



ACE™ TOOLING BITS

APPLICATION GUIDE



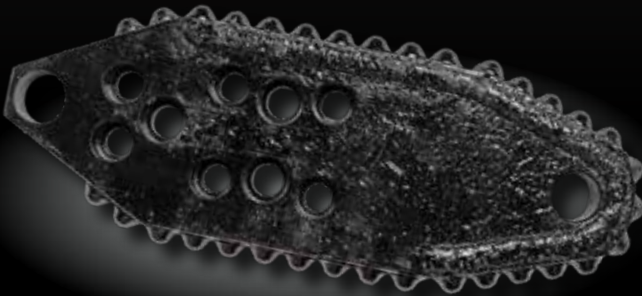
ACE™ PREMIUM BIT

The Ace Premium steep taper bit features an aggressive tapered bit front to help penetration rates and offers superior durability, longevity and wearability for high-risk, aggressive ground conditions such as heavy cemented cobble, hard-packed soils and softer shale.



ACE PRO BIT

Our most popular Ace steep taper bit features a semi-aggressive tapered front design for penetration in hard ground conditions — offering even greater longevity and wearability to tackle loam to moderately aggressive cobble, sand and hardpan.



ACE PRO EXTREME BIT

The Vermeer Ace Pro Extreme steep taper bit continues the Ace bit legacy of performance in tough ground conditions. This bit features carbide teeth along both edges for extended wear life. Dome-style teeth absorb the shock of hard ground conditions such as hard-packed soils, cobble, fractured rock and soft rock.



ACE STANDARD BIT

The Ace Standard steep taper bit features a rounded bit face to assist steering performance and offers durability, longevity and wearability for softer ground conditions that are more abrasive, like medium-packed soils and light gravel.



ACE™ TOOLING BITS APPLICATION GUIDE

	Ace™ Premium bit	Ace Pro bit	Ace Pro Extreme bit	Ace Standard bit
SOIL CONDITION	Sandy			
	Clay/loam			
	Dry/compacted			
	Cobble/broken formation			
	Soft rock			

SOIL CONDITION:



Sandy – Sand, sandy loam, any soil where sand is a major component



Clay/loam – Clay, loam, silt, soft to medium soils that have some moisture



Dry/compacted – Hardpan, any dry clay, any compacted soil



Cobble/broken formation – Cobble, gravel, glacial till, chunk rock, any non-consistent type of rock



Soft rock – Sand stone, shale, soft limestone, caliche, some coral between 1,000 psi and 4,500 psi (6.9 MPa and 31 MPa)



Medium rock – Some limestone, shale, coral between 5,000 psi and 9,500 psi (34.5 MPa and 65.5 MPa)



Hard rock – Hard limestone, granite, skirt, anything above 10,000 psi (68.9 MPa)

AVAILABLE BOLT PATTERNS



AVAILABLE CUTTING SIZES



OWN SOME DITCH WITCH™ PATTERN BITS?

Our select Premium housings feature both Vermeer 6-bolt and Ditch Witch 6-bolt configurations on a single housing, helping you maximize usage of your bit fleet.

NOT RECOMMENDED	GOOD	BETTER	BEST
Not recommended for the listed soil condition.	Helps to achieve conducive results within the listed soil condition.	Helps to achieve efficient productivity within the listed soil condition.	Helps to achieve maximum viability within the listed soil condition.



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ARMOR BITS APPLICATIONS GUIDE

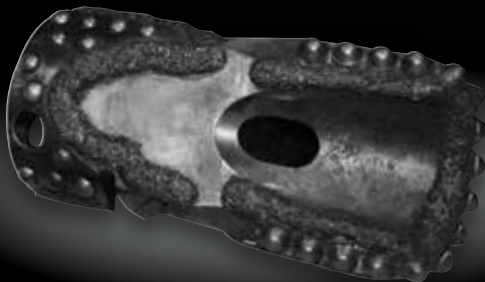
ARMOR DIRT BIT

The Vermeer Armor Dirt bit assembly is a modular soft-rock drilling platform that includes a housing and a family of bits. It offers flexibility with many different plate options that match ground conditions such as cobble, soft formations and limestone.



