LONGYEAR™ DIAMOND BITS

Technical Overview
LONGYEAR™ DIAMOND BITS

How fast does it cut and how long does it last? Boart Longyear has successfully created a chemical bond between diamond and matrix, which acts stronger than the diamond itself. The increased diamond projection and improved face flushing create a bit with more versatility, higher penetration rates, and longer life.

To download a free copy of the Diamond Core Drilling Reference Guide, visit:

https://www.boartlongyear.com/bits-rods-reference

Or contact your local sales representative.
The new Longyear bits cut faster and last longer. These two qualities in a bit are hard to come by. Usually, a bit that cuts faster gets used up faster—which means more tripping to change the bit. The new Longyear bits seem to have the right balance. It’s important to select the right bit for the type of rock encountered. Longyear bits make that easier to do. I highly recommend the new Longyear bits—they have improved penetration rates, productivity and outlast any other bit I’ve used.

- Robert Jex, Division Manager US North Coring

Boart Longyear Color series bits not only penetrate rock faster, they last well beyond the other diamond bits I’ve used throughout my 32-year career.

- Mike Reedy, Division Manager, DS - Southwest Coring
LONGYEAR™ BITS

Increased Productivity
The Longyear Bits are similar to large diamond bits, but with the easy, smooth drilling characteristics drillers prefer. This means increased productivity throughout the entire operation, and ultimately more core.

Higher Penetration Rate
To support higher penetration rates, the new Longyear™ formulas are combined with a new, more open, express geometry. Tapered intermediate waterways improve flushing and prevent accumulation of debris. Designed for fast cutting in competent ground, the new express geometry is available in our 16mm crown heights to maintain bit life at higher cutting speeds.

1 RAZORCUT™
The unique Razorcut™ protrusions on the face of the bit contain diamonds that enable the bit to begin cutting right out of the box – even in the softest ground. The arrangement of these protrusions also improves the tracking and balance in the hole when drilling begins.

2 LONGYEAR™ MATRIX
After significant research, using novel metallurgy, Boart Longyear has successfully created a chemical bond between diamond and matrix, which acts stronger than the diamond itself. The increased diamond projection and improved face flushing create a bit with more versatility, higher penetration rates and longer life, similar to large diamond bits, but with the easy, smooth drilling characteristics drillers prefer. This means increased productivity throughout the entire operation, and ultimately more core.

3 EXPRESS GEOMETRY
To support higher penetration rates, we have combined the new Longyear™ formulas with a new, more open express geometry. Tapered intermediate waterways improving flushing and prevent accumulation of debris. Designed for fast cutting in competent ground, the new express geometry is available in our 16mm crown heights to maintain bit life at higher cutting speeds.
THE LONGYEAR™ RED BIT COMPARED TO OTHER BITS IN ITS PREFERRED RANGE

Longyear™ Red Bit 7.5-9 Hardness Rating

<table>
<thead>
<tr>
<th>Longyear™ Red Bit</th>
<th>Fordia 11-14</th>
<th>Hayden 12-14</th>
<th>Epiroc 13AC</th>
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THE LONGYEAR™ ORANGE BIT COMPARED TO OTHER BITS IN ITS PREFERRED RANGE

Longyear™ Orange Bit 7–8.5 Hardness Rating

<table>
<thead>
<tr>
<th>Longyear™ Orange Bit</th>
<th>Fordia 11-14</th>
<th>Hayden KS5</th>
<th>Hayden 12-14</th>
<th>Epiroc 13AC</th>
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THE LONGYEAR™ YELLOW BIT COMPARED TO OTHER BITS IN ITS PREFERRED RANGE

Longyear™ Yellow Bit 6–8.5 Hardness Rating

- Fordia Hero 11
- Fordia 9-11
- Hayden KS5
- Epiroc 11AC

THE LONGYEAR™ GREEN BIT COMPARED TO OTHER BITS IN ITS PREFERRED RANGE

Longyear™ Green Bit 4.5–7.5 Hardness Rating

- Fordia Hero 11
- Fordia 9-11
- Hayden 9AA
- Epiroc 11AC
THE LONGYEAR™ BLUE BIT COMPARED TO OTHER BITS IN ITS PREFERRED RANGE

Longyear™ Blue Bit 3.5–6 Hardness Rating

- Fordia Hero 7
- Fordia Hero 9
- Hayden 9AA
- Epiroc 7AC

THE LONGYEAR™ PURPLE BIT COMPARED TO OTHER BITS IN ITS PREFERRED RANGE

Longyear™ Purple Bit 1–4.5 Hardness Rating

- Fordia Hero 3
- Fordia 2
- Hayden 4
- Epiroc 3AC

Hardness Ratings:
- 3.5: Dolomite
- 4: Slate
- 4.5: Sandstone
- 5: Pegmatite
- 5.5: Basalt
- 6: Diorite

Materials:
- 1: SOAPSTONE
- 1.5: COAL
- 2: GYPSUM
- 2.5: AMBER
- 3: LIMESTONE
- 3.5: Dolomite
- 4: Slate
- 4.5: Sandstone
The Longyear™ Diamond Bit Color Series are an innovative and versatile new line of diamond coring bits using patent-pending technology.

Longyear Diamond Bits are engineered to drill faster, last longer, and out-perform existing bit technology in a wide range of drilling conditions and ground formations.

**HARDNESS RATING & COMPARISON CHART**

**Red Bit**
- Hardness: 7.5–9
- COMPARE TO BLY BITS: BLY ALPHA/10ABR, 10, 10COM: 8–9

**Orange Bit**
- Hardness: 7–9
- COMPARE TO BLY BITS: BLY ALPHA/09ABR, 09, 09COM: 7–8

**Blue Bit**
- Hardness: 2.5–6
- COMPARE TO BLY BITS: BLY ALPHA/06 ABR, 06, 06COM: 4–6

**Green Bit**
- Hardness: 4.5–7.5
- COMPARE TO BLY BITS: BLY ALPHA/07ABR, 07, 07COM: 5–7

**Purple Bit**
- Hardness: 1–4.5
- COMPARE TO BLY BITS: BLY ALPHA/02 SERIES: 2.5–4.5

**Yellow Bit**
- Hardness: 6–8.5
- COMPARE TO BLY BITS: BLY ALPHA/08ABR, 08, 08COM: 6–7.5

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