Producer gas- manufacturing process

What is Producer gas?

It is combination of CO_2 and N_2



Producer gas (N₂, CO, H₂)

When mixture of air and steam is passed over red hot coke or coal, the different three reactions takes place in following zones.

1. Oxidation zone- In this zone oxidation of Carbon to give CO₂ takes place

 $C + O_2 + N_2 = CO_2 + N_2 + Kcal$

2. Reduction zone- In this zone reduction of CO₂ to CO takes place.

 $C \hspace{0.1 cm} + \hspace{0.1 cm} CO_2 \hspace{0.1 cm} = \hspace{0.1 cm} 2CO \hspace{0.1 cm} + \hspace{0.1 cm} Kcal$

3. Distillation zone- This is the upper zone. In this zone some of CO formed is reacted with steam and gives CO_2 and H_2 gas

 $CO + H_2O = CO_2 + H_2 + Kcal$

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Fuels and Biofuels

Advantages of Producer gas

- 1. Producer gas is cheap, clean, and can be prepared easily. It has low calorific value
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- 3. But tt has low calorific value as compared to LPG.

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