

CORING TOOLS – Impregnated Diamond Bits

**Impregnated Diamond Bits** - are available from USExploration Equipment Company in support of your consolidated formation exploration and sample recovery requirements in a wide range of configurations. When ordering make sure you know as much about the formation as possible...then match your Coring System (**NQ-Series** or **HQ-Series**), select a Bit Matrix that fits the hardness level (**Series-1** for soft through **Series-10** for ultra hard), determine whether your Bit **Gauge** (actual hole size) should be larger than, equal to or less than the **Gauge (S, R, OS or -R)** being cut by your **Reaming Shell**, choose how thick your matrix should be, based on anticipated bit wear (**6mm, 9mm, 12mm or 25mm**), select a **Waterway** configuration (**TW, FD, DD, EX or Staged**) based on your experience in the formation and finally the number of Waterways and their respective depth...call us for a quote today, on the Impregnated Bit that best fits your application



Diamond Impregnated Bits, Reaming Shells & Casing Shoes

Coring System	Bit Matrix Series Options	Bit Gauge (Hole Size) vs. Core Barrel & Reaming Shell Diameter Options	Impregnated Depth in millimeters Options	Waterway Configuration Options	Number of Waterways & Depth (.000-inch) Examples
NQ	Series-1  Soft to Medium Formations	S - Standard R - Equal to Reaming Shell	6mm	TW – Tapered	7 @ .187-inch
NQ	Series-2  Soft Formations Large Grain	OS – Oversized Bit Face -R – Less than Reaming Shell S – Standard R – Equal to Reaming Shell	6mm 25mm 9mm	FD – Face Discharge DD – Deep ID TW – Tapered EX – Express	7 @ .187-inch 10 @ .125-inch 8 @ .250-inch

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<b>Coring System</b>	<b>Bit Matrix Series Options</b>	<b>Bit Gauge (Hole Size) vs. Core Barrel &amp; Reaming Shell Diameter Options</b>	<b>Impregnated Depth in millimeters Options</b>	<b>Waterway Configuration Options</b>	<b>Number of Waterways &amp; Depth (.000-inch) Examples</b>
NQ	Series-4  Soft to Medium Formations Good on Auger Drills	R – Equal to Reaming Shell S – Standard	6mm 9mm		7 @ .187-inch 8 @ .250-inch
NQ	Series-6  General Purpose – Medium to Hard Formations	OS – Oversized Bit Face R – Equal to Reaming Shell -R – Less then Reaming Shell S – Standard	9mm 12mm 25mm	TW – Tapered DD – Deep ID EX – Express FD – Face Discharge	6 @ .313-inch 8 @ .155-inch 8 @ .250-inch Staged 8 @ .187-inch
NQ	Series-7  Mix of Medium to Hard Formations	-R – Less then Reaming Shell S – Standard OS – Oversized Bit Face R – Equal to Reaming Shell	9mm 12mm 25mm	EX – Express FD – Face Discharge TW – Tapered	Staged 6 @ .187-inch 7 @ .125-inch 7 @ .250-inch 8 @ .155-inch 8 @ .250-inch 9 @ .094-inch 10 @ .094-inch 10 @ .155-inch
NQ	Series-8  General Purpose for Hard Formations	OS – Oversized Bit Face R – Equal to Reaming Shell -R – Less Then Reaming Shell S - Standard	9mm 12mm 25mm	EX – Express FD – Face Discharge	Staged 6 @ .187-inch 8 @ .125-inch 8 @ .155-inch 8 @ .187-inch 8 @ .250-inch 9 @ .094-inch 10 @ .125-inch