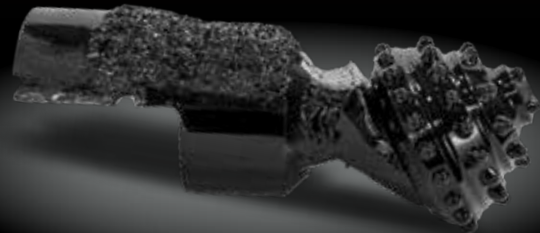
ARMOR GAUNTLET BIT

The Vermeer Armor Gauntlet bit offers exceptional steering capabilities. A replaceable three-tooth design delivers maximum drilling performance in soft to medium rock and caliche up to 10,000 psi (68,947.6 kPa).



ARMOR LANCE BIT

A scoop design gives the Vermeer Armor Lance bit exceptional steering capabilities for enhanced operator control. Carbide buttons and robotically applied hardfacing helps improve bit wear in hard-packed soil, gravel and cobble.



ARMOR LANCE PRO BIT

Featuring domed, plug-style teeth, the Lance Pro bit offers continuous carbide coverage across the front for extended wear life. With a tendency to cut on center, this bit helps bore hard-packed soils, highly abrasive cobble and cemented cobble.

ARMOR SINGLE ROLLER CONE BIT

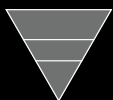
Abrasion-resistant (A/R) tips are used when processing highly abrasive material. Their flat-face design, infused with tungsten carbide crystals in the casting block, is best suited for applications that contain sand, dirt and other highly abrasive materials. A/R tips can be flipped for extended life.

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ARMOR BITS APPLICATIONS GUIDE

		Armor Dirt bit drill bits	Armor Gauntlet drill bits	Armor Lance drill bits	Armor Lance Pro drill bits	Armor Single Roller Cone drill bits
APPLICATION/MATERIAL	Hard soil					
	Cobble					
	Medium soil					
	Loam					
	Soft rock					
	Sandy soil					
	Soft soil					
AVAILABLE SIZES/BOLT PATTERNS	Available cutting sizes	3.75 in	4.25 in	4.25 in	4.25 in	4.25 in
			4.5 in	5 in	5 in	5 in
			5.5 in	6.5 in	6.25 in	5.5 in
			6.5 in	7.25 in	7.25 in	6.5 in
	Available bolt patterns	Medium armor	Large armor Large armor direct	Large armor	Large armor Large armor direct	Large armor Large armor direct
			Medium armor Medium armor direct	Medium armor	Medium armor Medium armor direct	Medium armor Medium armor direct
Small armor		Small armor Small armor direct	Small armor	Small armor Small armor direct	Small armor Small armor direct	



NOT RECOMMENDED



GOOD
Helps achieve moderate performance when drilling.



BETTER
Helps achieve elevated performance when drilling.



BEST
Helps achieve exceptional performance when drilling.

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GLADIATOR™ BITS

APPLICATION GUIDE



GLADIATOR™ CLUB BIT

The Vermeer Gladiator Club bit brings you the power of our oversized carbide buttons, exclusively designed for wear resistance. This versatile series is ideal for cobble and highly abrasive ground conditions.



GLADIATOR Mallet BIT

Steer into the clear with the Gladiator Mallet bit. It features the Gladiator-exclusive bit design with oversized carbide buttons for wear resistance and a flat face to help maximize steering control. It's ideal for cobble and highly abrasive ground conditions.



GLADIATOR SABER BIT

The Gladiator Saber bit features an aggressive tapered design for penetrating hard-packed soil conditions. Includes the Gladiator-standard carbide buttons to help extend wear life while making it ready for highly abrasive ground conditions.



GLADIATOR SPEAR BIT

The Gladiator Spear bit's rugged, pointed design and exclusive oversized carbide buttons help reduce premature wear. It lets you battle compatible ground conditions from loam to cobble and other highly abrasive soil.

