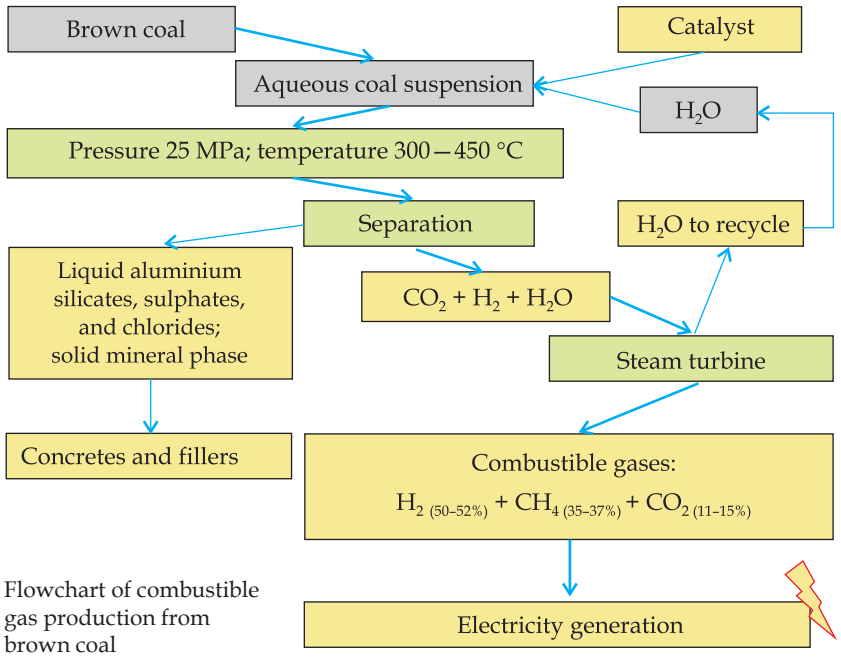
METHOD FOR COMBUSTIBLE GAS GENERATION BY HYDROTHERMAL CONVERSION OF BROWN COAL



Flowchart of combustible gas production from brown coal

Areas of Application

The method applies to production of combustible gas from brown coal for its use at TPPs as fuel

Specification

Gasification of 30% brown coal aqueous suspension under the supercritical conditions of water, in the presence of mineral additives of alkali nature leads to the formation of gases containing H_2 (50÷52%, vol.), CH_4 (35÷37%), and CO_2 (15÷11%), which can be used as fuel for TPPs

Advantages

Selective formation of hydrogen and methane mixture at supercritical temperature; if necessary, after CO_2 separation the combustible gas can be used as raw material for synthesis of other products. Water used as source of oxygen reduces the cost of oxidising agent as compared with molecular oxygen and the nitrogen content in gaseous products as compared with air. Operating temperature decreases from 800—1200 °C (conventional processes) down to 330—600 °C. The process is accompanied with desulfurization and recycling of waste into gypsum chips

Stage of Development. Suggestions for Commercialization

IRL3, TRL4
Specification requirements for designing a plant for combustible gas production; ready for the elaboration of business plan

IPR Protection

IPR3

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