

OMG COBALT POWDERS FOR DIAMOND TOOLS

| Grade | FSSS (μm) | Sintering temp. ($^{\circ}\text{C}$) | Hardness (HRB) |
|---------------------|---------------------------|---|-------------------|
| Submicron | 0.8...1.0 | 775 | ≥ 107 |
| Extra fine DT | 1.5...1.9 | 825 | ≥ 105 |
| Extra fine Standard | 1.2...1.6 | 825 | ≥ 104 |
| Extra fine HDFP | 1.2...1.6 | 825 | ≥ 104 |
| -400 mesh /fine | 2.5...3.0 | 850 | ≥ 100 |
| -400 mesh /standard | 3.5...4.5 | 875 | ≥ 98 |

Typical applications

Submicron

- Cutting of abrasive granite
- Production of beads for diamond wires by free sintering

Extra Fine HDFP / Extra Fine Standard /Extra Fine DT

- Granite cutting
- Concrete and asphalt cutting

-400 mesh

- Marble cutting
- Small blades for dry cutting of concrete

SUBMICRON COBALT POWDER

Chemical composition (typical)

| | |
|----------------|---------|
| Ni | 50 ppm |
| Fe | 20 ppm |
| Mn | 15 ppm |
| Cu | 10 ppm |
| Zn | <10 ppm |
| Ca | <10 ppm |
| Mg | 10 ppm |
| Na | <10 ppm |
| Si | <10 ppm |
| S | <10 ppm |
| C | 750 ppm |
| O ₂ | 0.4 % |

Physical properties (typical)

| | |
|------|-----------------------------|
| FSSS | 0.8...1.0 µm |
| D50 | 5.0... 6.0 µm |
| AD | 0.7...0.9 g/cm ³ |
| TD | 1.4...1.7g/cm ³ |

Hot pressing characteristics

| | |
|-------------|--------------|
| Temperature | Hardness HRB |
| 775 C | 107 |

Packing

- 50 kg drum
- 25 kg drum
- 5 kg foil bag

HDFP EXTRA FINE COBALT POWDER

Chemical composition (typical)

| | |
|----------------|---------|
| Ni | 50 ppm |
| Fe | 20 ppm |
| Mn | <15 ppm |
| Cu | <10 ppm |
| Zn | <10 ppm |
| Ca | <10 ppm |
| Mg | 10 ppm |
| Na | <10 ppm |
| Si | <10 ppm |
| S | <10 ppm |
| C | 250 ppm |
| O ₂ | 0.25 % |

Physical properties (typical)

| | |
|------|-----------------------------|
| FSSS | 1.2...1.6 µm |
| D50 | 6.5...7.5 µm |
| AD | 0.9...1.2 g/cm ³ |
| TD | 1.8...2.2 g/cm ³ |

Hot pressing characteristics

| | |
|-------------|--------------|
| Temperature | Hardness HRB |
| 825 C | 104 |

Packing

- 50 kg drum
- 25 kg drum
- 5 kg foil bag

EXTRA FINE COBALT POWDER STANDARD

Chemical composition (typical)

| | |
|----------------|---------|
| Ni | 50 ppm |
| Fe | 20 ppm |
| Mn | <15 ppm |
| Cu | 10 ppm |
| Zn | <10 ppm |
| Ca | <10 ppm |
| Mg | 10 ppm |
| Na | <10 ppm |
| Si | <10 ppm |
| S | <10 ppm |
| C | 250 ppm |
| O ₂ | 0.25 % |

Physical properties (typical)

| | |
|-------------|-----------------------------|
| FSSS | 1.2...1.6 µm |
| D50 | 8.0...9.0 µm |
| AD | 0.8...1.1 g/cm ³ |
| Tap density | 1.6...2.0 g/cm ³ |

Hot pressing characteristics

| Temperature | Hardness HRB |
|-------------|--------------|
| 825 C | ≥ 104 |

Packing

- 50 kg drum
- 25 kg drum
- 5 kg foil bag

EXTRA FINE COBALT POWDER DT

Chemical composition (typical)

| | |
|----------------|---------|
| Ni | 30 ppm |
| Fe | 20 ppm |
| Mn | 15 ppm |
| Cu | 15 ppm |
| Zn | <10 ppm |
| Ca | <10 ppm |
| Mg | 80 ppm |
| Na | 100 ppm |
| Si | <10 ppm |
| S | 20 ppm |
| C | 350 ppm |
| O ₂ | 0,3 % |

Physical properties (typical)

| | |
|------|-----------------------------|
| FSSS | 1.5...1.9 μm |
| D50 | 7.0...8.0 μm |
| AD | 0.8...1.0 g/cm ³ |
| TD | 1.8...2.0 g/cm ³ |

Hot pressing characteristics

| Temperature | Hardness HRB |
|-------------|--------------|
| 825°C | >105 |

Packing

- 50 kg drum
- 25 kg drum
- 5 kg foil bag



-400 MESH COBALT POWDER/STANDARD

Chemical composition (typical)

| | |
|----------------|---------|
| Ni | 30 ppm |
| Fe | 20 ppm |
| Mn | 15 ppm |
| Cu | 10 ppm |
| Zn | <10 ppm |
| Ca | <10 ppm |
| Mg | <10 ppm |
| Na | <10 ppm |
| Si | <10 ppm |
| S | 15 ppm |
| C | 600 ppm |
| O ₂ | 0.45 % |

Physical properties (typical)

| | |
|------|---------------------------|
| FSSS | 3.5...4.5 μm |
| AD | 2.0...2.5 g/cm^3 |
| TD | 3.2...3.8 g/cm^3 |

Hot pressing characteristics

| | |
|-------------|--------------|
| Temperature | Hardness HRB |
| 875 C | >98 |

Packing

- 50 kg drum
- 25 kg drum
- 5 kg foil bag

-400 MESH COBALT POWDER/FINE

Chemical composition (typical)

| | |
|----------------|---------|
| Ni | 30 ppm |
| Fe | 20 ppm |
| Mn | 15 ppm |
| Cu | 10 ppm |
| Zn | <10 ppm |
| Ca | <10 ppm |
| Mg | <10 ppm |
| Na | <10 ppm |
| Si | <10 ppm |
| S | 15 ppm |
| C | 600 ppm |
| O ₂ | 0.45% |

Physical properties (typical)

| | |
|------|---------------------------|
| FSSS | 2.5...3.0 μm |
| AD | 1.6...2.0 g/cm^3 |
| TD | 2.8...3.4 g/cm^3 |

Hot pressing characteristics

| Temperature | Hardness HRB |
|-------------|--------------|
| 850 C | >100 |

Packing

- 50 kg drum
- 25 kg drum
- 5 kg foil bag

Sintering Behaviour of OMG Cobalt Powders