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<b>Coring System</b>	<b>Bit Matrix Series Options</b>	<b>Bit Gauge (Hole Size) vs. Core Barrel &amp; Reaming Shell Diameter Options</b>	<b>Impregnated Depth in millimeters Options</b>	<b>Waterway Configuration Options</b>	<b>Number of Waterways &amp; Depth (.000-inch) Examples</b>
NQ	Series-9  Hard to ultra Hard Formations Good on Low Torque Drills	OS – Oversized Bit Face R – Equal to Reaming Shell -R – Less then Reaming Shell S – Standard	9mm 12mm 25mm	EX – Express TW – Tapered	Staged 7 @ .250-inch 8 @ .125-inch 8 @ .155-inch 8 @ .250-inch 9 @ .094-inch 10 @ .125-inch
NQ	Series-10  Ultra Hard Fine Grain Formations Good on Low Torque Drills	R – Equal to Reaming Shell -R – Less the Reaming Shell S – Standard	9mm 12mm 25mm	EX – Express	8 @ .125-inch 8 @ .155-inch 10 @ .094-inch
NQ-2	Series-1  Soft to Medium Formations	R – Equal to Reaming Shell	6mm	FD – Face Discharge	8 @ .250-inch 10 @ .155-inch
NQ-2	Series-2  Soft Formations Large Grain	R – Equal to Reaming Shell -R – Less then Reaming Shell S - Standard	6mm 9mm 25mm	EX – Express FD – Face Discharge	Staged 7 @ .187-inch 8 @ .155-inch 8 @ .187-inch 10 @ .155-inch
NQ-2	Series-4  Soft to Medium Formations Good on Auger Drills	S – Standard R – Equal to Reaming Shell	6mm		7 @ .187-inch 10 @ .125-inch
NQ-2	Series-6  General Purpose – Medium to Hard Formations	OS – Oversized Bit Face R – Equal to Reaming Shell -R – Less then Reaming Shell S – Standard	9mm 12mm 25mm	TW – Tapered DD – Deep ID EX – Express FD – Face Discharge	Staged 6 @ .250-inch 8 @ .155-inch 8 @ .187-inch

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<b>Coring System</b>	<b>Bit Matrix Series Options</b>	<b>Bit Gauge (Hole Size) vs. Core Barrel &amp; Reaming Shell Diameter Options</b>	<b>Impregnated Depth in millimeters Options</b>	<b>Waterway Configuration Options</b>	<b>Number of Waterways &amp; Depth (.000-inch) Examples</b>
NQ-2	Series-7  Medium Hard mixed with Hard	-R – Less then Reaming Shell S – Standard OS – Oversized Bit Face R – Equal to Reaming Shell	9mm 12mm 25mm	TW – Tapered FD – Face Discharge EX – Express	Staged 8 @ .155-inch 8 @ .187-inch 10 @ .125-inch 10 @ .250-inch
NQ-2	Series-8  General Purpose for Hard Formations	S – Standard OS – Oversized Bit Face R – Equal to Reaming Shell -R – Less then Reaming Shell	9mm 12mm 25mm	EX – Express TW – Tapered	Staged 8 @ .125-inch 8 @ .155-inch 8 @ .187-inch
NQ-2	Series-9  Hard to ultra Hard Formations Good on Low Torque Drills	R – Equal to Reaming Shell -R – Less then Reaming Shell S – Standard	12mm 25mm	EX – Express	Staged 8 @ .155-inch 8 @ .187-inch 8 @ .250-inch 10 @ .094-inch
NQ-2	Series-10  Ultra Hard Fine Grain Formations Good on Low Torque Drills	OS – Oversized Bit Face R – Equal to Reaming Shell -R – Less then Reaming Shell S - Standard	9mm 12mm 25mm	EX - Express	Staged 8 @ .155-inch 8 @ .187-inch 10 @ .094-inch 10 @ .125-inch 10 @ .155-inch
NQ-3	Series-1  Soft to Medium Formations	R – Equal to Reaming Shell S – Standard	6mm	TW – Tapered	5 @ .188-inch 8 @ .155-inch
NQ-3	Series-2  Soft Formations Large Grain	R – Equal to Reaming Shell S – Standard	6mm 9mm	FD – Face Discharge	6 @ .250-inch 7 @ .187-inch 8 @ .155-inch

