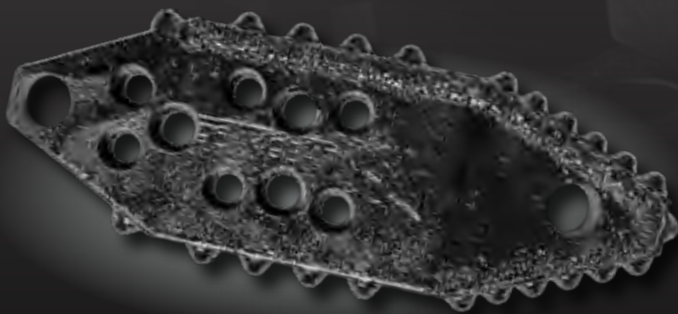




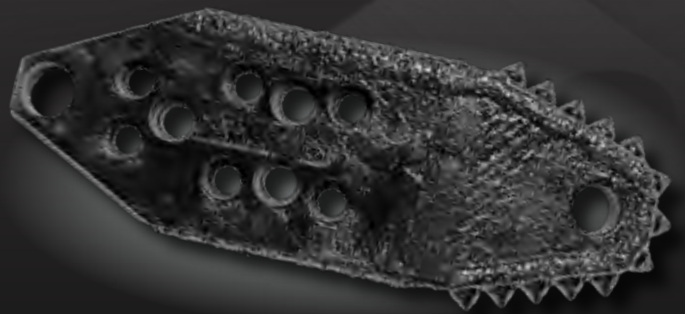
ACE™ TOOLING BITS

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.

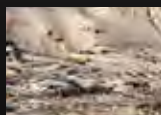


ACE™ TOOLING BITS

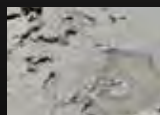
APPLICATION GUIDE

		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



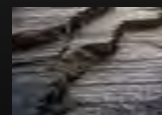
Dry/compacted – Hardpan, any dry clay, any compacted soil



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



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.

AVAILABLE CUTTING SIZES

3 3.5 4 4.5 5



NOT RECOMMENDED

Not recommended for the listed soil condition.



GOOD

Helps to achieve conducive results within the listed soil condition.



BETTER

Helps to achieve efficient productivity within the listed soil condition.



BEST

Helps to achieve maximum viability within the listed soil condition.



HDD

ARMOR BITS

APPLICATIONS GUIDE

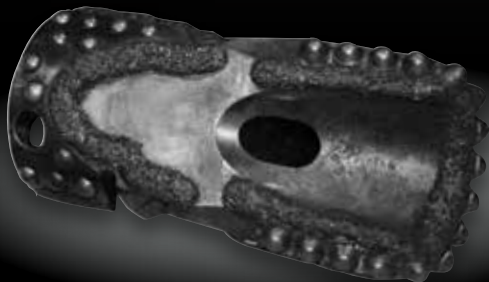
ARMOR DIRT BIT

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.

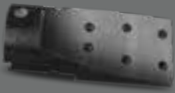







































ARMOR SINGLE ROLLER CONE BIT

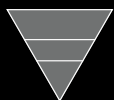
Abrasion-resistant (A/R) tips are used when processing highly abrasive material. Their flat-face design, infused with tungsten carbide crystals in the casting block, is best suited for applications that contain sand, dirt and other highly abrasive materials. A/R tips can be flipped for extended life.

HDD

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.

Vermeer Corporation reserves the right to make changes in engineering, design and specifications; add improvements; or discontinue manufacturing at any time without notice or obligation. Equipment shown is for illustrative purposes only and may display optional accessories or components specific to their global region. Please contact your local Vermeer dealer for more information on machine specifications. Vermeer and the Vermeer logo are trademarks of Vermeer Manufacturing Company in the U.S. and/or other countries.

© 2025 Vermeer Corporation. All Rights Reserved.



GLADIATORTM BITS

APPLICATION GUIDE



GLADIATORTM 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.

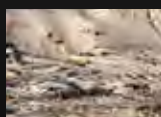
HDD

GLADIATOR™ BITS

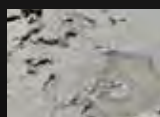
APPLICATION GUIDE

		Gladiator™ Club bit	Gladiator Mallet bit	Gladiator Saber bit	Gladiator Spear 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



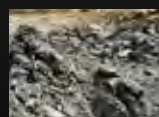
Clay/loam – Clay, loam, silt, soft to medium soils that have some moisture



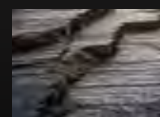
Dry/compacted – Hardpan, any dry clay, any compacted soil



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

Not recommended for the listed soil condition.

