

No. RW/NH-33044/10/2000-S&R

Dated, the 22nd May, 2000

To

The Chief Engineers of all States/Union Territories (dealing with National Highways); Chairman, National Highways Authority of India; Director General Border Roads

Subject : Use of roughness measurements as an aid to more effective monitoring of road construction and maintenance operation

Kind attention is invited to Ministry's letter Nos. RW/NH-III/P/10/84 dated 3rd April, 1984, 19th May, 1984, 25th July, 1984 and 14th January, 1985 on the subject cited above wherein instructions regarding the use of roughometer (also known as bump integrator) have been issued for achieving effective monitoring and greater accountability in road construction and maintenance National Highway system. As you are aware, considerable lengths of National Highways are being improved in various States under different programmes, such as, periodical renewals, improvement of riding quality programme and strengthening of existing carriageway as well as construction of new carriageway under 4-laning programmes. It may be appreciated that the periodical measurements of the roughness of the road after completion of any improvement work would be an important indicator of the quality of the works being executed and also for prioritising of the renewal/strengthening programmes to be taken-up in future. The roughness values for roads in mm/km for different surface types circulated in letter dated 25th July, 1984 are reproduced below for guidance.

RECOMMENDED ROUGHNESS VALUES FOR ROADS IN INDIA

(IN MM/KM)

(Towed Fifth Wheel Bump Integrator)

Road condition

Surface type	Good	Average	Poor	Very poor
Bituminous concrete/SDBC	2000-2500	2500-3500	3500-4000	Over 4000
Premix bituminous carpet/MSS	2500-4500	4500-5500	5500-6500	Over 6500
Surface dressing	4000-5000	5000-6500	6500-7500	Over 7500

It is, therefore, requested that arrangement for regular measurement roughness on National Highway network in your charge may kindly be put in place immediately. The roughness measurements shall be an input for considering any improvement proposal for approval in the Ministry. Henceforth, roughness measurement shall be taken immediately after completion of each of improvement/periodical renewal work preferably within a month's time and on entire National Highway network in your State twice a year (in June and December). The report on roughness may be sent regularly to Ministry's Project Chief Engineers and ROs/ELOs. A format for reporting is suggested below :

NH No.	Section	Reach	Roughness Value (mm/km)	Period of measurement	Remarks (with job No.)
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3. It is requested that prompt measures may be taken to follow the relevant guidelines with necessary instructions issued to all field officers dealing with National Highways.