



**HOFFMAN** DIAMOND PRODUCTS



HDPG-10/97

## *Eagle™ Impregnated Series*

Designed for deep hole drilling where it is important and economical to keep the bit in the hole as long as possible. Hoffman has developed a new series of matrices and manufacturing techniques to produce a new series of impregnated bits. This series includes types designed to drill a complete range of rock conditions.

### **EAGLE™ SERIES SELECTION CHART**

<b>SERIES</b>	<b>FORMATIONS</b>	<b>SOME ROCK TYPES SEE FORMATIONS</b>
H-1	EXTREMELY ABRASIVE, BROKEN, FAULTED, COARSE GRAIN	CONGLOMERATES, HARD SHALES, LIMESTONE, SANDSTONE
H-2	VERY ABRASIVE, FRACTURED, MEDIUM TO COARSE GRAIN	CONGLOMERATES, HARD SHALES, LIMESTONE, SANDSTONE
H-5	ABRASIVE, MEDIUM TO COARSE, SOLID TO FRACTURED	DOLOMITE, WEATHERED GRANITE, SERPENTINE, PERIDOTITE
H-6	MODERATE ABRASIVE, FINE TO MEDIUM GRAINED, SOLID TO FRACTURED	BASALT, DIORITE, DIABASE, GABBRO
H-7	SLIGHTLY ABRASIVE, MEDIUM TO FINE GRAINED, MEDIUM HARD	GRANITE SKAMS, PEGMATITE, QUARTZ, SILICIFIED VOLCANICS
H-8	LOW ABRASIVE, HARD TO VERY HARD OR SOFT SOLID FORMATION	DIORITE, GRANITE, GNEISS, QUARTZITE
H-9	NON ABRASIVE, FINE GRAINED, HARD TO VERY HARD, SOLID	DIORITE, GRANITE, GNEISS, QUARTZITE
H-10	EXTREME HARD, VERY FINE GRAIN, SOLID NON ABRASIVE	CHERT, JASPERITE, GLASSY QUARTZITE, RHYOLITE



H10

HOFFMAN DIAMOND PRODUCTS  
DIAMOND DRILL BIT - POINTS/TOOTH/FLUTE  
PHONE: 514-538-2288 FAX: 514-538-2289  
E-MAIL: 514-538-2289

H9

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## Hawk™ Impregnated Series

Developed for customers who core shallow holes into rock, the Hawk offers a heavy concentration and depth of impregnation comparable to many higher priced bits. This series is color coded according to the rock formation listed on the chart below. Ask your Hoffman Sales Representative for their recommendation.

### HAWK™ SERIES BIT SELECTION CHART

COLOR	FORMATIONS	SOME ROCK TYPES SEE FORMATIONS
SUPER GREEN	EXTREMELY ABRASIVE, BROKEN, FAULTED, COARSE	CONGLOMERATES, HARD SHALES, LIMESTONE, SANDSTONE
GREEN	VERY ABRASIVE, FRACTURED, MEDIUM TO COARSE GRAIN	CONGLOMERATES, HARD SHALES, LIMESTONE, SANDSTONE
BLUE	ABRASIVE, MEDIUM TO COARSE, SOLID TO FRACTURED	DOLOMITE, WEATHERED GRANITE, SERPENTINE, PERIDOTITE
GRAY	MODERATE ABRASIVE, FINE TO MEDIUM GRAINED, SOLID TO FRACTURED	BASALT, DIORITE, DIABASE, GABBRO
TAN	SLIGHTLY ABRASIVE, MEDIUM TO FINE GRAINED, MEDIUM HARD	GRANITE SKAMS, PEGMATITE, QUARTZ, SILICIFIED VOLCANICS
BRONZE	LOW ABRASIVE, HARD TO VERY HARD OR SOFT SOLID FORMATION	DIORITE, GRANITE, GNEISS, QUARTZITE
COPPER	NON ABRASIVE, FINE GRAINED, HARD TO VERY HARD, SOLID	DIORITE, GRANITE, GNEISS, QUARTZITE
COPPER BLUE/BLACK	EXTREME HARD, VERY FINE GRAIN, SOLID NON ABRASIVE	CHERT, JASPERITE, GLASSY QUARTZITE, RHYOLITE



**HOFFMAN** DIAMOND PRODUCTS  
100 CEDAR STREET • PUNKSUTAWNEY, PA 19009  
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## Condor™ Surface Set Series

The Condor Series is generally used in softer rock formations. Hoffman offers a complete range of coring bits, reaming shells, casing shoes/bits, and non-coring bits for any size tooling.



