



ಕರ್ನಾಟಕ ರಾಜ್ಯ ಮಾಲಿನ್ಯ ನಿಯಂತ್ರಣ ಮಂಡಳಿ
Karnataka State Pollution Control Board

“ಪರಿಸರ ಭವನ”, 1 ರಿಂದ 5ನೇ ಮಹಡಿಗಳು, ನಂ. 49, ಚರ್ಚ್ ಸ್ಟ್ರೀಟ್, ಬೆಂಗಳೂರು - 560 001, ಕರ್ನಾಟಕ, ಭಾರತ
“Parisara Bhavana”, 1st to 5th Floor, # 49, Church Street, Bengaluru - 560 001, Karnataka, INDIA

No.PCB/WMC/PWM/201-22/ 266

Date: 03 DEC 2021

Sub: Direction Under Section 5 of Environment (Protection) Act, 1986 for use of plastic Waste in Bituminous mixes in road Construction.

- Ref :** 1. Plastic Waste Management Rules, 2016.
2. Ministry of Road Transport & Highways, GOI Letter Dated. 9.11.2015.
3. IRC's Guidelines for the use of Waste Plastic in Hot Bituminous Mixes (Dry Process)

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WHEREAS, safe disposal of waste plastic is a serious environmental problem. Being a non-biodegradable material, it does not decay over time and even if dumped in landfills, finds its way back in the environment through air and water erosion, can choke the drains and drainage channels, can be consumed by unsuspecting grazing animals causing them illness & death and even it can squeeze into the food chain system, can contaminate the construction fill, etc. The ideal way of disposal of waste plastic is its recycling to the maximum extent and many developed countries are recycling the waste plastics to manufacture various products, including some used in heavy construction, e.g., railway sleepers, road buildings, pavement blocks etc.,

WHEREAS, the Studies have revealed that waste plastics have great potential for use in bituminous construction as its addition in small doses, about 5-10%, by weight of bitumen helps in substantially improving the Marshall stability, strength, fatigue life and other desirable properties of bituminous mix, leading to improved longevity and pavement performance. The use of waste plastic thus contributes to construction of green roads.

WHEREAS, the Karnataka State Pollution Control Board is making continuous effort for scientific disposal of waste plastics in terms of disposing the same in Cement Plants, for effective recycling processes etc., one such scientific disposal is also using them in road building.

WHEREAS, the Ministry of Environment, Forest and Climate Change has notified Plastic Waste Management Rules, 2016 vide notification dated 18.3.2016.

WHEREAS, the Rule 5 (1) (b) of the Plastic Waste Management Rules, 2016 states that “ local bodies shall encourage the use of plastic waste (preferably the plastic waste which cannot be further recycled) for road construction as per Indian Road Congress Guidelines or energy recovery or waste to oil etc.,

WHEREAS, the Indian Road Congress (IRC) has published IRC: SP: 98-2013 ***“Guidelines for the use of Waste Plastic in Hot Bituminous Mixes (Dry Process) in wearing coats”*** in 2013 wherein they have specified that 6-8 % by weight of bitumen quantity of waste plastic can be considered depending on low rainfall or high rainfall areas.

WHEREAS further, the Ministry of Road Transport & Highways, Govt. of India in it Circular No. RW-NH-33044/24/2015-S&R (R) Dated. 9.11.2015 stated as follows;

- ***Bituminous mix with waste plastic shall be the default mode for periodic renewal with hot mixes within 50 kms periphery of urban area having population more than 5 lakhs. Any relaxation on ground of non-availability of waste plastic, cost etc shall involve approval of the Ministry.***
- ***All the agencies responsible for preparation of project reports/estimates for the National Highways and Centrally sponsored works are expected to analyse and clearly bring out reasons of inclusion or otherwise of provisions of use of waste plastic in wearing coats in the proposal.***

NOW THEREFORE in view of the above, the Board under Section 5 of Environment (Protection) Act, 1986 hereby issues the following directions to Urban Development Department, Directorate of Municipal Administration, all Local Bodies, National Highways Authorities, State Highways Authorities to comply with the following;

