	15/16
9" (229 mm)	3/16	1/4	5/16	5/16	7/16	5/8	3/4	15/16
9-7/8" (251 mm)	-	3/16	1/4	5/16	3/8	9/16	11/16	15/16
10-5/8" (270 mm)	-	3/16	3/16	1/4	5/16	9/16	11/16	7/8
12-1/4" (311 mm)	-	-	3/16	1/4	5/16	1/2	5/8	7/8
13-3/4" (349 mm)	-	-	3/16	3/16	5/16	1/2	5/8	13/16
15" (381 mm)	-	-	-	3/16	5/16	1/2	5/8	13/16
16" (406 mm)	-	-	-	3/16	1/4	7/16	9/16	13/16

Target bit PSI: **45** Assume: **10,000 feet elevation, 60°F (16°C) intake air temp, 120°F (49°C) delivered air temp**

Bit diameter	Air compressor rating, iCFM							
	1000	1250	1400	1600	1900	2600	3000	3800
6-3/4" (171 mm)	1/4	5/16	3/8	3/8	1/2	-	-	-
7-7/8" (200 mm)	3/16	1/4	5/16	3/8	7/16	-	-	-
8-1/2" (216 mm)	3/16	1/4	1/4	5/16	7/16	5/8	-	-
9" (229 mm)	3/16	1/4	1/4	5/16	7/16	10/16	3/4	15/16
9-7/8" (251 mm)	1/8	3/16	1/4	5/16	3/8	9/16	11/16	7/8
10-5/8" (270 mm)	1/16	1/8	3/16	1/4	5/16	1/2	5/8	7/8
12-1/4" (311 mm)	1/16	1/8	3/16	1/4	5/16	1/2	5/8	7/8
13-3/4" (349 mm)	1/16	1/8	1/8	3/16	5/16	1/2	5/8	13/16
15" (381 mm)	0	1/16	1/8	3/16	1/4	7/16	9/16	13/16
16" (406 mm)	0	1/16	1/8	3/16	1/4	7/16	9/16	3/4

Target bit PSI: **60**

	1000	1250	1400	1600	1900	2600	3000	3800
6-3/4" (171 mm)	3/16	1/4	1/4	5/16	3/8	9/16	5/8	13/16
7-7/8" (200 mm)	-	3/16	1/4	5/16	3/8	1/2	5/8	6/8
8-1/2" (216 mm)	-	3/16	3/16	1/4	5/16	7/16	9/16	6/8
9" (229 mm)	-	3/16	3/16	1/4	5/16	7/16	9/16	6/8
9-7/8" (251 mm)	-	-	-	3/16	1/4	7/16	1/2	11/16
10-5/8" (270 mm)	-	-	-	3/16	1/4	3/8	1/2	5/8
12-1/4" (311 mm)	-	-	-	-	3/16	3/8	7/16	5/8
13-3/4" (349 mm)	-	-	-	-	3/16	5/16	7/16	5/8
15" (381 mm)	-	-	-	-	3/16	5/16	7/16	9/16
16" (406 mm)	-	-	-	-	-	5/16	3/8	9/16