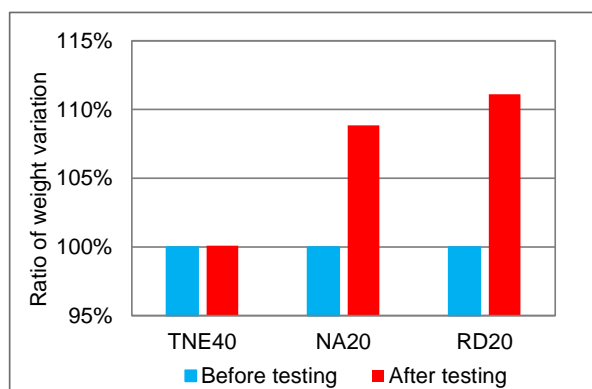


TNE Alloy is a cermet which is sintered hard phase mainly containing TiCN with binding metals. It has significantly improved oxidation resistance. Since oxidation phase is not generated even if it is in atmosphere at a high temperature of 900 °C, the weariness of tools is reduced under high temperature environment. In addition, since TNE Alloy has more excellent fracture toughness in comparison with other general cermet, it reduces chipping of tools.

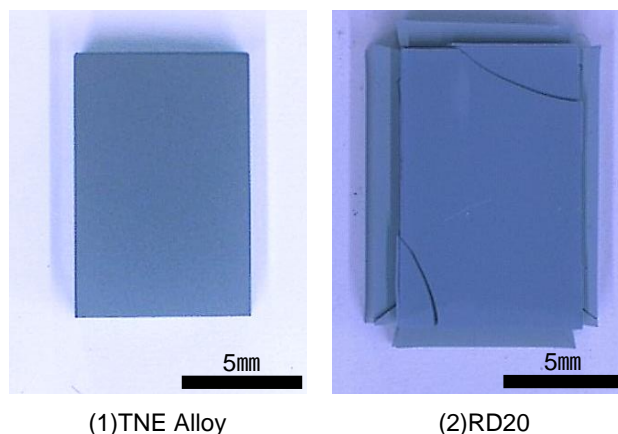
Comparison of oxidation resistance

Ratio of weight variation after holding at 900°C for 1 hour in air atmosphere



Regarding oxidation weight gain, it is about 11% for RD20 and about 8 % for NA20, but it is about 0.1% for TNE40. Almost no oxidative weight gain is observed.

Surface condition in the atmosphere retaining 900°Cx1h



RD20 forms oxidized phase on each of the six faces after retaining. On the other hand, TNE Alloy is slightly changed color, but is no oxidated phase such as RD20.

Properties

| Grades | Specific Gravity | Hardness (HRA) | Transverse Rupture Strength (GPa) | Fracture Toughness (MPa·m ^{1/2}) |
|--------|------------------|-------------------|---|--|
| TNE40 | 6.00 | 89.0 | 2.5 | 15 |

※All data shown are typical values, not guaranteed values.
 ※We will not compensate any loss and damage caused by using all data.
 ※We reserve the right to modify the data due to technical progress.

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