- To direct all agencies coming under Urban Development Department to mandatorily use waste plastics in road construction as per Indian Road Congress (IRC) published guidelines i.e IRC: SP: 98-2013 ***“Guidelines for the use of Waste Plastic in Hot Bituminous Mixes (Dry Process) in wearing coats”***.
- To direct all the concerned coming under Bruhath Bengaluru Mahanagara Palike (BBMP) to mandatorily use waste plastics in road construction as per Indian Road Congress (IRC) published guidelines i.e IRC: SP: 98-2013 ***“Guidelines for the use of Waste Plastic in Hot Bituminous Mixes (Dry Process) in wearing coats”***.
- To direct all Local Bodies coming under Directorate of Municipal Administration to mandatorily use waste plastics in road construction as per the Indian Road Congress (IRC) published guidelines i.e IRC: SP: 98-2013 ***“Guidelines for the use of Waste Plastic in Hot Bituminous Mixes (Dry Process) in wearing coats”***.
- To direct National Highway Authority to mandatorily use waste plastics in road construction as per Indian Road Congress (IRC) published guidelines i.e IRC: SP: 98-2013 ***“Guidelines for the use of Waste Plastic in Hot Bituminous Mixes (Dry Process) in wearing coats”***.
- To direct State Highway Authority to mandatorily use waste plastics in road construction as per Indian Road Congress (IRC) published guidelines i.e IRC: SP: 98-2013 ***“Guidelines for the use of Waste Plastic in Hot Bituminous Mixes (Dry Process) in wearing coats”***.

- To direct Karnataka State Highways Improvement Project (KSHIP) to mandatorily use waste plastics in road construction as per Indian Road Congress (IRC) published guidelines i.e IRC: SP: 98-2013 ***“Guidelines for the use of Waste Plastic in Hot Bituminous Mixes (Dry Process) in wearing coats”***.
- To direct Karnataka Rural Infrastructure Development Limited (KRIDL) to mandatorily use waste plastics in road construction as per Indian Road Congress (IRC) published guidelines i.e IRC: SP: 98-2013 ***“Guidelines for the use of Waste Plastic in Hot Bituminous Mixes (Dry Process) in wearing coats”***.
- To direct Karnataka Public Works Department (KPWD) to mandatorily use waste plastics in road construction as per Indian Road Congress (IRC) published guidelines i.e IRC: SP: 98-2013 ***“Guidelines for the use of Waste Plastic in Hot Bituminous Mixes (Dry Process) in wearing coats”***.


CHAIRMAN

Karnataka State Pollution Control Board
Bengaluru

To

1. Additional Chief Secretary, Urban Development Department, Bengaluru for information and to direct all the concerned authorities/agencies coming under your jurisdiction for implementation of the above direction.
2. Additional Chief Secretary, Department of Forest, Ecology and Environment, Bengaluru for information.
3. Chief Commissioner, Bruhath Bengaluru Mahanagara Palike, Bengaluru for information and to direct all the concerned coming under your jurisdiction for implementation of the above direction.
4. Commissioner, Bengaluru Development Authority, Kumara Park, 5th Main Road, Bengaluru for information and to direct all the concerned coming under your jurisdiction for implementation of the above direction.
5. Director, Directorate of Municipal Administration, Dr Ambedkar Road, 9th & 10th Floor, Visveswaraya Tower, Sampangi Rama Nagar, Bengaluru, Karnataka – 560 001.
6. Secretary, Karnataka Public Works Department, M S Building, Bengaluru for information and to direct all the concerned coming under your jurisdiction for implementation of the above direction and to incorporate the item in the Schedule of Rates.
7. Managing Director, Karnataka State Highways Improvement Project (KSHIP), Bengaluru for information and to direct all the concerned coming under your jurisdiction for implementation of the above direction.
8. Managing Director, Karnataka Rural Infrastructure Development Limited (KRIDL), Bengaluru for information and to direct all the concerned coming under your jurisdiction for implementation of the above direction.

9. Chief Engineer, National Highway Authority of India, Regional office, Bengaluru for information and to direct all the concerned coming under your jurisdiction for implementation of the above direction.
10. Chief Engineer, State Highways Authorities, Bengaluru for information and to direct all the concerned coming under your jurisdiction for implementation of the above direction.
11. Member Secretary, Karnataka State Pollution Control Board, Church Street, Bengaluru for information and to pursue the matter with related Government Departments.
12. Office Copy.