AVS INNO INFRA

“ANT Technology”

The "ANT" technology is a pathbreaking, novel way of constructing and maintaining roads

"Mother Nature knows the best. She creates the most durable assets. We learn from her."

The "ANT" technology

Solution of complex technical tasks/ issues

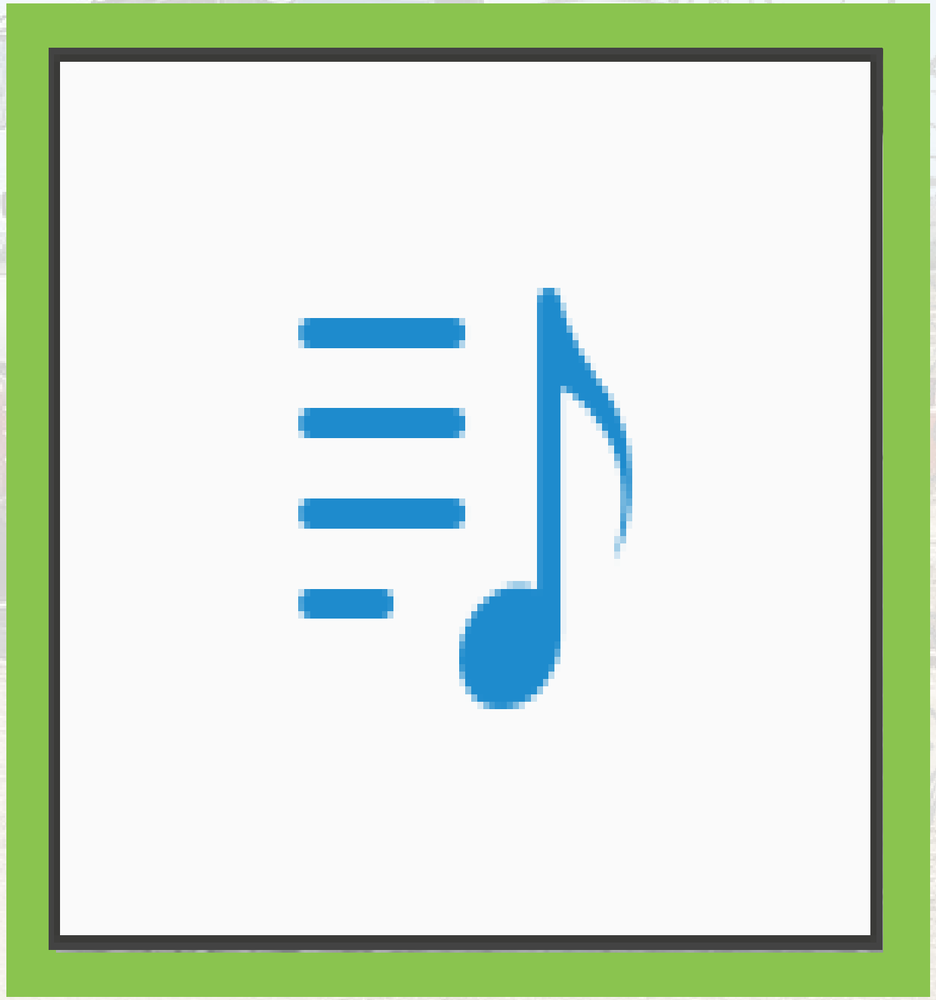
- non-availability of aggregates,
- effective and economical recycling of existing pavement crust material,
- aggressive environmental conditions etc.
- Simplification of all road construction/ maintenance processes
- Minimize construction time and cost
- easy and safe handling by human-being as the 'ANT' products are of natural/organic origin.

We provide: -

- Engineering support for execution of works
- Technical consultancy during laboratory/ site investigations and in interpretations of various site/ test results
- Training of technical personnel at work sites and laboratories

The "ANT" Stone Roads

The "ANT" technology creates monolithic stone slab from a wide variety of materials, such as: stone crushing waste, weak stone materials, various type of soil, mining and metallurgical industry waste.