### - STANDARD STYLES -

#### SEMI ROUND

An all purpose design. Ideal for most formations.



#### SPIRAL DESIGN

Fast penetration for soft shales and sandstones.



#### STEP DESIGN

Stabilizes drilling and increases penetration in hard formations.



#### FACE DISCHARGE

Discharge ports at the face increase core recovery by reducing sample erosion.



## Reaming Shells



### HEAVY DUTY

Designed with spiral waterways to create full pad contact and improve circulation. This eliminates blank wear, ultimately extending the life of the shell.

### STANDARD DUTY

An economical alternative to our Heavy Duty shells, particularly for shallow hole drilling.





## Casing Shoes

### STANDARD - IMPREGNATED

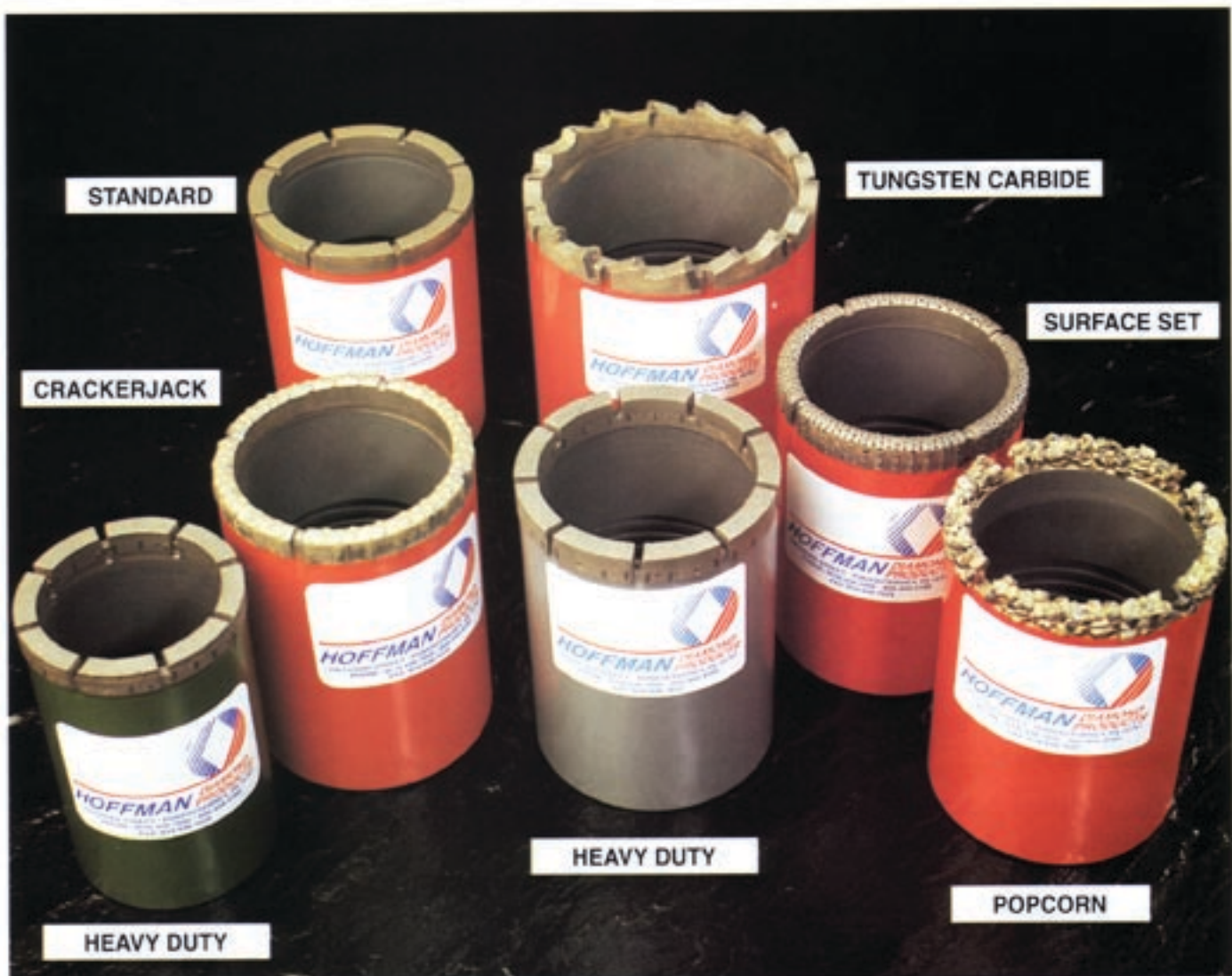
Standard Casing Shoes are designed to penetrate difficult overburdens, as well as normal rock formations, and are manufactured utilizing a combination of selected diamonds and carbide sizes for maximum penetration and durability.

