



Improve your plant productivity through

DUST MAPPING AND CONTROL PLAN [DMCP]



www.arrelic.com

DUST

Small, dry, solid particles projected into the air by natural forces, such as wind, volcanic eruption, and by mechanical or man-made processes such as crushing, grinding, milling, drilling, demolition, shovelling, conveying, screening, bagging, and sweeping. Dust particles are usually in the size range from about 1 to 100 μm (referred as PM1 to PM100) in diameter, and they settle slowly under the influence of gravity.

SOURCE

Dust is produced by the mechanical action on the raw materials such as stone, coal etc. These small particles get suspended in air and flows along with the air stream, having the necessary energy.

**Achieving
Dust Free
Environment
in Plant Premises**



**Dust Mapping
&
Control Plan
[DMCP]**

STANDARDS

Authority	Measured as: 24 hr mean	Relevance
UK Air Quality Standard	50 $\mu\text{g}/\text{m}^3$	
Indian Air Quality Standard	100 $\mu\text{g}/\text{m}^3$	Air quality in relation to public health
Industrial	190.6 - 238.2 $\mu\text{g}/\text{m}^3$	

POLLUTANT

Generally particulate matter (dust) is considered to be one of the important pollutant of air. Substantial amount of dust can lead to serious problems for both life and property.

Dust are usually prevalent in industries like Mining, Cement, Glass manufacturing, Metals and Power industries. These industries use raw materials that are broken into many smaller particles leading to dust formation.

DUST PROPAGATION

Dust propagation through air is influenced by several factors including particle size, energy of the air stream and disturbance activities. Large dust particles usually travel shorter distances than small particles.

Particles greater than 30 μm is considered to deposit within 100 meters of sources, those between 10 – 30 μm to travel up to 250 – 500 meters and particles less than 10 μm to travel as far as 1 km or more from sources.

KEY BENEFITS OF DUST MAPPING



Direct financial benefits such as yield improvement of raw materials.

Brand impact in socio economy life.



Less forced deterioration impact on machine life.

Employees health impact



Availability, Reliability and Productivity improvement of plant assets.

Process stabilization for less dust generation



TIME LINE FOR DUST MAPPING

Through systematic and careful approach, the dust produced inside the plant premises is vastly reduced and plant performance is enhanced.



DUST GENERATION

The entire plant is audited and various sources of dust is identified.



MAPPING

Using the Dust Measuring device we will measure the dust level with each individual area and monitor the dust level.



CONTROL PLAN

The elimination and the control plan required for the dust source is designed and recommended



SUSTAIN

Developing sustainable dust reducing practices is not only critical to the future of our company, but also for the benefit of future generations



Arrelic is committed towards promoting the use of monitoring equipment in dust and air pollution studies to validate theoretical

ARRELIC EXPERTISE IN DUST MAPPING & CONTROL PLAN

- Expertise in dust control in Ferro-alloys, cement, steel and power plants.
- Building a DMCP program that is most financial viable and long term sustainable.
- Single point contact for building strategy to implementation for dust control.
- Mapping the dust level across the plant with best in class sensors.
- Over 20+ years of combined experienced in controlling dust.
- Assured to reduce over 80% of dust level in 1 year.
- Bringing the best practices from 16 industries and 5 continents



Who are we ?

Arrelic is a deep technology firm aiming to bring the next level of IoT based sensor technology to transform the mode of manufacturing operation and maintenance practice of various industries with our extensive expertise in Reliability Engineering, Predictive Maintenance, Industries Best Practices, Industrial Internet of Things (IIoT) Sensors, Machine Learning and Artificial Intelligence.

We ensure that business across all industries will achieve a higher competitive advantage, add value opportunities to transform their business, build more capable organizations to sustain and outperform their result.sustain and outperform their result.sustain and outperform their result.

<https://www.arrelic.com/consulting-services/plant-audits-and-assessment/dmcp>



Arrelic Products and Services



INTERNET OF THINGS



ANALYTICS PLATFORM



PdMAAS - PREDICTIVE MAINTENANCE



CONSULTING SERVICES



TRAINING & DEVELOPMENT



We'll help manufacturing industries to improve their overall plant productivity, reliability and minimize total production cost by eliminating machine downtime, lightening management decisions by analysing the machine data with right mind and expertise; for a worry free operation.

If you have any questions or would like further information on our product and services or if you would like to discuss a potential initiative, you feel we could help with, please don't hesitate to contact us.



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