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Design Of Self Cleaning Road

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Abstract : There are lots of reasons for death of human being. The major cause is due to accidents. Accidents can be of many types like earthquake, tsunami etc. The accidents cause by natural calamities is not in our control. The amount of road accidents is more comparative to other ones. India is country where the death rate due to road accidents is more. In future, lots of highways will be constructing in India. In India temperature changes rapidly which causes cracks to roads leading to failure of road. These problems are solved out by following remedy. By watering the road every day and by spraying air on it, the road can be reuse within few hours. This is easy and quick method of watering of road.

Keywords - Water Spraying on Roads, Road Stud, Spraying Nozzles, Remedy for Cracks.

I. Introduction

In India mostly two types of roads are constructed bituminous and concrete roads. Bituminous roads are cheap to construct compare to concrete roads. The load carrying capacity of Bituminous is less comparatively. There are potholes appears on bituminous road quickly because of various reasons. One of the major reasons for it is variation in temperature.

In India temperature varies with different time span even high temperature in afternoon and low at night. Concrete roads are fails mainly because of cracks. Cracks appear due same reason as mentioned above. Another problem observed on concrete road is that, we cannot drive our vehicle fast on it. Because when this concrete roads are hot and when we drive our vehicle fast on it the friction is developed in concrete and vehicle's tier which leads failure of tier. So the cracks lead to failure of roads and friction in concrete leads to accidents. So, the problem is temperature changes observed on the road. To, avoid this problem spraying water is best solution on it. The water can be sprayed on water manually or by using different machines. Different machines are fitted in vehicles and spraying of water is done.

II. OBJECTIVES

- To reduce the development of cracks on roads.
- To reuse the treated water from the Sewage Treatment Plant
- To increase the durability of the road.
- To decrease the dust nuisance from road surface.
- To reduce the air pollution which contain particulate matter 2.5.
- To decrease the death rate by minimizing the accidents.

III. METHODOLOGY

The methodology is carried out in the following steps:

- Selection of site
- Determining the stretch going to be designed

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- Allocating location for central main pipe
- Design of discharge required
- Design of central main pipe
- Design of sprinklers

IV. Figures and TABLES

LIST OF HEALTH EFFECTS OF ROAD DUST BASE ON STUDY:

SR.NO.	Organ system	Disease	Frequency
1.	Respiratory	Chronic obstructive pulmonary disease	1
2.	Respiratory	Asthma	6
3.	Respiratory	Fungal infection	1
4.	Respiratory	Deposition in the respiratory tract	4
5.	Respiratory	Allergy	1
6.	Respiratory	Carcinoma	5
7.	Cardiovascular	Emergency cardiovascular disease issues	2
8.	Cardiovascular	Increased mortality due to cardiovascular disease	3
9.	Other	Low birth weight	1
10.	Other	Non-specific carcinoma	7

V. Conclusion

- It reduce the vehicle maintenance by remove the dust and junk which affect the lower part of vehicles.
- It maintain the pavement temperature, which is the cause of pavement cracking .
- It remove the toxic and waste material from road.
- It also help to make Indian clean and follow the SWACHA BHARAT ABHIYAN
- It reduce the average rate of accidents by road wastage.

Based on above study and experiment we can say that the Automatic Cleaning and Treatment of road pavement process is capable to reduce the road cracking effect and it also helpful to clean the Roads, Highways which is the beauty of India and all substances which gives a harmful effect on environment and also human health ,we can easily remove from the road surface and dumped safely and Automatic water wash and dry system gives a broad impact of cleaning and maintenance process of roads.

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