
TIKIDAN
Building together
NEW, PROVEN AND GREEN TECHNOLOGY
IN CONSTRUCTION OF GOOD, SUSTAINABLE, RURAL ROADS AT ECONOMICAL COST

Our Company

- Tiki Tar Industries (India) and Danosa (Spain) JV
- Wide Global Presence
- Network of Partners across Globe

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STRESEAL

Stress Absorbing Interlayer System

(IN LIEU OF SAM/SAMI/GEO COMPOSITE)

Crack Mitigation and Base Saturation Protection

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LIMITATIONS

with

Using Conventional Asphalt Inter-layer

Systems

VIZ. namely Sand Asphalts, Geo Grids, Geo Textiles,
Steel Reinforcements, SAM and SAMIs

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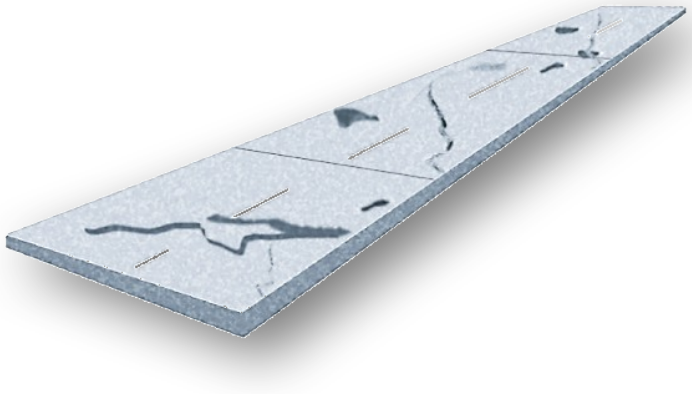
REFLECTIVE CRACKING



Reflective Cracking is aggravated by:

- Traffic induced shearing stresses.
- Water intrusion.
- Thermally induced expansion and contraction stresses or their combinations.
- Crack are formed and get propagated over the surface

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LIMITATIONS

- Formation of air pockets.
- Laying practice of paving fabric.
- Poor/improper bond development of paving fabrics.
- Poor seal at edges / joints.
- Non – uniform wetting of paving fabrics.
- Paving fabrics do not confer waterproofing properties to surface.
- Paving fabrics requires tack coat.

High Tacky Dried / Low Tacky

Non-Uniform Wetting of Paving Fabrics

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Extended effective lifetime of the Pavement.

- Reinforce the bound layers in order to increase the load-bearing capacity
- Insert a Waterproof and Watertight layer which prevents water seepage.

The Solution for Crack Mitigation and Base Saturation Protection is to Use

TIKIDAN STRESEAL

as Stress Absorbing Pad Interlayer System.

Preventive Maintenance and Pavement Preservation is the Need of The Hour.

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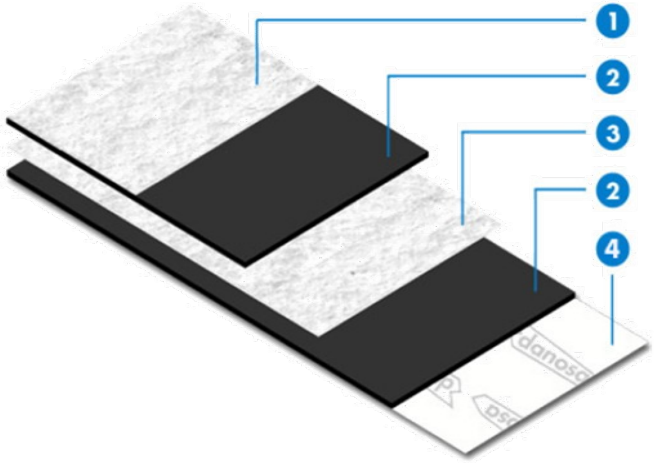
STRESEAL PRODUCT COMPOSITION

“STRESEAL” is 5 layer engineered advanced polymeric composite paving membrane.