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NQ-3	Series-4  Soft to Medium Formations Good on Auger Drills	R – Equal to Reaming Shell S – Standard	6mm 9mm	FD – Face Discharge DD – Deep ID	6 @ .250-inch 7 @ .187-inch 10 @ .125-inch
NQ-3	Series-6  General Purpose – Medium to Hard Formations	OS – Oversized Bit Face R – Equal to Reaming Shell S – Standard -R – Less then Reaming Shell	9mm 12mm 25mm	EX – Express FD – Face Discharge DD – Deep ID TW – Tapered	Staged 6 @ .250-inch 8 @ .155-inch 8 @ .250-inch 10 @ .125-inch
NQ-3	Series-7  Medium Hard mixed with Hard	OS – Oversized Bit Face R – Equal to Reaming Shell -R – Less then Reaming Shell S – Standard	9mm 12mm 25mm	FD – Face Discharge DD – Deep ID EX – Express	Staged 8 @ .125-inch 8 @ .155-inch 8 @ .187-inch 8 @ .250-inch 10 @ .125-inch
NQ-3	Series-8  General Purpose for Hard Formations	OS – Oversized Bit Face -R – Less then Reaming Shell S – Standard R – Equal to Reaming Shell	9mm 12mm 25mm	EX – Express FD – Face Discharge	Staged 6 @ .250-inch 8 @ .125-inch 8 @ .155-inch 8 @ .187-inch 8 @ .250-inch 10 @ .125-inch
NQ-3	Series-9  Hard to ultra Hard Formations Good on Low Torque Drills	OS – Oversized Bit Face R – Equal to Reaming Shell S – Standard	9mm 12mm	EX – Express FD – Face Discharge	8 @ .125-inch 8 @ .155-inch 8 @ .250-inch
NQ-3	Series-10  Ultra Hard Fine Grain Formations Good on Low Torque Drills	OS – Oversized Bit Face R – Equal to Reaming Shell S – Standard	9mm 12mm	TW – Tapered EX – Express DD – Deep ID FD – Face Discharge	6 @ .250-inch 8 @ .125-inch 8 @ .155-inch

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<b>Coring System</b>	<b>Bit Matrix Series Options</b>	<b>Bit Gauge (Hole Size) vs. Core Barrel &amp; Reaming Shell Diameter Options</b>	<b>Impregnated Depth in millimeters Options</b>	<b>Waterway Configuration Options</b>	<b>Number of Waterways &amp; Depth (.000-inch) Examples</b>
HQ	Series-1  Soft to Medium Formations	OS – Oversized R – Equal to Reaming Shell S – Standard	6mm 9mm	TW – Tapered FD – Face Discharge DD – Deep ID	4 @ .250-inch 6 @ .320-inch 8 @ .250-inch 8 @ .375-inch 12 @ .250-inch
HQ	Series-2  Soft Formations Large Grain	OS – Oversized R – Equal to Reaming Shell -R – Less then Reaming Shell S – Standard	6mm 9mm 25mm	DD – Deep ID FD – Face Discharge TW – Tapered	Staged 6 @ .625-inch 8 @ .187-inch 8 @ .250-inch 8 @ .313-inch 12 @ .125-inch 12 @ .375-inch
HQ	Series-4  Soft to Medium Formations Good on Auger Drills	R – Equal to Reaming Shell OS – Oversized S – Standard	6mm 9mm 25mm		Staged 8 @ .250-inch 9 @ .250-inch 10 @ .125-inch
HQ	Series-6  General Purpose – Medium to Hard Formations	OS – Oversized R – Equal to Reaming Shell -R – Less then Reaming Shell S – Standard	9mm 12mm 25mm	TW – Tapered DD – Deep ID EX – Express FD – Face Discharge	Staged 6 @ .320-inch 6 @ .375-inch 8 @ .187-inch 8 @ .250-inch 8 @ .313-inch 8 @ .375-inch 9 @ .155-inch 9 @ .187-inch 9 @ .250-inch 10 @ .187-inch 12 @ .125-inch

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HQ	Series-7  Medium Hard mixed with Hard	OS – Oversized R – Equal to Reaming Shell -R – Less then Reaming Shell S – Standard	9mm 12mm 25mm	EX – Express FD – Face Discharge TW – Tapered DD – Deep ID	Staged 6 @ .320-inch 8 @ .187-inch 8 @ .250-inch 8 @ .313-inch 8 @ .375-inch 9 @ .155-inch 9 @ .187-inch 10 @ .250-inch 12 @ .094-inch 12 @ .125-inch
HQ	Series-8  General Purpose for Hard Formations	OS – Oversized -R – Less then Reaming Shell S – Standard R – Equal to Reaming Shell	9mm 12mm 25mm	DD – Deep ID TW – Tapered EX – Express FD – Face Discharge TW – Tapered	Staged 6 @ .320-inch 6 @ .375-inch 8 @ .187-inch 8 @ .250-inch 8 @ .313-inch 9 @ .187-inch 12 @ .100-inch 12 @ .125-inch
HQ	Series-9  Hard to ultra Hard Formations Good on Low Torque Drills	OS – Oversized R – Equal to Reaming Shell -R – Less then Reaming Shell S – Standard	9mm 12mm 25mm	DD – Deep ID TW – Tapered EX – Express	Staged 6 @ .375-inch 8 @ .187-inch 8 @ .313-inch 9 @ .155-inch 10 @ .250-inch 12 @ .094-inch 12 @ .125-inch 12 @ .187-inch