### HEAVY DUTY - IMPREGNATED

Heavy Duty Casing Shoes have a greater depth of impregnation and higher diamond concentration than the Standard. These shoes have special matrices designed to give maximum performance and life in deep overburden conditions.

Above shoes are available in sizes: AW, BW, NW, HW, PW, SW, BQ\*, NQ\* and HQ\*  
 ROD SHOES.

*Other styles available:* Carbide Sawtooth, Carbide Insert, Crackerjack and Popcorn.



\* Q is registered trademark of Boart Longyear.



## PCD Products

In keeping with Hoffman's strategy to be at the cutting edge of diamond bit and tool technology, the application of polycrystalline diamond compacts was an early priority. PCD tools are generally run on higher powered drills with higher torque and lower RPM than Surface Set or Impregnated Bits.

The Hoffman Sales and Technical Personnel will be pleased to work with you in producing full hole and coring products that will meet your particular needs.





## *Carbide Sawtooth Bits*



Sawtooth bits are manufactured with carbides set into a pattern similar to a saw blade to create maximum penetration. Used in clays, shales and similar soft formations.

Full tooth width and staggetooth are standard designs.

## *Carbide Insert Bits*



Insert bits are manufactured by setting the carbides closer to the flat surface of the bit face.

Insert bits offer an economical alternative for soft rocks and for use with machines that have high torque and can effectively exert heavy down pressures.

## *Carbide Crackerjack Bits*



As an economical option, crackerjack bits perform in siltstone, tough shales, and some coral formations, as well as other soft rocks.

The design minimizes "tearing" of the core, preserving the integrity of the surface.



## Dedicated to customer service . . .

Hoffman Diamond Products is a prominent U.S. manufacturer of diamond bits and related tools. WE ARE WORKING FOR YOU! We are dedicated to serving the needs of our customers and to developing products which will make you the most efficient you can be.

**SPECIAL TOOLS:** Hoffman is capable of producing various non-standard diamond tools, such as oversize bits and reamers for mud or air drilling. When you need a special tool, bring your problem to Hoffman. *Our sales and design groups are ready to work with you.*

### - GUIDE TO BIT SELECTION -

SIZE	BIT DIMENSIONS			REAMING SHELL* O.D.
	O.D. STD. GAGE	O.D. R.S. GAGE	I.D.	
EWG, EWM*	1.470	1.485	.845	1.485
AWG, AWM*	1.875	1.890	1.185	1.890
AQ, AV	1.875	1.890	1.062	1.890
BWG, BWM*	2.345	2.360	1.655	2.360
BWPAM	2.345	2.360	1.655	2.360
BWD4	2.345	2.360	1.615	2.360
BXB, BWC3	2.345	2.360	1.432	2.360
BQ, BV	2.345	2.360	1.432	2.360
NWG, NWM*	2.965	2.980	2.155	2.980
NWPAM	2.965	2.980	2.155	2.980
NWD3, NWD4	2.965	2.980	2.060	2.980
NW-80	2.965	2.980	2.032	2.980
NXB, NWC3	2.965	2.980	1.875	2.980
NQ, NV	2.965	2.980	1.875	2.980
NQ2	2.965	2.980	1.995	2.980

