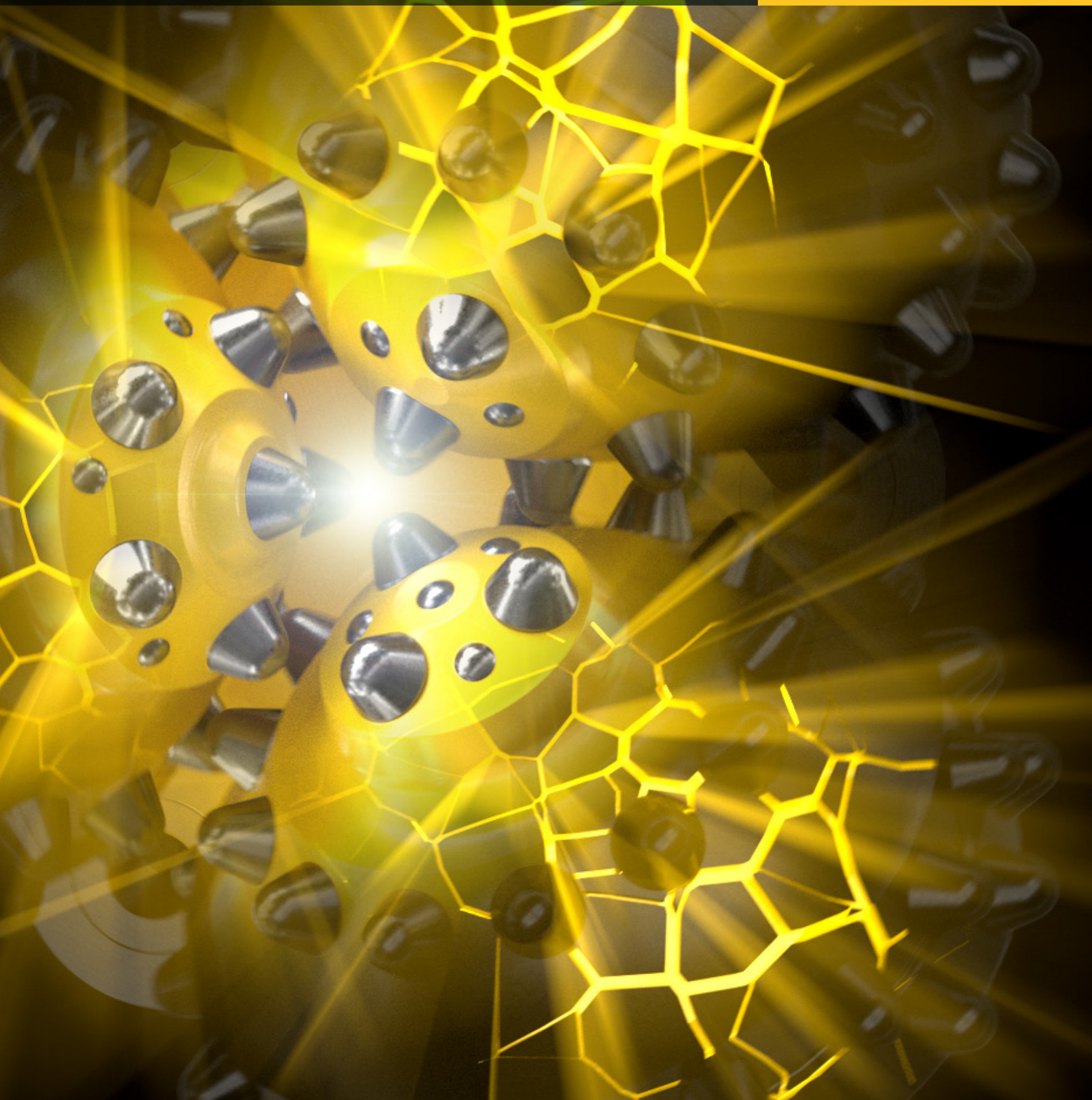
