

WORLDIA Innovation Coating Technology

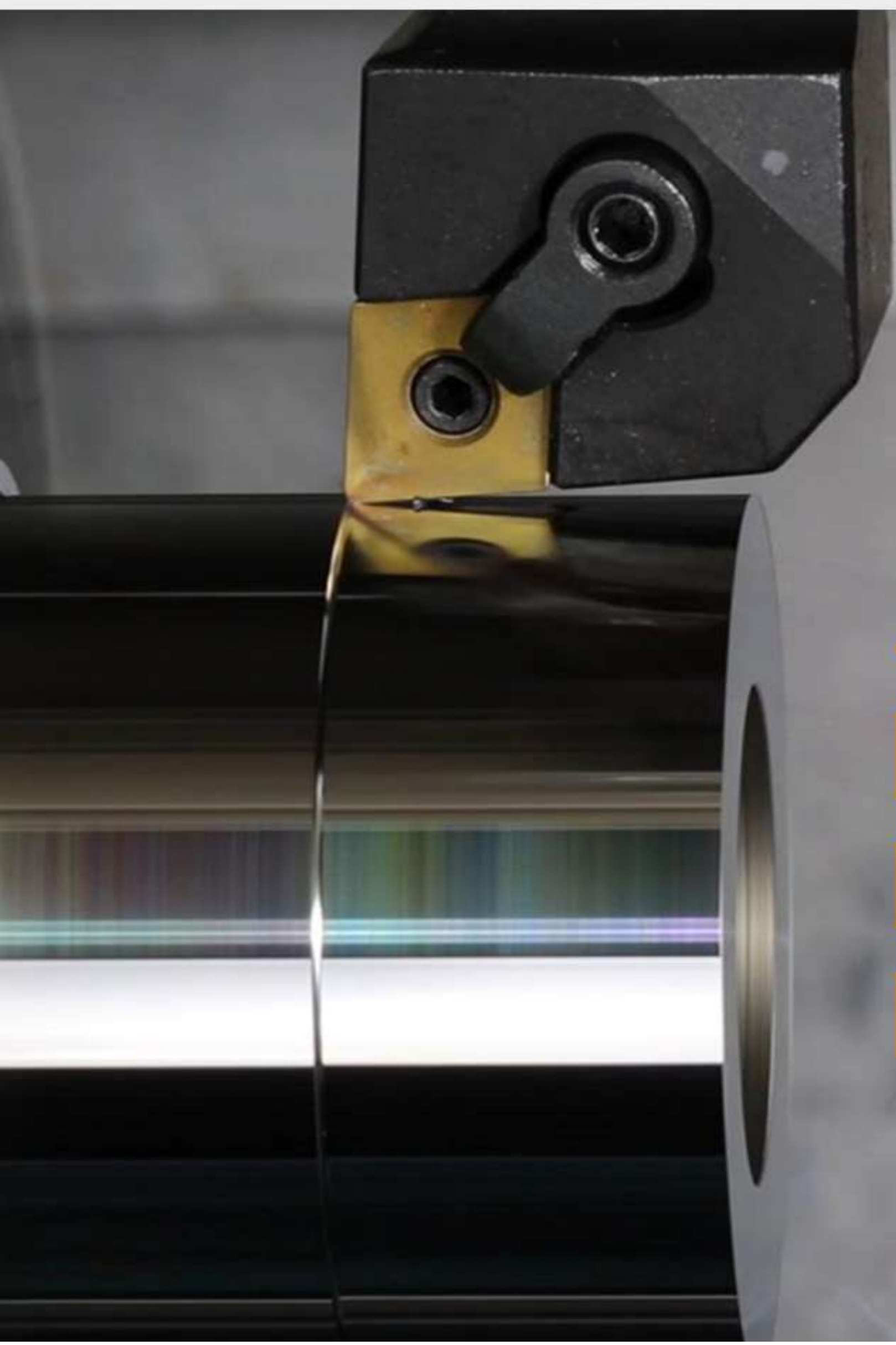