1. Top side laminated into a tough geo-textile.
2. Sandwiched between select modified bitumen on both sides
3. A heavy armour of hybrid reinforcement at core.
4. Finished on bottom side with HMHDPE film

- Pad is machine compacted to 4 mm thickness and delivered in 1m x 10m rolls.
- A selvedge is provided on one side of the pad to give a bitumen to bitumen contact on the overlaps.

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STRESEAL EMPANELMENT - MORT&H

GOVERNMENT OF INDIA
MINISTRY OF ROAD TRANSPORT & HIGHWAYS
(AN ISO 9001:2008 CERTIFIED MINISTRY)
SR&T (R) ZONE

IAHE Campus
A-5, Sector 62
Noida - 201301

F. No. RW/NH-35075/01/2010/S&R(R) Date: 21st December, 2016

OFFICE MEMORANDUM

Subject: Minutes of the meeting of the Coordination Committee on new materials/new technology for use in construction of National Highways held on 09.09.2016, 22-09-2016 and 10.11.2016.

Please find enclosed herewith the Minutes of the meeting of the Coordination Committee on new materials/new technology for use in construction of National Highways held on 09.09.2016, 22-09-2016 and 10.11.2016 for kind information please.

Encl. : As stated above.

(Manoj Kumar)
Executive Engineer (S, R&T) (Roads)
For Director General (Road Development) & SS

To

A. All the members of the Committee

1. Coordinator-I
2. CE, SR&T(R)
3. CE (Projects) – Sh. A. K. Nagpal, CE (NHDP-IV)
4. SE, SR&T(B) – Sh. S. K. Nirmal
5. Secretary General, Indian Roads Congress
6. SE, SR&T(R)

B. Copy for kind information to: PPS to DG (RD) & SS
C. Copy to All promoters of New Material/ New Technologies
D. NIC- with the request to upload on Ministry's website.

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Minutes of Meeting of Coordination Committee to select New Materials/New Technologies for use on National Highways held on 9th September, 2016, 22nd September, 2016 and 10th November, 2016

Three meetings of the Coordination Committee to select New Materials/New Technologies for use on National Highways were held 9th September, 2016, 22nd September, 2016 and 10th November, 2016. The list of the participants of the meetings is at **Annexure-I.**

In all 19 proposals were received from 12 promoters out which three did not attend. The promoters of New Materials/New Technologies made a presentation about their products/technologies before the committee. The details of the decisions taken by the Committee after deliberations are at **Annexure-II.**

(Dr. Sanjay Wakchaure)
Superintending Engineer, SR&T (R)
Member Secretary

Shri S. K. Nirmal
Superintending Engineer, SR&T)(B)
(Member)

Shri A. K. Nagpal
Chief Engineer, (NHDP-IV)
(Member)

Shri S. S. Nahar
Secretary General, (IRC)
(Member)

Dr. Sunil Kumar Verma
Chief Engineer, SR&T(R)
(Member)

Shri R. K. Singh
Coordinator-I
(Chairman)

सड़क परिवहन और राजमार्ग मंत्रालय
MINISTRY OF ROAD TRANSPORT & HIGHWAYS
भारत सरकार
Government of India

सत्यमेव जयते

Annexure-II

New Materials & Techniques

MOM Dated 9th September, 2016, 22nd September, 2016 and 10th November, 2016

Sl. No.	Name of the provider	New Materials & Techniques	Remarks
1	Tiki Tar Group		
2		**STRESEAL** It is a polymeric composite pad to be used on DBM/concrete surfaces for absorbing stress and hence preventing reflective cracks	Already in specification. IRC accredited. Feedback relating to cost effectiveness to be submitted by promoter for further consideration.

