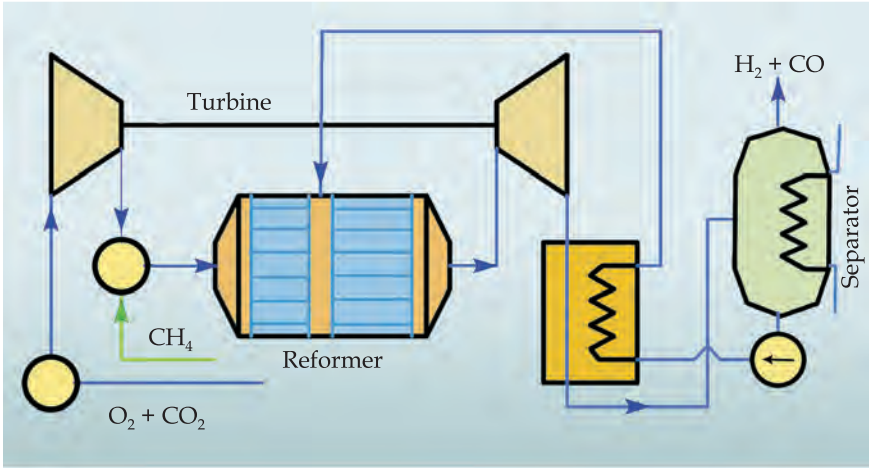
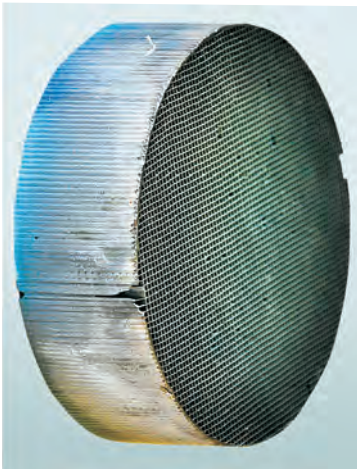
STRUCTURED CATALYSTS FOR C_1-C_4 ALKANES COMBINED REFORMING INTO SYNGAS



Scheme of catalytic reformer with turbine



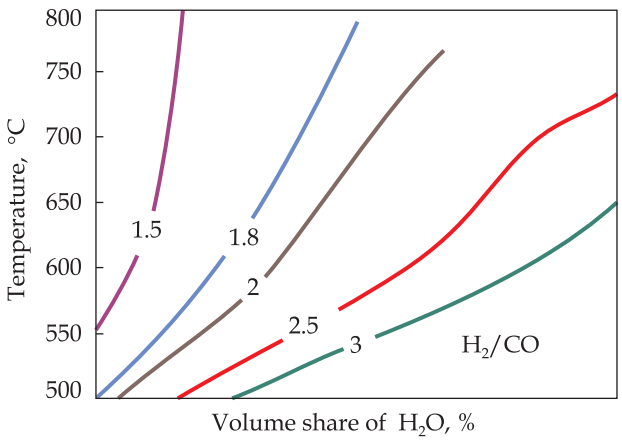
Catalyst

Areas of Application

The catalyst is to be used for obtaining syngas by combined O_2-CO_2-H_2O reforming of natural gas (methane and its homologues) for the further synthesis of ammonia, methanol, diethyl ether, and for Fischer-Tropsch synthesis

Specification

This cellular structured catalyst with a low content of active ingredients and a low gas-dynamic resistance enables performing combined oxidative reforming of C_1-C_4 alkanes involving O_2, H_2O, and CO_2; obtaining syngas with H_2/CO ratio adjustable from 1 to 3; and implementing the autothermal mode



Syngas composition diagram

Advantages

As compared with similar catalysts, this one is cheaper, has a lower content of active components and a high productivity;
it is resistible to carbonization and action of sulfur-containing compounds, has a low gas-dynamic resistance and operates within a wide temperature range (500—1000 °C);
the catalyst does not contain precious metals

Stage of Development. Suggestions for Commercialization

IRL6, TRL5
Upon request, prototype is manufactured; license agreement for commercial production is made

IPR Protection

IPR3

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