GOOD

Helps to achieve conducive results within the listed soil condition.

BETTER

Helps to achieve efficient productivity within the listed soil condition.

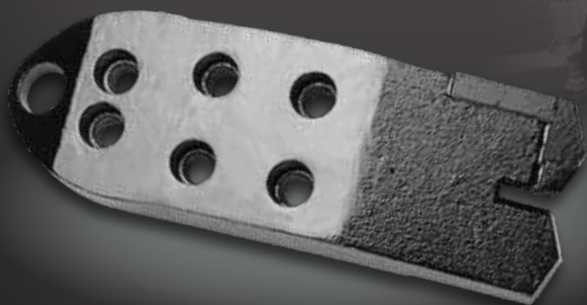
BEST

Helps to achieve maximum viability within the listed soil condition.



HDD

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.

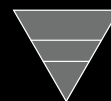
HDD

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
Helps achieve moderate performance when drilling.



BETTER
Helps achieve elevated performance when drilling.



BEST
Helps achieve exceptional performance when drilling.



ULTRAX3

TOOLING BITS APPLICATION GUIDE



DIRT BIT SUB

The dirt bit sub allows the change from a soft rock or cobble bit to any Vermeer plate bit offering to tackle softer ground conditions such as clay, loam or sand. The .5-in bolt patterns are compatible with Bit Boss™ system features.



2THIRTY™ BIT

This bit is designed for brutal ground conditions such as harder rock up to 10,000 psi (68.9 MPa). The 2Thirty bit features two oversized conical teeth angled at 30 degrees for optimal cutting, as well as strategically placed carbide buttons and carbide grit hardfacing to enhance wear characteristics.



SINGLE ROLLER CONE BIT

Designed to deliver versatility in cobble and broken formations, the cone rotation helps smooth out the entire drill string, reducing torque spikes. The bit is used for extreme cobbles and soft to medium rock.



LANCE TRIDENT BIT

Featuring a replaceable three-tooth design and cupped steering design, the Lance Trident bit is designed to be used in clay, caliche, hardpan and soft rock up to 3,000 psi (20.7 MPa) while maintaining excellent steering characteristics.



GAUNTLET BIT

The Gauntlet bit was designed for use in soft to medium rock, shale and caliche ground conditions up to 10,000 psi (68.9 MPa) with exceptional steering capabilities. Carbide buttons are strategically placed on the bit for optimum cutting, while carbide hardfacing helps to enhance wear and performance characteristics. A replaceable three-tooth design delivers a consistent cutting structure for steering corrections to help maximize drilling performance.













































LANCE PRO BIT

Featuring domed, plug-style teeth, the Lance Pro bit offers continuous carbide coverage across the front of the bit to help extend wear life. Carbide buttons help protect the bit mount section from wear so it can be rebuilt. With a tendency to cut on center, the Lance Pro bit helps you execute your bore as planned. Intended for use in hard-packed soils, highly abrasive cobble and cemented cobble.

ULTRA X3



TOOLING BITS APPLICATION GUIDE

		Gauntlet bit	Lance Pro bit	Single roller cone bit	Lance Trident bit	2Thirty™ bit	Dirt bit sub
							
SOIL CONDITION	Sandy						
	Clay/loam						
	Medium rock						
	Cobble/broken formation						
	Soft rock						
	Hard rock						

*If paired with correct dirt bit

SOIL CONDITION:



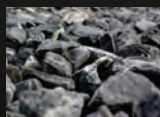
Sandy – Sand, sandy loam, any soil where sand is a major component



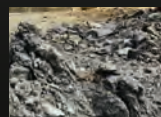
Clay/loam – Clay, loam, silt, soft to medium soils that have some moisture



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 – Sandstone, 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

Not recommended for the listed soil condition.

GOOD

Helps to achieve efficient results within the listed soil condition.

BETTER

Helps to achieve efficient productivity within the listed soil condition.

BEST

Helps to achieve maximum viability within the listed soil condition.

Vermeer Corporation reserves the right to make changes in engineering, design and specifications; add improvements; or discontinue manufacturing at any time without notice or obligation. Equipment shown is for illustrative purposes only and may display optional accessories or components specific to their global region. Please contact your local Vermeer dealer for more information on machine specifications. Vermeer, the Vermeer logo, BORESTORE and Bit Boss are trademarks of Vermeer Manufacturing Company in the U.S. and/or other countries. Ditch Witch is a trademark of The Charles Machine Works, Inc. © 2025 Vermeer Corporation. All Rights Reserved.

BORESTORE
HDD TOOLING AND ACCESSORIES WAREHOUSE