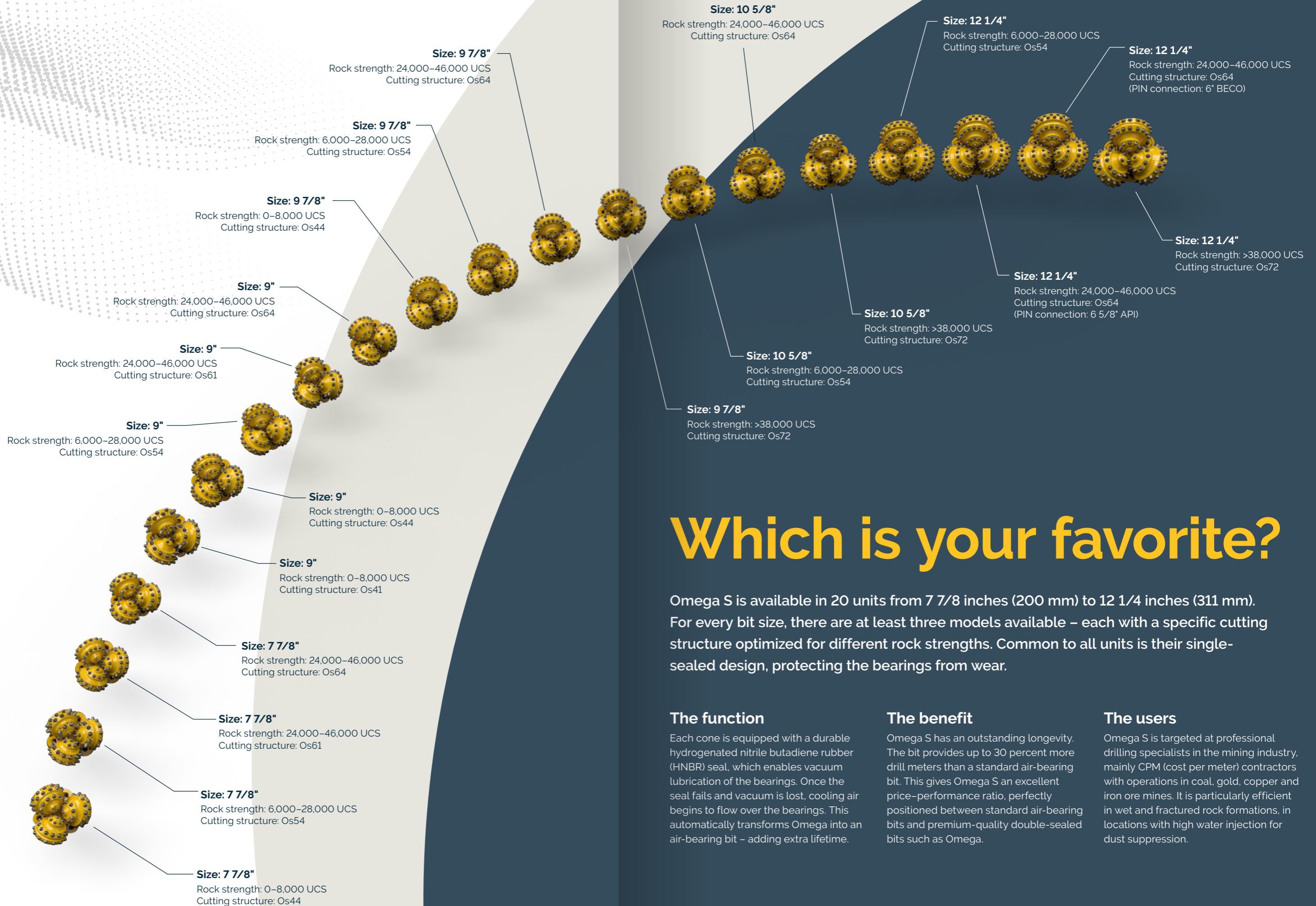