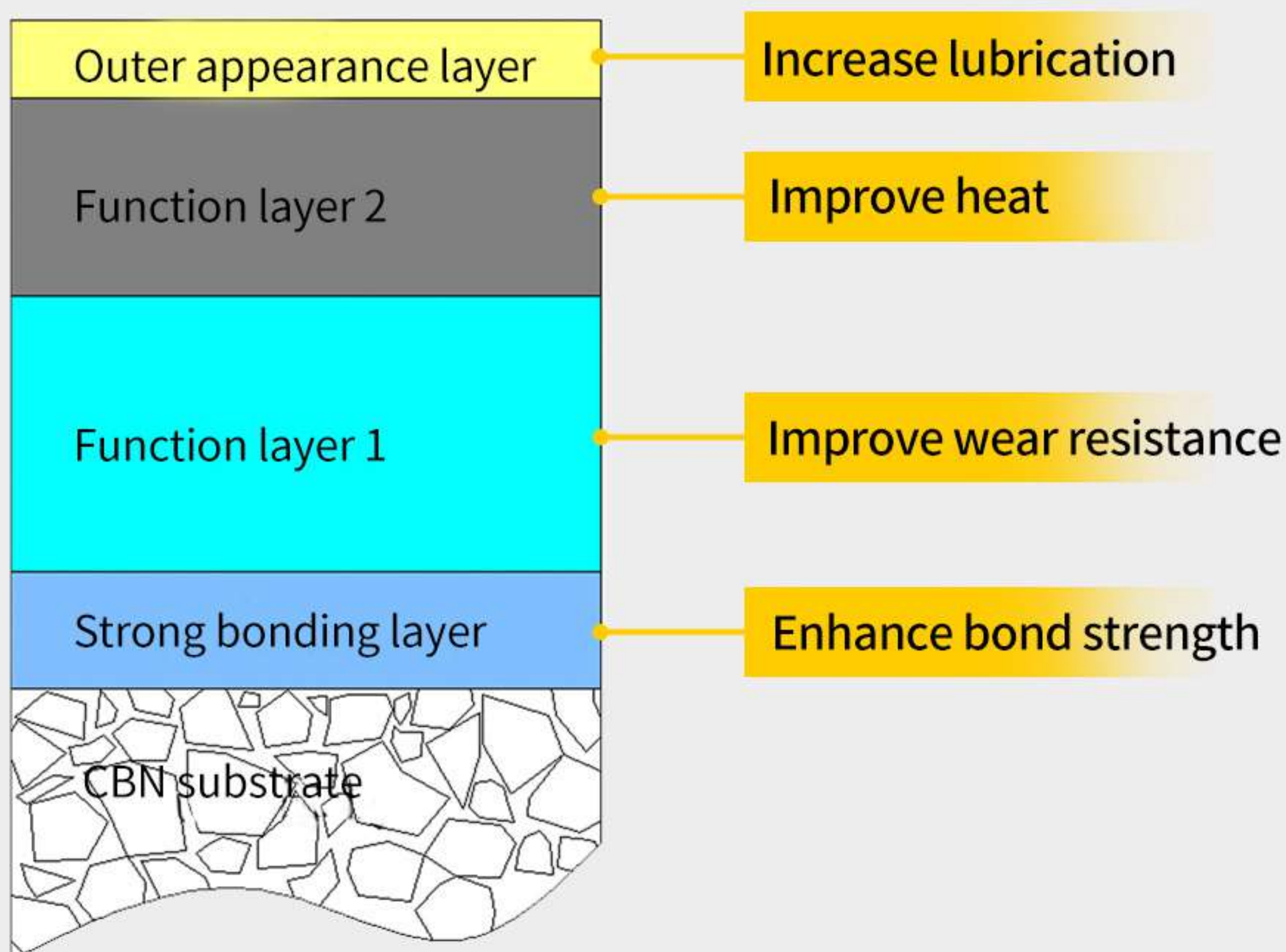
CE Coating and Application