"ANT" soil stabilizer

- A complex organic product
- Redox reactions with molecular oxygen
- New crystalline bonds

Rules for Using "ANT" Stabilizer

- Qw = Qa x OMC%
- (OMC% factor normally varies from 5% to 12%)
- Qs = Qw x 0.007%
- (the multiplying factor may vary from 0.0035% to 0.01%)
- Qc = Qa x C%
- (C% factor normally varies from 2% to 5%)
- "ANT" Stabilizer is dissolved in water.
- This aqueous solution of "ANT" Stabilizer as well as cement are then mixed with aggregates and soil to produce the mix at OMC
- The mix at OMC is then compacted to the design density

Ecological Safety

- Completely safe for human handling
- No harmful effects on the environment

Versatility

Compatible with a wide spectrum of locally available mineral material

Rapid Construction

Just after compaction of the ANT Stone Road, it can carry the loads of all traffic including freight traffic

Application

- National highways
- State highways
- Other district roads
- Rural roads
- Shipyard/ Harbor roads
- Industrial roads

Geographic spread

Ranging from snow/ frost covered Siberia in the north to simmering hot Indian Sub-Continent in the south

Cost Reduction

The cost of road construction gets drastically reduced due to: -

- use of locally available low-cost mineral materials;
- reduction of thickness of road pavement;
- reduction of volumes of materials to be handled;
- reduction of the time of construction works,

Cost of roads construction generally gets reduced by more than 30% as compared to the conventional

High Strength

- high strength
- high resistance to deformation
- high durability against water saturation and freeze-thaw

More than 5000 Km of 'ANT' Stone Roads

The "ANT" Cold Recycling

The 'ANT' cold recycling of asphalt concrete technology uses RAP (reclaimed asphalt pavement) to construct the bases and sub-bases of roads.

"ANT" Organo-Mineral Mixture Modifier

- A complex organic product
- oxidative reaction with molecular oxygen
- Bitumen gets rejuvenated and regains its binder properties
- New crystalline bonds in virgin aggregate particles

Rules for Using "ANT" Modifier

- Quantity of RAP material (QRAP) is calculated
- Qw = QRAP x OMC%
- (OMC% factor normally varies from 4 to 8%)
- QM = Qw x 0.007%
- (the multiplying factor may vary from 0.005% to 0.01%)
- ·Quantity of cement (Qc) is calculated using the formula
- Qc = QRAP x C%
- (C% factor normally varies from 1% to 2%)
- ·The "ANT" Modifier is dissolved in water.
- This aqueous solution of 'ANT' Modifier as well as cement are then mixed with RAP material to produce the mix at OMC
- The mix at OMC is then compacted to the design density

Ecological Safety

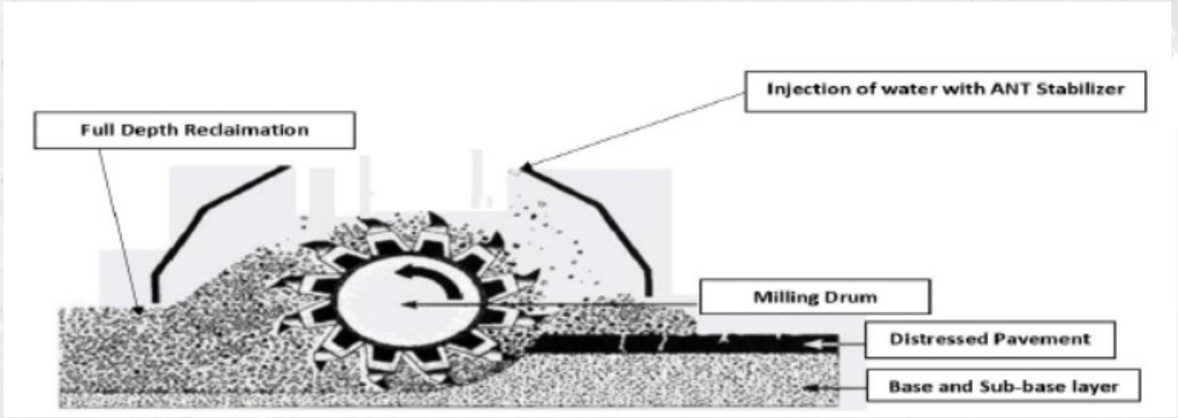
- Completely safe for human handling
- No harmful effects on the environment
- Green tech (100% RAP material reclaimed from existing roads)

Versatility

- Produced directly on the road in a single stage operation using the Recyclers.
- Produced using Mixing Plants without heating) and subsequently laid at site using paver.

