



## Nickel Ceramic – Piston Ring Compatibility

When using the capricorn AUTOMOTIVE nickel ceramic plating the following piston ring combinations are recommended.

- Top Ring:
  - Plasma moly inlaid
  - Nitrided steel
  - Cast iron (although wear can be high)
  - TiN (titanium nitride) coating on chrome steel or nitrided steel. (this can be carried out by capricorn for an additional cost).
  - CrN (chrome nitride) coating can be used instead of TiN. However, care is required to ensure good adhesion shape control and underlay coating used. For this reason, TiN is preferred when using as an over-coating.
- 2nd Ring:
  - cast iron is preferred
- Oil Control Ring
  - Nitrided steel
  - Plain steel
  - Cast iron
  - TiN (titanium nitride) coating on chrome steel or nitrided steel (this can be carried out by capricorn for an additional cost).
  - CrN (chrome nitride) coating can be used instead of TiN. However, care is required to ensure good adhesion shape control and underlay coating used. For this reason, TiN is preferred when using as an over-coating.

The use of hard chrome is not permissible on any of the rings – over-coat with TiN or use an alternative ring in this case.

The use of DLC on any rings is to be avoided.

A phosphate treatment (typically anti-corrosion on cast iron) is okay.

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