

# CARBONIZATION TESTING

## MET COAL - PILOT SCALE CARBONIZATION TESTING

Pilot scale carbonization tests are methods used in evaluating coking coals and/or potential coking coal blends, prior to testing in commercial coke ovens. These tests are used to evaluate how coals / blends will perform, particularly in by-product coke ovens, in terms of ease of pushing of the coke mass from the oven, coking pressure generated, and resultant coke quality.

### SOLE HEATED OVEN (SHO)

SGS operates two sole heated ovens. This test evaluates the contraction or expansion tendencies of coals or coal blends when heated under controlled conditions. High volatile coals generally contract and low volatile coals generally expand. In a byproduct coke oven, the final coke mass must contract 8-12% for ease of pushing from the oven. The SHO test can be used to help formulate coal blends to meet the criteria for individual coke plants.



### 30LB PRESSURE TEST OVEN (PTO)

SGS operates a one-of-a-kind 30lb pressure test oven. We have two computer-controlled heating programs. There is a three hour program to determine maximum wall pressure generated, and a seven hour program used to generate coke for reactivity and after reaction strength testing. High coking pressure can damage the walls in byproduct coke ovens. The PTO is effective as a screening and comparison tool for evaluating medium and low volatile coking coals.



### MOVABLE WALL OVEN TEST (MWO)

SGS has an 18" wide movable wall oven which holds a charge of 650 – 750 lbs of coal to test new or modified coal blends. This oven produces coke of suitable size and quantity to determine coke physical tests such as stability, hardness, and CRI/CSR. Wall and internal gas pressures generated during the test are also measured. The movable wall prevents oven damage due to excess expansion and/or pressure



### CONTACT INFORMATION

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