# Omega S

## Single-sealed bearing bit

TECHNICAL DATA





# Which is your favorite?

Omega S is available in 20 units from 7 7/8 inches (200 mm) to 12 1/4 inches (311 mm). For every bit size, there are at least three models available – each with a specific cutting structure optimized for different rock strengths. Common to all units is their single-sealed design, protecting the bearings from wear.

## The function

Each cone is equipped with a durable hydrogenated nitrile butadiene rubber (HNBR) seal, which enables vacuum lubrication of the bearings. Once the seal fails and vacuum is lost, cooling air begins to flow over the bearings. This automatically transforms Omega into an air-bearing bit – adding extra lifetime.

## The benefit

Omega S has an outstanding longevity. The bit provides up to 30 percent more drill meters than a standard air-bearing bit. This gives Omega S an excellent price-performance ratio, perfectly positioned between standard air-bearing bits and premium-quality double-sealed bits such as Omega.

## The users

Omega S is targeted at professional drilling specialists in the mining industry, mainly CPM (cost per meter) contractors with operations in coal, gold, copper and iron ore mines. It is particularly efficient in wet and fractured rock formations, in locations with high water injection for dust suppression.

# Technical data

## The range Multiple bit sizes and IADC

| Size          | Pin connection | Os41        | Os44       | Os54            | Os61              | Os64       | Os72        |
|---------------|----------------|-------------|------------|-----------------|-------------------|------------|-------------|
| Rock strength |                | 0–8,000 UCS |            | 6,000–8,000 UCS | 24,000–46,000 UCS |            | >38,000 UCS |
| 7 7/8"        | 3 7/8" API     |             | 5697000241 | 5697000243      | 5697000245        | 5697000240 |             |
| 9"            | 4 1/2" API     | 5697000249  | 5697001328 | 5697000250      | 5697000255        | 5697000251 |             |
| 9 7/8"        | 6 5/8" API     |             | 5697000260 | 5697000259      |                   | 5697000256 | 5697000258  |
| 10 5/8"       | 6 5/8" API     |             |            | 5697000263      |                   | 5697000265 | 5697000264  |
| 12 1/4"       | 6 5/8" API     |             |            | 5697000273      |                   | 5697000267 | 5697000266  |
|               | 6" BECO        |             |            |                 |                   | 5697000268 |             |

## Which bit goes on which rig?

| Epiroc rig      | Bit size |    |        |                                   |         |
|-----------------|----------|----|--------|-----------------------------------|---------|
|                 | 7 7/8"   | 9" | 9 7/8" | 10 5/8"                           | 12 1/4" |
| IDM 30          | •        |    |        |                                   |         |
| IDM 45          | •        |    |        |                                   |         |
| DM 45/50        | •        | •  |        |                                   |         |
| DML SP          | •        | •  | •      |                                   |         |
| DML             | •        | •  | •      |                                   |         |
| PV231/235       | •        | •  | •      |                                   |         |
| IDM 70          |          | •  | •      |                                   |         |
| PV271/275       | •        | •  | •      | •                                 |         |
| CDM 75          |          | •  | •      |                                   |         |
| DM-M3           |          |    | •      | •                                 | •       |
| PV 311/316      |          | •  | •      | •                                 | •       |
| DM-H2           |          |    |        | •                                 | •       |
| PV351           |          |    |        | •                                 | •       |
| Competitor rigs |          |    |        | CAT MD6640                        |         |
|                 |          |    |        | P&H 320 XPC, Sandvik DR416i       |         |
|                 |          |    |        | P&H 250XPC                        |         |
|                 |          |    |        | P&H 285XPC, Sandvik 1190E, DR412i |         |

# Proven performance

Before launch, we tested Omega S extensively in different rock conditions. A total of 19 independent tests – in 14 mine sites and 12 countries – were made in collaboration with selected customers. Here we present the test results from four mines in South Africa, Zambia and China.



# A closer look at our tests

So how did we test Omega S? Here we present our test cases including the location of the mine, site characteristics, test method and equipment used.

## SITE 1 South Africa

### Site characteristics

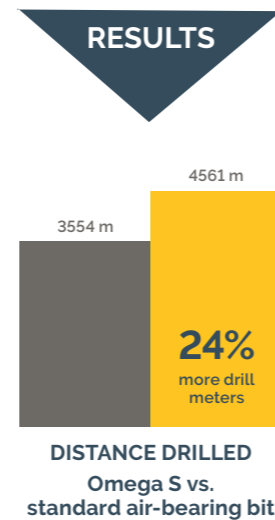
The test site is in Witbank Springs coal field in the southern region of central South Africa. This region has one of the hottest drilling holes and uses a lot of water for dust suppression and keeping the drill string cool. This caused all bits to have bearing failure.

### Method

The test was conducted in a typical production blast pattern, where holes are drilled to a depth of 18 meters. Epiroc runs a CPM contract in this mine. The performance measure was average meters drilled per bit to bring the CPM down. Testing was made as a comparison between Omega S and standard air-bearings bits of the same size, 9 7/8 inches (251 mm).

