

# Nickel mining operation reduces media consumption 75% by switching to CARBOGRIND ceramic grinding media

CARBOGRIND high performance ceramic media provides significantly longer media life and improves grinding efficiency to reduce media consumption, replacement costs, and wear on mechanical equipment.

## Ontario, Canada

### The challenge

The Canadian site, owned and operated by one of the largest producers of nickel in the world, includes six mines and a mill producing roughly 65,000 metric tons of nickel annually. The company had issues using ceramic media from another supplier, particularly a high rate of media consumption.

### The solution

CARBOGRIND® high performance ceramic media was recommended due to its extreme durability and consistency in size and shape that have proven to extend grinding media life and improve grinding efficiency. The sintering process used to create CARBOGRIND products yields a Mohs hardness approaching that of a diamond, providing high resistance to particle attrition and compressive breakdown.

In addition, CARBOGRIND media provides value superior to steel balls and inferior alumina-based substitutes, with significant performance improvements over other specialty media products.

The mining company tested CARBOGRIND 260-020 and CARBOGRIND XT 360-400 against the grinding media it had been using.

### The results

The superior durability of CARBOGRIND meant the client was able to use it through significantly more grinding cycles, resulting in an immediate 75% reduction in total media consumption. The company realized significant savings in media replacement costs as well as a reduction in associated expenses of transportation and disposal.

In addition, optimized grinding efficiency resulted in lower input energy costs and reduced maintenance and repair expenses on mill equipment.

### Project Details

**Client:** Global mining company

**Location:** Northern Ontario, Canada

**Type:** Nickel and associated copper and cobalt products

**Media:** CARBOGRIND 260-020 (2 mm) and CARBOGRIND 360-400 (40 mm)

### Benefits achieved

- 75% reduction in media consumption
- Reduced transportation, disposal and replacement costs
- Greater grinding efficiency
- Reduced mill maintenance and repair expenses

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