



Introduction to Microsurfacing

MICROSURFACING IN-DEPTH

PROCESS

It is an eco-friendly laboratory designed mixture of Polymer modified emulsion, aggregates, mineral filler, water and other additives accurately proportioned, mixed and uniformly spread over a properly prepared surface

TYPES

Available as Type II (4 to 6 mm thick) and Type III (6 to 8 mm thick).

USES

Can be used both for Preventive Maintenance (to prevent surface distresses on good pavement) and Corrective Maintenance (to correct surface distresses like rutting on older pavement)

APPROVALS

- IRC: SP: 81-2008 : Tentative Specifications for Slurry Seal & Microsurfacing.
- Ministry of Road Transport & Highways (MoRTH – Fifth Edition (2013), Clause – 514)
- IRC:SP:100-2014 : Use of Cold Mix Technology in Construction of Road & Maintenance by Emulsions.
- MoRTH letter dated 28th Sep. 2016 mandating use of Micro Surfacing for renewal course , maintenance and repair on National Highways

HISTORY

1960's

Developed in Germany in 1970's for Rut filling of Autobahns

1980's

Introduced at International Slurry Surfacing Assn. - ISSA in U.S. by Dr. Raschig as Ralumac system and is now extensively being used worldwide

2000's

Introduced in India in 2000, acceptance was limited as necessary guidelines for Microsurfacing was approved in 2008 vide IRC:SP:81 and final specifications vide SP:100:2014.

ADVANTAGES

- ✓ Quick Application with minimum traffic hold up and traffic opening in max 2 hrs, causes minimum traffic disruption. Night placement is possible.
- ✓ Cost effective as compared to Hot-Mix (BC) and extends life span of the road
- ✓ Rectifies surface defects and Ruts including minor cracks, hungry surface due to ageing & surface oxidation
- ✓ Environment friendly - Non polluting for environment since no heating or hot paving required
- ✓ Restores surface structure, slows the age hardening in the original road surface
- ✓ Provides new wearing surface.
- ✓ No compaction required
- ✓ Seals the surface and prevents ingress of water
- ✓ Does not increase pavement height significantly (Road furniture, drainage is not disturbed)
- ✓ Saving of Natural resources

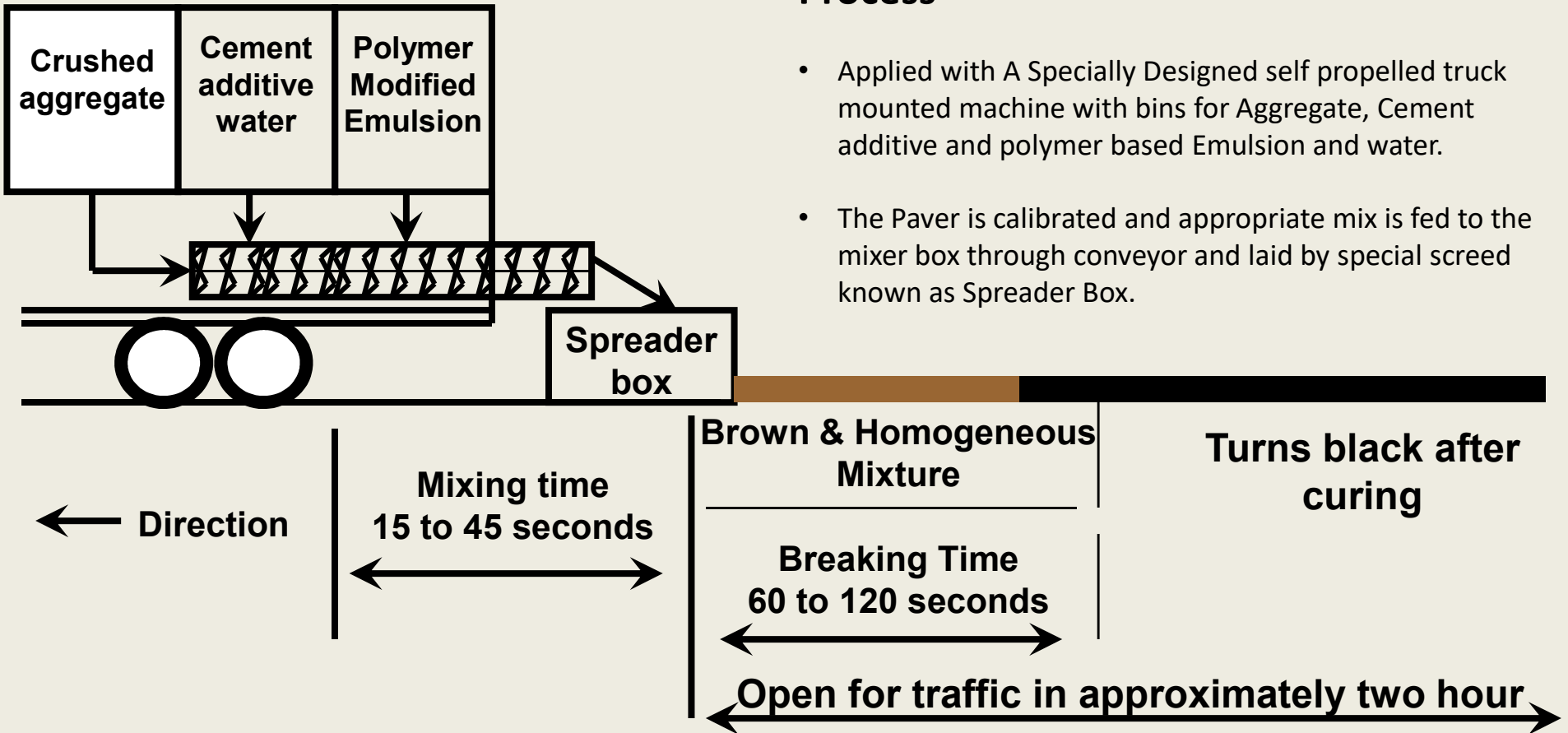
MICROSURFACING MIX DESIGN

Particulars	Type II 4 – 6 mm	Type III 6 – 8 mm
Premium Quality Aggregate	8.4 to 10.8 kg per sqm	11.1 to 16.3 kg per sqm
Binder (Polymer Modified Emulsion)	13 – 15% by weight of aggregate	10 – 15% by weight of aggregate
Additive	Up to 2% by wt of aggregate	Up to 2% by wt of aggregate
Cement/Filler	0.5 – 2.0% by weight of aggregate	0.5 – 2.0% by weight of aggregate
Water	13 – 15% by weight of aggregate	10-15 % by weight of aggregate

APPLICATION METHODOLOGY

Prerequisite:

- Clean surface to ensure its free of dust and soil etc.
- Fill pot holes, cracks and Ruts.



Process

- Applied with A Specially Designed self propelled truck mounted machine with bins for Aggregate, Cement additive and polymer based Emulsion and water.
- The Paver is calibrated and appropriate mix is fed to the mixer box through conveyor and laid by special screed known as Spreader Box.

POST - APPLICATION



Ongoing Project - Mahua-Jaipur Section Of NH-21 (Earlier NH-11) from Km 120.012 to 174.741 (MS-1) in the State of Rajasthan



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