### Equipment

- Drill rig: Epiroc PV275 with 2600 CFM (4,417 m<sup>3</sup>/h)
- Feed pressure: 2,800 psi (26 tons)
- RPM: 110
- Bit size: 9 7/8 inches (251 mm)



## SITE 2 Zambia

### Site characteristics

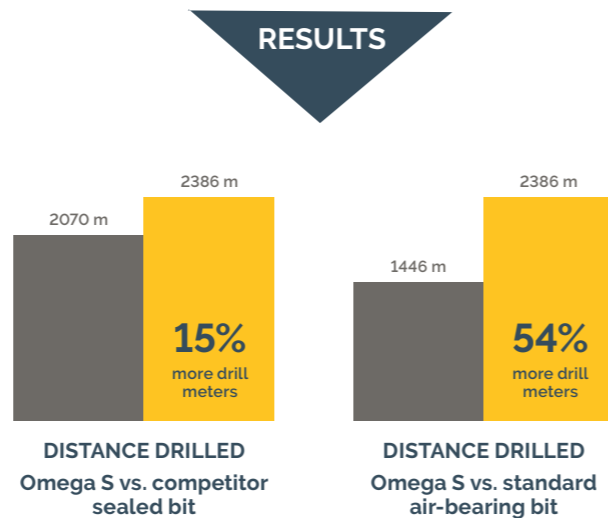
The test site is located near the city of Kalumbila in central Zambia. The site produces copper ore, and rock formations are typically medium to hard, in the 150–240 MPa UCS range.

### Method

The test was conducted in a typical production blast pattern. The blastholes are drilled to a depth of 16–18 meters. The performance measure was average meters drilled per bit. Testing was made as a comparison between Omega S and competitor sealed-bearing bits, and standard air-bearings bits of the same size, 10 5/8 inches (270 mm).

### Equipment

- Drill rig: CAT 6640 with 3,000 CFM (5,097 m<sup>3</sup>/h)
- WOB: 60,000–80,000 lb (27,000–36,000 kg)
- RPM: 110
- Bit size: 10 5/8 inches (270 mm)



## SITE 3 China

### Site characteristics

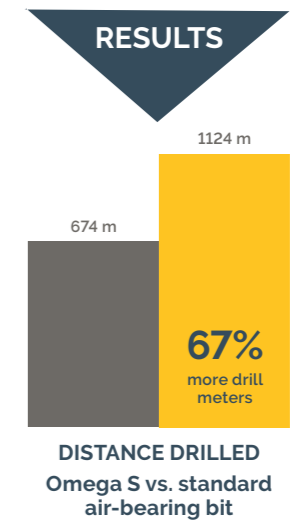
The test site is near the city of Shenyang in north-eastern China. The site produces magnetite, and rock formations are typically medium to hard in the 150–240 MPa UCS range.

### Method

The test was conducted in a typical production blast pattern drilled to a depth of 18 meters. The performance measure was average meters drilled per bit. Testing was made as a comparison between Omega S and standard air-bearing bits of the same size, 12 1/4 inches (311 mm).

### Equipment

- Drill rig: Epiroc PV351 with 3,000 CFM (5,097 m<sup>3</sup>/h)
- RPM: 80
- Bit size: 12 1/4 inches (311 mm)



## SITE 4 China

### Site characteristics

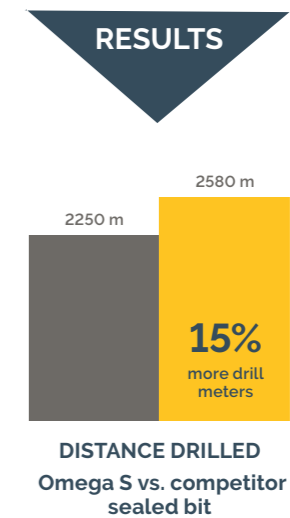
The test site is near the city of Shenyang in north-eastern China. The site produces iron ore, and rock formations are typically medium to hard in the 150–240 MPa UCS range.

### Method

The test was conducted in a typical production blast pattern drilled to a depth of 18–34 meters. The performance measure was average meters drilled per bit. Testing was made as a comparison between Omega S and competitor sealed-bearing bits of the same size, 9 7/8 inches (251 mm).

### Equipment

- Drill rig: Epiroc CDM75E with 1,900 CFM (3,228 m<sup>3</sup>/h)
- Feed pressure: 2,500–3,000 psi
- RPM: 100
- Bit size: 9 7/8 inches (251 mm)





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