SIZE	BIT DIMENSIONS			REAMING SHELL* O.D.
	O.D. STD. GAGE	O.D. R.S. GAGE	I.D.	
NXE	2.969	2.980	1.995	2.980
NQ-3	2.965	2.980	1.775	2.980
HWG*	3.890	3.907	3.000	3.907
HWD4	3.635	3.650	2.400	3.650
HXB, HWD-3	3.635	3.650	2.400	3.650
HQ	3.770	3.782	2.500	3.782
HQ-3	3.770	3.782	2.406	3.782
PQ	4.812	4.827	3.345	4.827
PQ-3	4.812	4.827	3.270	4.827
2-3/4 x 3-7/8*	3.840	3.875	2.690	3.875
4 x 5-1/2*	5.435	5.495	3.970	5.495
6 x 7-3/4*	7.655	7.750	5.970	7.750
4 x 5-1/8**	N/A	5.125	3.922	5.125
6 x 7-1/8**	N/A	7.125	5.922	7.125
6-1/2 x 7-7/8**	N/A	7.875	6.547	7.875

\*Conforms to DCDMA and CDA standards. NOTE: Hoffman Bits can be set at R.S. Gage or Standard Gage. Set dimensions are ± .005.

\*\*Hoffman Large Series Core Barrels. Other Bit Types are available upon request.

### - CASING BIT & SHOE DIMENSIONS -

SIZE	BIT & SHOE SET O.D.	BIT SET I.D.	SHOE SET I.D.
RW*	1.485	1.000	1.185
EW*	1.875	1.405	1.495
AW*	2.345	1.780	1.900
BW*	2.965	2.215	2.370
NW*	3.615	2.840	2.992

SIZE	BIT & SHOE SET O.D.	BIT SET I.D.	SHOE SET I.D.
HW*	4.625	3.778	3.975
PW*	5.650	4.632	4.852
SW*	6.790	5.632	5.937
UW*	7.800	6.755	6.905
ZW*	8.815	7.755	7.977

\*Conforms to DCDMA and CDA standards. NOTE: Bits and Shoes can be furnished for "X" Series Casing.



108 Cedar Street - Punxsutawney, Pennsylvania 15767 - Phone: (814) 938-7600  
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# Complete Line of Construction Products Available



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## CORPORATE HISTORY

Hoffman Diamond Products can trace its origin to 1889 when Philip H. Hoffman founded a company utilizing a Bean-Keystone Drill rig for drilling water wells. In 1907 Philip's sons -- Orvis and Leon -- formed a partnership to engage in prospect drilling for bituminous coal. In 1925 the firm incorporated and became Hoffman Brothers Drilling Co., Inc. By 1936 the firm was operating more than 60 drill rigs. In the early 50's, a decision was made to phase out the contracting operations and concentrate on manufacturing diamond drill bits.

Hoffman has pioneered the manufacture and use of diamond drill bits. Starting with the hand setting of "black carbon" diamond and leading to our current position of utilizing the latest developments in bit technology including computerized furnacing, manufacturing and assembly. All manufacturing processes are meticulously controlled and rigidly inspected to guarantee the quality and consistency of our products.

Pride of ownership is evident in every product you purchase from Hoffman Diamond Products. Quality, integrity, and customer service are the principles upon which the company was founded over 100 years ago and they remain the driving force behind Hoffman Diamond today.

## LATIN AMERICAN SALES OFFICE:

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## AFFILIATES:



### Diamond Productions

- Resin Diamond Wheels
- CBN Wheels
- Vitrified Wheels



### Consolidated Diamond

- Industrial Grinding Head
- Diamond Saws for Stone
- Metal Bond Diamond Wheels



### ANTON Smit

- Metal Bond Wheels
- Optical Products
- Diamond Dressers