



# Thermodynamically Balance Pattern and Practices of Subterranean Coal Gases

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## Abstract

In this papers of how it been employed in UCG has not been found the fundamental principle of UCG is about changing the solid organism of coal into combustible gas by heat and chemical action. And the difference between UCG and ordinary coal gasification lies in its process performed under the ground, This process can be realized in gasification gallery of underground gasifier through three reaction zones including oxidation zone, reduction zone and dry distillation zone, The process of UCG is analogous to that of ground-based fixed bed gasification judging from the partition of gasification gallery, size of coal particles into gasifier to the adding modes of gasification agent and coal. Approximately, it can be regarded as the process of ground-based fixed bed gasification. However, the heat loss rate of underground gasification is relatively low. And there lies in the differences along with the changes of underground gasification technologies. Thus, the field test data of UCG from different technologies should be analyzed and then summarized into the empirical data.

*Keywords:* balance pattern; UCG; coal gases; dry distillation

