

FLY ASH UTILISATION

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Flyash ?

- ▣ Fly ash is finely divided residue resulting from the combustion of powdered coal and transported by the flue gases and collected by electrostatic precipitator.



Flyash utilisation in Different sectors

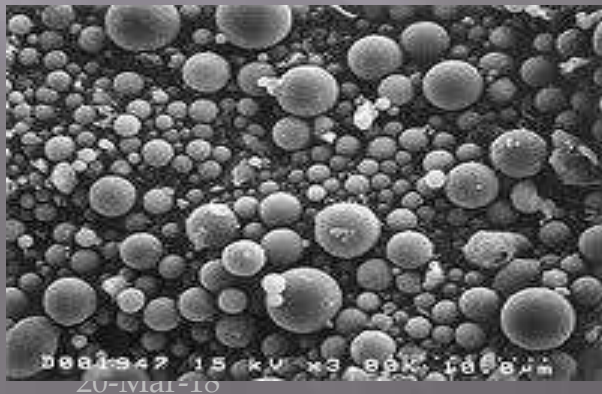
- ▣ Building components
 - Bricks, blocks, cement, mortar & concrete
- ▣ Roads and Embankments
- ▣ Agricultural sector
- ▣ Hydro sector
- ▣ Fly ash in preparation of other products
 - Wood substitute, gypsum etc



Fly ash in Building components

Fly ash in concrete

- ▣ Fly ash is a pozzolana
- ▣ Increase concrete's workability
- ▣ Generally exhibits less bleeding & segregation
- ▣ Sulfate and alkali aggregate resistance
- ▣ It has a low heat of hydration
- ▣ Cost of fly ash is less than Portland cement



USE OF FLYASH AS BRICKS

- ▣ Flyash bricks being preferred for Modern construction
- ▣ Fly ash bricks are eco friendly cost saving building product
- ▣ 3 times stronger than conventional bricks consistent strength
- ▣ Raw material for fly ash bricks are :
 - Fly ash ,sand or stone dust, lime, gypsum, cement



FLY ASH IN ROADS AND EMBANKMENT

- ▣ Causes lesser settlements as it is light weight
- ▣ Easy to handle and compact
- ▣ No large lumps to be broken down
- ▣ High permeability ensures free and different drainage
- ▣ Low compressibility
- ▣ High strength due to pozzolanic nature
- ▣ Amenable stabilisation and reduces cost of construction



Fly ash in agriculture & hydro

- ▣ Improves soil aeration
- ▣ Crops grown are safe for human consumption
- ▣ Ground water not affected
- ▣ Early maturity of crop
- ▣ Conserves plant nutrients/ water
- ▣ First use of flyash concrete in hydro sector is in U S Hoover Dam project in 1929
- ▣ Fly ash has been found to effectively and economically reduce the risk of ASR(alkali- silica reaction)

Fly ash in other products preparation

- ▣ Various high value added products developed using fly ash as raw materials
- ▣ The use of carbon derived from flyash as an adsorbent for waste water treatment and its use as filler for rubber industry has been established
- ▣ High water resistance tiles and substitute for high alumina ceramics , coal ash mineral wool being produced in aboard
- ▣ Fly ash composite wood substitutes developed in India

Finally - Thank you

- ▣ Lets us use the fly-ash (resource) that has been wasted away so far. – Adopt 3 R Principle

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