



No. RW/NH-35075/1/2010- S&R (R)

Dated: 6<sup>th</sup> August, 2014

OFFICE MEMORANDUM

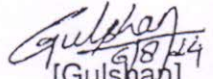
**Subject: Use of emerging new materials and techniques in construction of National Highways.**

In continuation of SR&T (Roads) Zone's OM of even number dated 08.10.2013, the minutes of the meeting of Coordination Committee dated 22<sup>nd</sup> May, 2014 in respect of newly accredited materials/ techniques such as Instant road repair cold mix compound – INSSTAPATTCH, Anti stripping additive (Zycosoil) & water proofing compounds – Terrasil, Terraprime and IPPL SS –IX - Soil Stabilizer, containing merits and demerits were circulated to all project zones vide SR&T (Roads) Zone letter of even number dated 30<sup>th</sup> May, 2014 with the request to incorporate and utilize considering their suitability in different States on trial basis. The list of new accredited materials/ techniques, as on date, is as below:

- (i) Geocells,
- (ii) Warm Mix Asphalt Technology,
- (iii) Water Proofing Membranes,
- (iv) Non-woven, Woven Geotextiles & Techglass,
- (v) Jarofix,
- (vi) Thiopave – Asphalt Modifier,
- (vii) Infrared Recycling Pothole Repair System,
- (viii) Water proofing for Bridge decks and pavements,
- (ix) Copper Slag,
- (x) Processed Steel Slag Aggregates,
- (xi) RoadstaB Technology,
- (xii) Evercrete Deep Penetrating Sealer,
- (xiii) RBI Grade-81,
- (xiv) Tenax 3D Grids and
- (xv) Roadcem
- (xvi) Instant road repair cold mix compound - INSSTAPATTCH
- (xvii) Anti stripping additive (Zycosoil) and water proofing compounds – Terrasil, Terraprime
- (xviii) IPPL SS –IX - Soil Stabilizer

2. It is requested that the status of utilization of the new materials/ techniques along with performance feedback, if any, may be provided to SR&T (Roads) Zone for necessary action. The specific use and suitability of the new materials/ techniques is enclosed at Annex-I.

Enclosure: Annex-I

  
[Gulshan]  
Assistant Executive Engineer (R) (S, R&T)  
For Director General (Road Development) & SS

Contd. on P-2/-

1-T  
Upload on  
AIE  
23.11.18

To:

1. CE (P-1)/ CE (P-2)/ CE (P-3)/ CE (P-4)/ CE (P-5)/ CE (P-6)/ CE (P-7)/ CE (NHDP-IV)/ CE (NE)/ CE (EAP)/ CE (LWE)
2. Sr. Tech. Director (NIC) – For uploading on Ministry's website under "Roads & Highways → Circulars/ Notices on National Highways" and "What's New".

Copy for kind information to:

1. PPS to DG (Roads)
2. PPS to ADG-I/ PPS to ADG-II/ PPS to ADG-III

List of new materials/ technologies with their use and benefits on National Highways

S. No.	Name of the New material / Technology	General use and Benefits	Suitability
1.	Geocells	StrataWeb® is a 3D cellular confinement system which confines the infill material and improves the load bearing capacity of the base.	Over weak soils – expansive soils, clays and soils with low CBR values
2.	Warm Mix Asphalt Technology	Allows mix production at about 30°C lower temperatures than conventional hot mix, thus imparting performance benefits, constructability advantages and environmental benefits as well.	For bituminous works.
3.	Water Proofing Membrane	Super Thermolay APP PI/MT Membranes are ideal for a wide range of water proofing applications including roofs, reservoirs, basements, basement roof, sunken slabs, tunnels, terrace garden and car parking. Advantages: (i) Total impermeability (ii) Excellent resistance to ageing and weathering. (iii) Outstanding bond-ability and seam integrity. (iv) Stability at high temperatures	To prevent the intrusion of corrosive substance into the concrete, which will result in deterioration of the structures, leading to spalling of concrete
4 (i).	Woven geotextiles	Filtration / Separation and Soil Stabilization	It can be used between granular sub-base / base course and the sub-grade.
4 (ii).	Non-Woven geotextiles	Filtration / Separation, Paving fabrics / Slope protection	It can be used in side drainage for its functions.
4 (iii).	Techglass	Rehabilitation & Preservation of Pavements	Used to reduce the development of reflection cracks.
5.	Jarofix	It is at par with conventional material and also the material is on OMC.	In embankment and sub-grade construction.
6.	Shell Thiopave	In cold and seasonal climates where thermal cracking is an issue, Shell Thiopave allows the use of softer bitumen with improved low temperature properties without sacrificing high temperature properties. In hot climates, where conventional bitumen often do not deliver the high level of stiffness required, Shell Thiopave improves anti-rutting performance while still allowing the effective use of locally available bitumen.	For bituminous works
7.	Nu-phalt Infrared Recycling Pothole Repair System	(i) It rejuvenates the existing asphalt, thereby, saving on material and making the process eco-friendly. (iii) This system allows the surface to be heated to about 150 to 160 °C without damaging, destroying or burning the existing asphalt.	Suitable for potholes, failed joints, cracked and undulated road surface.