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STRESEAL ACCREDITATION - IRC

Awarded

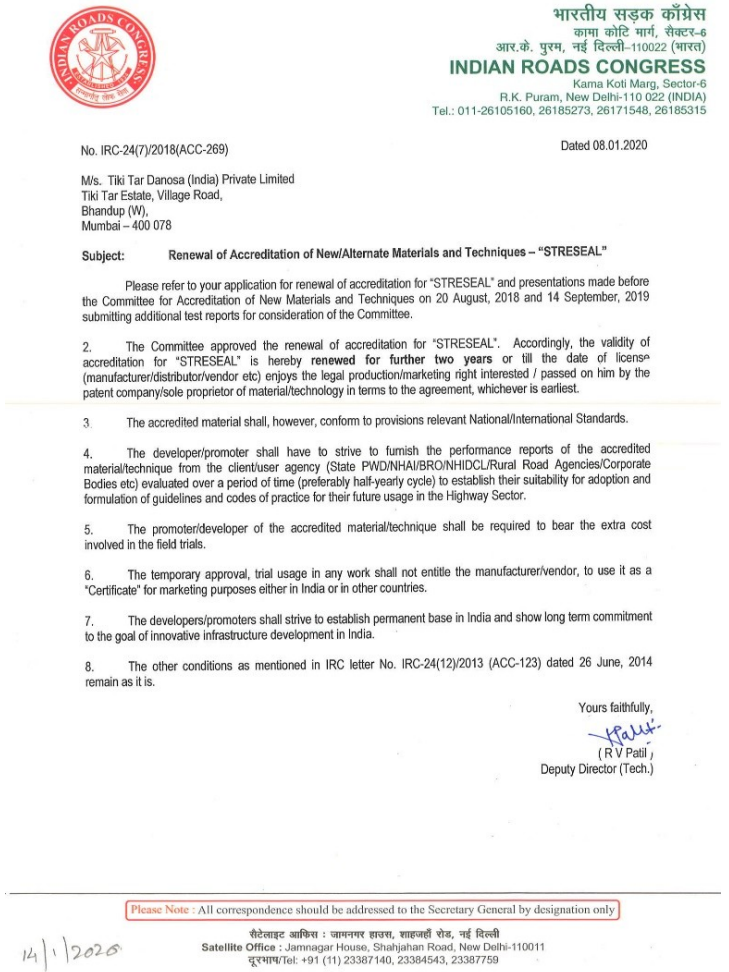
1st Accreditation in June, 2014

2nd Accreditation in June, 2016

3rd Accreditation in June, 2020

by

The Indian Roads Congress



भारतीय सड़क काँग्रेस
कामा कोटि मार्ग, सैक्टर-6
आर.के. पुरम, नई दिल्ली-110022 (भारत)
INDIAN ROADS CONGRESS
Kama Koti Marg, Sector-6
R.K. Puram, New Delhi-110 022 (INDIA)
Tel.: 011-26105160, 26185273, 26171548, 26185315

No. IRC-24(7)/2018(ACC-269) Dated 08.01.2020

M/s. Tiki Tar Danosa (India) Private Limited
Tiki Tar Estate, Village Road,
Bhandup (W),
Mumbai – 400 078

Subject: **Renewal of Accreditation of New/Alternate Materials and Techniques – "STRESEAL"**

Please refer to your application for renewal of accreditation for "STRESEAL" and presentations made before the Committee for Accreditation of New Materials and Techniques on 20 August, 2018 and 14 September, 2019 submitting additional test reports for consideration of the Committee.

2. The Committee approved the renewal of accreditation for "STRESEAL". Accordingly, the validity of accreditation for "STRESEAL" is hereby **renewed for further two years** or till the date of licensee (manufacturer/distributor/vendor etc) enjoys the legal production/marketing right interested / passed on him by the patent company/sole proprietor of material/technology in terms to the agreement, whichever is earliest.

3. The accredited material shall, however, conform to provisions relevant National/International Standards.

4. The developer/promoter shall have to strive to furnish the performance reports of the accredited material/technique from the client/user agency (State PWD/NHAI/BRO/NHIDCL/Rural Road Agencies/Corporate Bodies etc) evaluated over a period of time (preferably half-yearly cycle) to establish their suitability for adoption and formulation of guidelines and codes of practice for their future usage in the Highway Sector.

