



SOUTHWEST RESEARCH INSTITUTE



Catalyst Characterization and Post Mortem Analysis

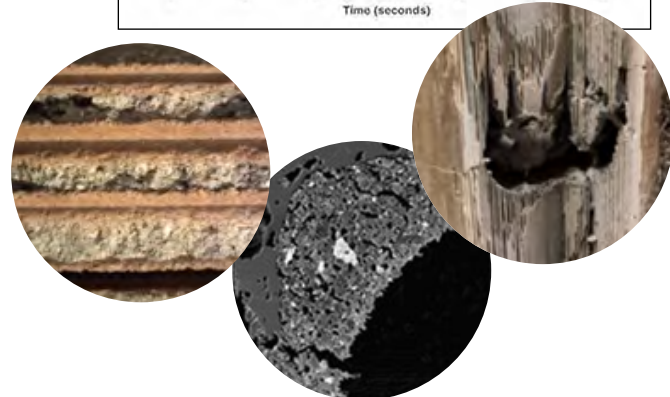
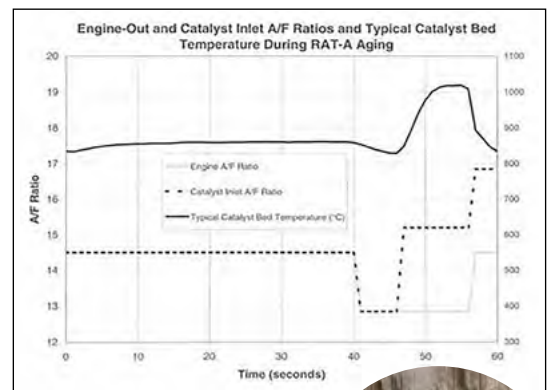
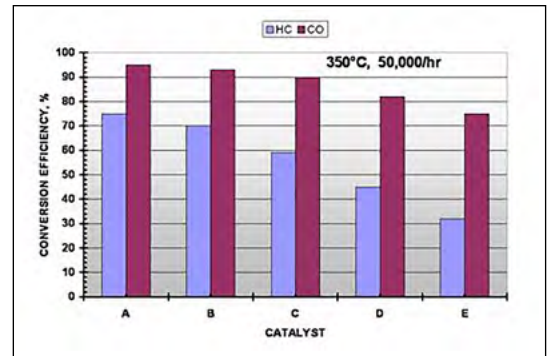
Southwest Research Institute® (SwRI®) offers catalyst characterization and post mortem analysis to support consistent and realistic metrics for aftertreatment catalyst evaluation. In our state-of-the-art universal synthetic gas reactor (USGR®) catalyst core samples are preconditioned and then run through specialized tests with specific gas mixtures, temperatures, and time duration. Data is analyzed and reported as directed by the client. Excel spreadsheets are typically provided to the client with relevant data plots. Test results sufficiently capture catalyst technology performance capability.

Catalyst Characterization

- Steady-state and performance
- Pertubated performance
- Temperature ramps and stepped light-off tests
- Stepped light-off performance
- Thermal and chemical aging
- Accelerated aging – thermal
- Accelerated aging – poisoning

Post-Mortem Analysis

- Elemental composition of catalysts and deposits
- Microscopy for imaging
 - Optical
 - Scanning electron microscope (SEM)
- X-ray diffraction (XRD) for crystalline compound identification and platinum group metals (PGM) particle size
- Brunauer, Emmett and Teller (BET) surface area
- Other analyses as indicated



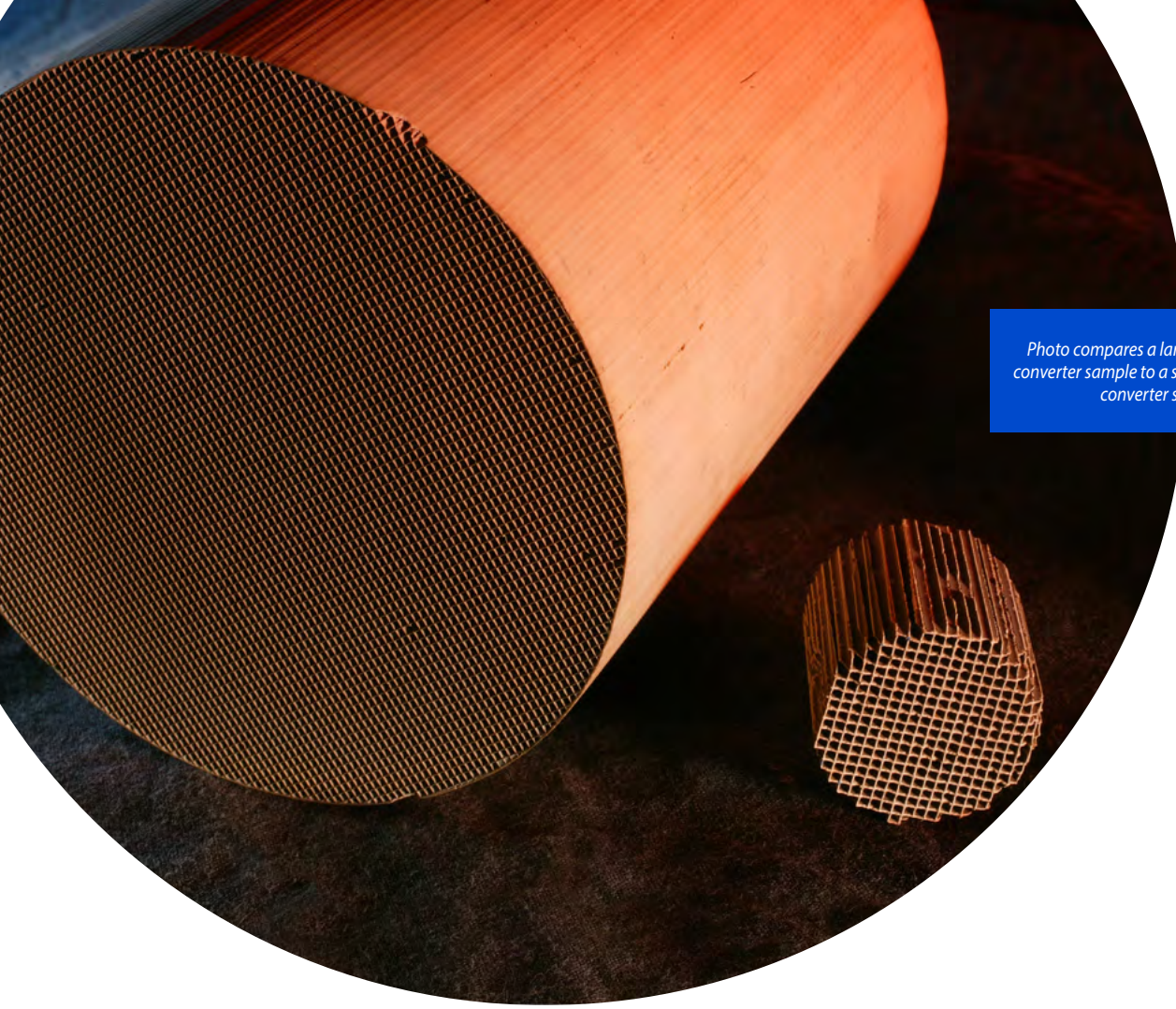


Photo compares a large-core catalytic converter sample to a small-core catalytic converter sample



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SOUTHWEST RESEARCH INSTITUTE

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