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GLADIATOR™ BITS APPLICATION GUIDE



	Gladiator™ Club bit	Gladiator Mallet bit	Gladiator Saber bit	Gladiator Spear bit
SOIL CONDITION	Sandy			
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	Dry/compacted			
	Cobble/broken formation			
	Soft rock			

SOIL CONDITION



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AVAILABLE BOLT PATTERNS



AVAILABLE CUTTING SIZES



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GOOD

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BETTER

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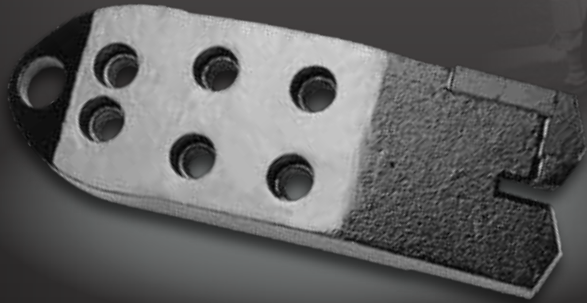
BEST

Helps to achieve maximum viability within the listed soil condition.



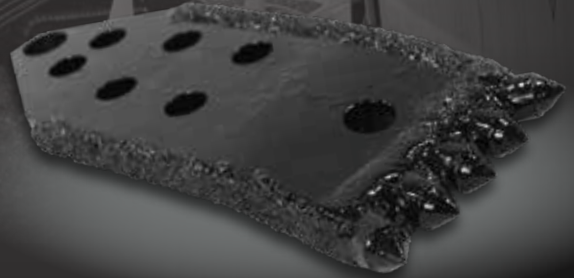
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THE RIGHT DRILL BITS FOR THE JOB



CHEVRON BIT

The Chevron Drill bit is a tough Vermeer original with an imposing split-faced design. That, paired with its high-quality tungsten carbide inserts, offers cutting relief to effectively penetrate hard-packed ground. This bit is ideal for most conditions, especially packed clay, hardpan and caliche.



QUICKSHOT ROTARY BIT

The Vermeer Quickshot rotary bit is designed with optimally positioned conical carbide cutters for maximum performance. Robotically applied carbide hardfacing provides valuable wear resistance in hardpan, caliche and sandstone.



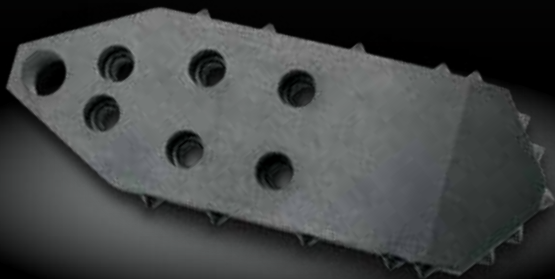
SHARK BIT

The Vermeer Shark bit is one of our original designs. Its shark teeth cutting tools supply an aggressive cutting action to work through hard-packed ground conditions.



STANDARD HARDFACED BIT

Performance is standard with this bit. It is an economical option for softer soil conditions such as loam, black dirt and sandy loam.



VERMEER CARBIDE POINT BIT

The Vermeer Carbide Point (VCP) bit is shaped for maximum penetration in ground conditions from soft soils to hard-packed clay. First-use carbide buttons help protect the bit face from premature wear.



VERMEER CARBIDE TIP BIT

The Vermeer Carbide Tip (VCT) bit uses first-use carbide buttons to help protect the bit face from premature wear. This versatile bit is ideal for ground conditions ranging from soft soils to hard-packed clay.

HDD

THE RIGHT DRILL BITS FOR THE JOB



		Chevron bit	Quickshot rotary bit	Shark bit	Standard hardfaced bit	Vermeer Carbide Point bit	Vermeer Carbide tip bit
APPLICATION/MATERIAL	Hard soil						
	Cobble						
	Medium soil						
	Loam						
	Soft rock						
	Sandy soil						
	Soft soil						
CUTTING SIZES	Available cutting sizes	5 in	4 in	3 in	2.5 in	2.5 in	2.5 in
				3.5 in	3 in	3.5 in	3.5 in
				4 in	3.5 in	4 in	4 in
				4.5 in	4.5 in	4.5 in	4.5 in
				5 in	5 in	5 in	5 in
				–	6 in	6 in	6 in
–	–	–	8 in				

AVAILABLE BOLT PATTERNS



NOT RECOMMENDED	GOOD	BETTER	BEST
	Helps achieve moderate performance when drilling.	Helps achieve elevated performance when drilling.	Helps achieve exceptional performance when drilling.