5. The promoter/developer of the accredited material/technique shall be required to bear the extra cost involved in the field trials.

6. The temporary approval, trial usage in any work shall not entitle the manufacturer/vendor, to use it as a "Certificate" for marketing purposes either in India or in other countries.

7. The developers/promoters shall strive to establish permanent base in India and show long term commitment to the goal of innovative infrastructure development in India.

8. The other conditions as mentioned in IRC letter No. IRC-24(12)/2013 (ACC-123) dated 26 June, 2014 remain as it is.

Yours faithfully,

(R V Patil)
Deputy Director (Tech.)

Please Note : All correspondence should be addressed to the Secretary General by designation only

14/1/2020

सैटेलाइट आफिस : जामनगर हाउस, शाहजहाँ रोड, नई दिल्ली
Satellite Office : Jamnagar House, Shahjahan Road, New Delhi-110011
दूरभाष/Tel: +91 (11) 23387140, 23384543, 23387759

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STRESEAL TECHNICAL PARAMETERS

Properties	Values	Test Standard
Nominal Thickness	4mm	ASTM D 5147
Top Surfacing	Polyester Geo - Textile	----------
Penetration @ 25°C^	<20 dmm	ASTM D 5
Softening Point °C	>150°C	ASTM D 36
Tensile Strength (N/5cm) Longitudinal Transversal	 >800 >600	ASTM D 5147
Elongation at Break Longitudinal Transversal	 >40 % >40 %	ASTM D 5147
Water Absorption	<0.35%	ASTM D 5147
Flexibility at Low Temperature (No Cracks)	Up to 0°C	ASTM D 5147
Dimensional Stability (L/T)	≤0.5%	ASTM D 5147
High Temperature Flow Resistance at	No Dripping	ASTM D 5147

NABL Approved Laboratory.

UTM
(Tensile Strength and Tear Strength Testing)

Automatic Penetrometer
(Penetration Test)

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STRESEAL APPLICATION

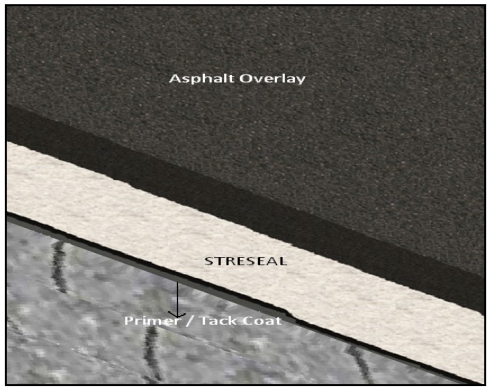
- Surface Preparation:

The Pavement should be structurally sound, free from loose particles & dust. Cracks above 10 mm should be treated and filled using conventional methods. Rough, uneven surface profile and potholes shall be treated and repaired. A regulating course should be used if found necessary by engineer-in-charge.