Worldia has introduced a new CE coating technology, which provides stronger high-temperature and wear resistance capabilities.

It is designed explicitly for semi-finishing turning processes on hardened steel without carburizing layer, with excellent performances in terms of processing stability, surface quality, and tool life.

This innovative coating technology is ideal for automated machining and batch production of precision machined parts, such as bearings, gears and outer hub, and can assist in ensuring processing stability while improving overall efficiency on production lines.

CE Coating Structure



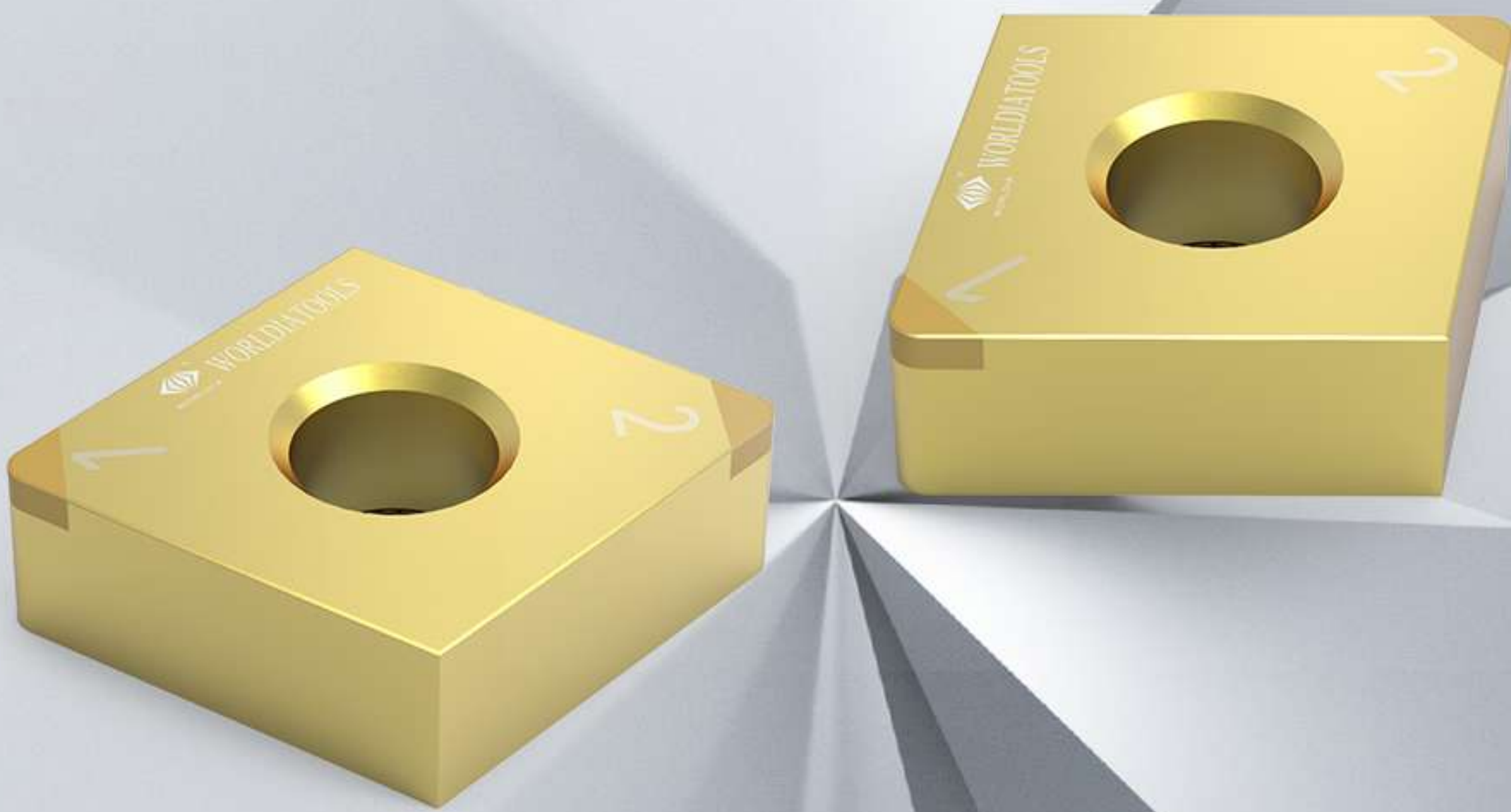
Characteristics

High wear resistance

High heat resistance

Low friction coefficient

CE Coating Application For Bearing Outer Ring Machining



Workpiece: Outer ring of bearing

Material: Hardened steel

Hardness: HRC40-62

Machining part: Outer ring & end face

Machining method: Continuous semi-finishing

Cooling method: Wet machining

Heat Treatment: Carburizing hardening

Machining allowance: 1.5mm

Insert Specification: CNGA120408-2N

Machining Parameter: VC: 180m/min

f: 0.25/0.2mm/rev

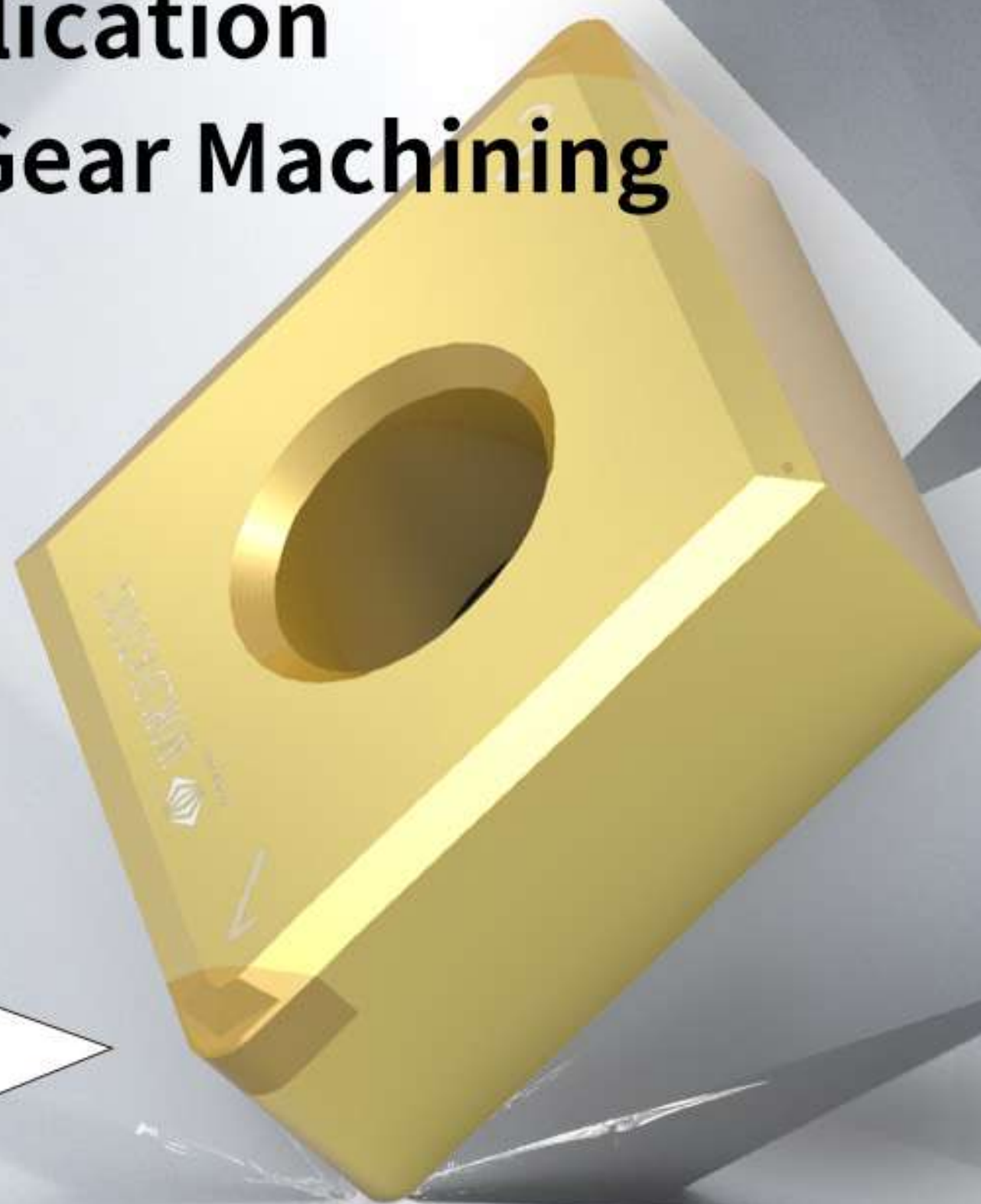
ap: 0.3/0.2mm



Result:

