

Catalyst Thrifting Testing Package

The Offering

Catalyst Thrifting Test Package – testing to understand if a catalyst has been over specified or overloaded with precious metals through physical characterisation and ageing (durability testing). One catalyst sample will be tested, specified by the motorcycle developer and catalyst supplier.

Testing Package

- 1. First full characterisation suite** - to fully understand the performance of the three-way catalyst.

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| OSC | Oxygen Storage Capacity to aid in conversion of excess harmful emissions. |
| Fast light-off | Understand the emissions conversion, focusing on the cold-start conversions. |
| Slow light-off | Understand the emissions conversion, focusing on the tailpipe emissions when catalyst is at temperature. |
| Lambda sweep | Understand the catalyst conversion during differing operating conditions across a lambda window. |
- 2. Full Useful Life Testing (FUL)**
Each catalyst to be aged to the equivalent of 35,000km based on Standard Road-cycle Data (SRC).
- 3. Second full characterisation suite to fully understand performance**
Understand the effect of FUL ageing and determine the degradation across the catalyst sample.
- 4. Final Limit Catalyst Durability Testing - On Board Diagnostic Ageing (OBD II)**
Age each catalyst sample to the required OBD II target, each sample will have varying ageing due to the different PGM loadings.
- 5. Third full characterisation suite to fully understand performance**
Understand the effect of OBD ageing and determine the degradation across the catalyst sample.
Ensure that the catalyst sample still passes emissions limits testing.
- 6. Run Worldwide Motorcycle Test Cycle (WMTC) tests to ensure catalyst sample is continuing to pass emissions legislations**
Based on results from WMTC and ageing required to achieve OBD II emissions and OSC targets it can be determined if the catalysts are overloaded with precious metals.

Further Catalyst Precious Metal Thrifting advice is available to members of the CATAGEN MOTORCYCLE EMISSIONS CONTROL CONSORTIUM (CMECC) through a more rigorous testing process.

Further analysis and a full simulation package to provide more specific loading requirements to ensure a cost-effective solution that will meet emissions standards.