Surface Cleaning

Prime Coat

Laying STRESEAL



Constructing Asphalt Overlay

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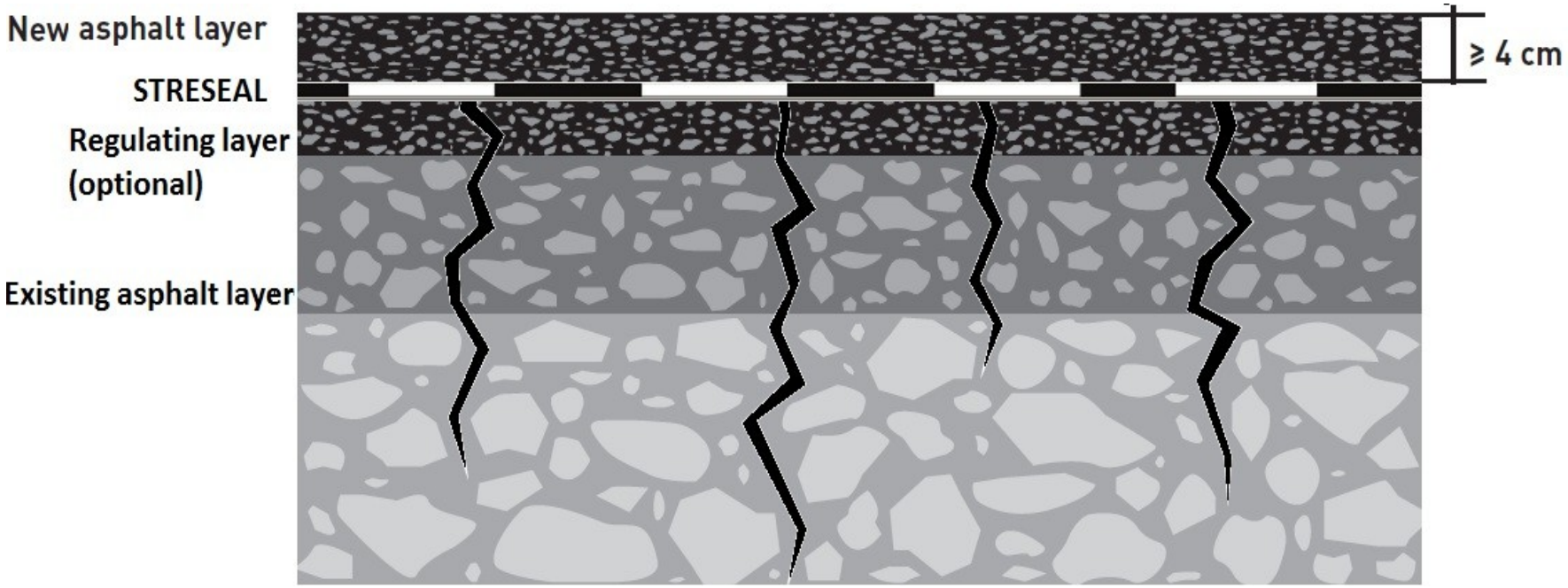
STRESEAL
Resurfacing of Asphalt Pavement



STRESEAL resists horizontal tensile forces and effectively retard propagation of reflective cracks from the existing base into the new asphalt layers.

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How STRESEAL scores over other methods.

1) Crack Building Ability
2) Retards Reflective Cracking
3) User Friendly Application Process
4) No Pollution hazards
5) Enhanced Stress Absorbing Capacity
6) Easier Application at Remote Sites
7) Reduced Execution Time / Money Saving
   (Day Lost – Lots of Worry; Day Gained – Lots of Money)

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STRESEAL - REFERENCES

4 Laning of Jammu - Udhampur Section,
NH-1A (AFCONS)

2nd Vivekanand (Bally) Bridge, Kolkata (TENSA INDIA)

L.A.V. Madrid - Toledo

L.A.V. Madrid - Barcelona

International References

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FINDINGS AND INTERIM CONCLUSIONS (FAQ)

1. Can 4 mm STRESEAL replace conventional SAM / SAMI equivalent Techniques?

Positively, Yes !

As the name suggests, STRESEAL is specially designed and structured to withstand greater Stress and Strain than Conventional SAM / SAMI equivalent Techniques. It is a total system, ready-to-lay. STRESEAL installation is guaranteed to perform in the most demanding conditions.

2. Can STRESEAL sustain the flow and compactness of AC / BC ?

Of-course, Yes !

AC / BC will form a monolithic surface when placed on STRESEAL at a temperature of 150^{o} to 170^{o}C temperature and compacted. The high softening nature of modified bitumen in the system, together with the fusion of Tough Geotextile will accept the flowing AC / BC and the compaction process. As temperature drop down, a firm monolithic surface is already created.

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