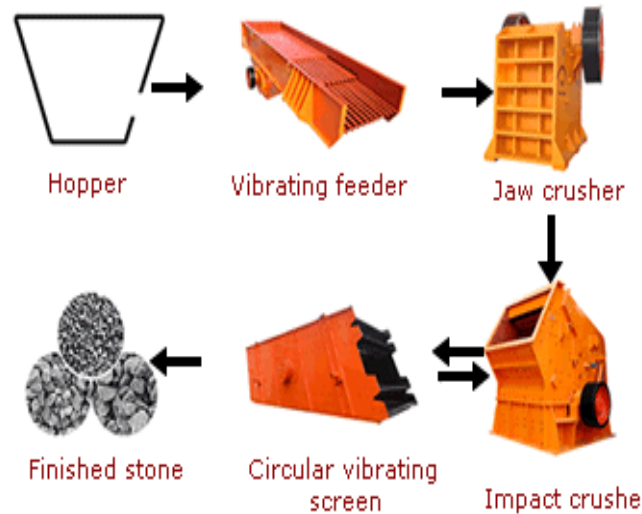


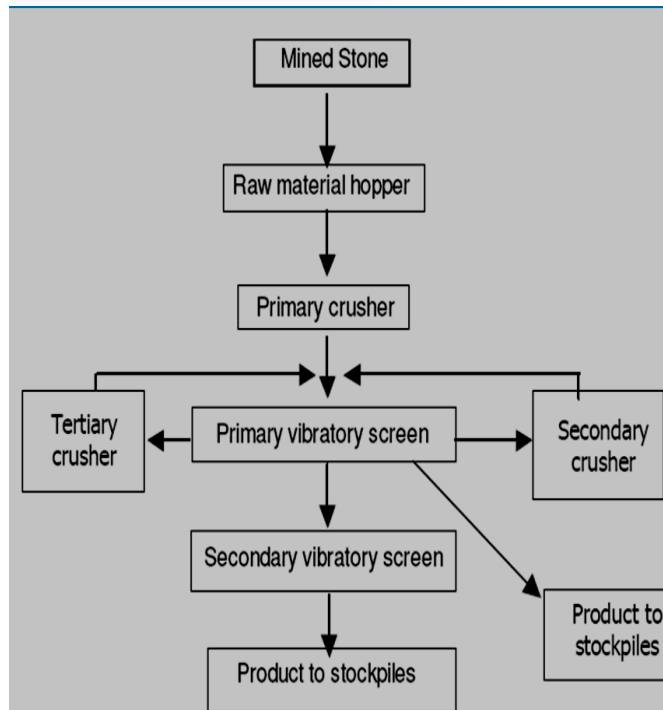
## GENERAL CP TIPS FOR STONE CRUSHING

- Manual segregation of small/large stones during loading at mines for small units
- Provide optimum inclination of crusher discharge chute for smooth falling of material over conveyer belt
- Improve efficiency of screen by counterweight adjustments over the screen eccentric shaft
- Reduce spillages from screen hopper to conveyer belt by providing box type arrangement
- Mechanical segregation of small/large size stones during loading at mines & separate hoppers and crushing for medium/large units
- Modification of screen plate circular hole to hexagon shaped hole to increase efficiency and to avoid blinding of holes during screening operation
- Increase screening area by providing more number of holes with the same size screen to increase screening efficiency
- Reduced thickness for screen plate reduces the power consumption of the screen
- Use of separate screen for separating dust from grit to avoid stone carryover along with grit
- Use of elevated screen for reduced power consumption and reduced maintenance of material handling system
- Suitable exhaust and venting system of adequate capacity to be provided to guide the dust emanating from the crushers in to the staff through cyclone to collect the dust.

## Stone Crushing Process Flows



## PROCESS FLOW DIAGRAM OF TYPICAL STONE CRUSHER UNIT



## GUJARAT CLEANER PRODUCTION CENTRE

## CLEANER PRODUCTION IN STONE CRUSHING UNIT



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# STONE QUARRY

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## STONE CRUSHING UNIT

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### STANDARDS FOR SUSPENDED PARTICULATE MATTER

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*The standards under the EP Act. Rules, 1986*

The standards consist of two parts:

- Implementation of the following pollution control measures:
  1. Dust containment cum suppression system for the equipment.
  2. Construction of wind breaking walls.
  3. Construction of the metalled roads within the premises.
  4. Regular cleaning and wetting of the ground within the premises.
  5. Growing of a green belt along the periphery.
- Quantitative standard for the SPM. The suspended particulate matter measured between 3 to 10 meters from any process equipment of a stone-crushing unit shall not exceed  $600 \mu\text{g}/\text{m}^3$

## Principles of site selection for quarry proposals

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Consideration must be given to whether:

- The land use is permissible
- Environmentally sensitive areas are avoided
- The use is compatible with nearby land uses
- Initial site investigations indicate the site is fundamentally suitable for a quarry.

## SOURCES OF DUST GENERATION

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- Emissions during Mining.
- Emissions during unloading of mined stones at crusher site
- Emissions during Crushing Operations
- Emissions during Material Movement and Transfer
- Emissions during Vibratory Screening operation
- Emissions during Transportation
- Secondary emissions from Stock Piles
- Emissions during Loading of crushed stone Products.

## Environmental problems in stone crushers

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- Sources of Emissions
- Nature and Spread of Emissions
- Factors that Influence Emissions
- Environmental, Health and Safety Problems due to Emissions
- Noise Pollution Problems

## Adverse impact due to Dust Emission

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- Fugitive dust emissions pollute work environment & surroundings .
- Adversely affects health of workers .
- Low productivity of workers due to dusty environment .
- Adversely affects visibility & prone for accidents .
- Frequent breakdowns of plant & machinery .
- Noise leads to fatigue, increased blood pressure.