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<b>HQ</b>	<b>Series-10</b>  <b>Ultra Hard Fine Grain Formations</b> <b>Good on Low Torque Drills</b>	<b>OS – Oversized</b> <b>R – Equal to Reaming Shell</b> <b>-R – Less then Reaming Shell</b> <b>S – Standard</b>	<b>9mm</b> <b>12mm</b> <b>25mm</b>	<b>DD – Deep ID</b> <b>TW – Tapered</b> <b>EX – Express</b>	<b>Staged</b> <b>6 @ .320-inch</b> <b>6 @ .375-inch</b> <b>8 @ .187-inch</b> <b>8 @ .250-inch</b> <b>8 @ .313-inch</b> <b>9 @ .155-inch</b> <b>9 @ .187-inch</b> <b>12 @ .094-inch</b> <b>12 @ .187-inch</b> <b>12 @ .125-inch</b>
<b>HQ-3</b>	<b>Series-1</b>  <b>Soft to Medium Formations</b>	<b>S – Standard</b>	<b>6mm</b>		<b>8 @ .250-inch</b>
<b>HQ-3</b>	<b>Series-2</b>  <b>Soft Formations</b> <b>Large Grain</b>	<b>R – Equal to Reaming Shell</b> <b>-R – Less then Reaming Shell</b> <b>S – Standard</b>	<b>6mm</b> <b>9mm</b> <b>25mm</b>	<b>DD – Deep ID</b> <b>TW – Tapered</b> <b>FD – Face Discharge</b>	<b>Staged</b> <b>6 @ .375-inch</b> <b>8 @ .187-inch</b> <b>8 @ .250-inch</b> <b>9 @ .187-inch</b> <b>12 @ .250-inch</b>
<b>HQ-3</b>	<b>Series-4</b>  <b>Soft to Medium Formations</b> <b>Good on Auger Drills</b>	<b>R – Equal to Reaming Shell</b> <b>-R – Less then Reaming Shell</b> <b>S – Standard</b>	<b>6mm</b> <b>25mm</b>	<b>FD – Face Discharge</b>	<b>Staged</b> <b>8 @ .250-inch</b> <b>12 @ .125-inch</b>
<b>HQ-3</b>	<b>Series-6</b>  <b>General Purpose – Medium to Hard Formations</b>	<b>OS – Oversized</b> <b>R – Equal to Reaming Shell</b> <b>-R – Less then Reaming Shell</b> <b>S – Standard</b>	<b>9mm</b> <b>12mm</b> <b>25mm</b>	<b>TW – Tapered</b> <b>DD – Deep ID</b> <b>FD – Face Discharge</b> <b>EX - Express</b>	<b>Staged</b> <b>6 @ .370-inch</b> <b>6 @ .375-inch</b> <b>8 @ .187-inch</b> <b>8 @ .250-inch</b> <b>9 @ .187-inch</b> <b>12 @ .125-inch</b>

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HQ-3	Series-7  Medium Hard mixed with Hard	OS – Oversized -R – Less than Reaming Shell S – Standard R – Equal to Reaming Shell	9mm 12mm 25mm	FD – Face Discharge DD – Deep ID EX - Express	Staged 8 @ .187-inch 8 @ .250-inch 9 @ .155-inch 9 @ .187-inch
HQ-3	Series-8  General Purpose for Hard Formations	OS – Oversized R – Equal to Reaming Shell -R – Less than Reaming Shell S – Standard	9mm 12mm 25mm	DD – Deep ID TW – Tapered FD – Face Discharge EX - Express	Staged 4 @ .434-inch 6 @ .375-inch 8 @ .187-inch 8 @ .250-inch 12 @ .100-inch 12 @ .125-inch
HQ-3	Series-9  Hard to ultra Hard Formations Good on Low Torque Drills	OS – Oversized R – Equal to Reaming Shell -R – Less than Reaming Shell S – Standard	9mm 12mm 25mm	FD – Face Discharge EX - Express	Staged 8 @ .187-inch 8 @ .250-inch 9 @ .155-inch 9 @ .187-inch 12 @ .125-inch
HQ-3	Series-10  Ultra Hard Fine Grain Formations Good on Low Torque Drills	S – Standard OS – Oversized R – Equal to Reaming Shell	9mm 12mm 25mm	EX – Express FD – Face Discharge	Staged 4 @ .434-inch 8 @ .187-inch 8 @ .250-inch 9 @ .155-inch 9 @ .187-inch 12 @ .125-inch