Worldia's CE coated inserts offer superior lifespan benefits

CE Coating Application For Reduction Gear Machining



Workpiece: Reduction gear

Material: Hardened steel

Hardness: HRC58-62

Machining part: Inner hole & end surface

Machining method: Continuous semi-finishing

Cooling method: Wet machining

Heat Treatment: Carburizing hardening

Machining allowance: 1.3mm

Insert Specification: CNGM120408-2N

Machining Parameter: VC: 130m/min f: 0.15mm/rev ap: 1.3mm



Result:

In an automated production line, both tool life and chip wrapping need to be efficiently managed. A severe chip wrapping can not only alarm the mechanical arm but also lead to machine tool shutdown, causing a halt in automatic production. Worldia CE film-coated insert could process 45 pieces with good chip breaking, resulting in a higher tooling life.

CE Coating Application For Outer Wheel Hub Machining



Workpiece: Outer wheel hub

Material: Hardened steel

Hardness: HRC48-62

Machining part: Fairway

Machining method: Continuous semi-finishing

Cooling method: Wet machining

Roughness: Ra1.6

Machining allowance: 1.5mm

Insert Specification: VNGA160408-4N

Machining Parameter: VC: 250m/min f: 0.16mm/rev
ap: 0.15mm



Result:

Worldia's CE coated inserts offer superior lifespan benefits