Rapid Construction

Just after compaction of RAP based base/ sub-base layer , it can carry the loads of all traffic including freight traffic



Application

- National highways
- State highways
- Other district roads
- Rural roads
- Shipyard/ Harbor roads
- Industrial roads

Geographic spread

Ranging from snow/ frost covered Siberia in the north to simmering hot Indian Sub-Continent in the south

Cost Reduction

The cost of road construction gets drastically reduced due to: -

- drastic reduction in of use of fresh bitumen in RAP;
- reduction in quantity of cement;
- reduction of the time of construction works,

It is estimated that the cost of roads construction generally get reduced by more than 50% as compared to the conventional/ other technologies

Used materials		The amount of used materials, S=8000м², h=0,2 м			
		Cement	Emulsion	Bitumen	The «ANT» modifier
Version 1	**Bitumen emulsion and cement** Composition: RAP – 100% Emulsion- 4% Cement - 2% Water – 3%	73,6 tons	147,2 tons	–	–
Version 2	**Foamed bitumen** Composition: RAP – 100 % Cement – 2 % Bitumen – 2,5 % Water - 5%	73,6 tons	–	92 tons	–
Version ■	**The ANT technology** Composition: RAP – 100% Cement - 2% ANT - 0,007% Water - 5%	**73,6 tons**	–	–	**258 liters**

Completed

1. 2.000 Km Sample Strech in Hunli Anini Section in Arunachal Pradesh,NHIDCL
2. Road Project of 60.585 Km in Wokha- Merapani Section in State of Nagaland, NHIDCL
3. 2.000 Km Rural Development and Panchayat Raj Bangalore Karnataka, PANCHAYAT RAJ

Approved

1. Construction i/c Mbt of a road from Anthiabari to tynghor (L-17.000 Km) Upgradation 2018-19 batach Meghalaya, PMGSY

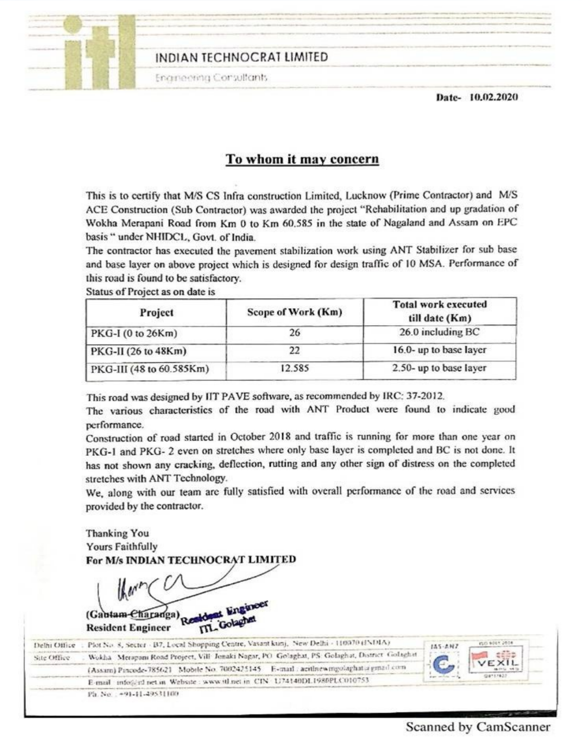
Processed

1. Jharkhand Panchayati Raj Road 130 kms., Jharkhand Panchayati Raj

Ongoing

1. Chhumkhum – Chawngte 12.5 Km (World Bank Funded) Road in the state of Mizoram, MIZORAM PWD
2. Road from Chakarbhata-Bhalapur Road to Bhadarali –Manpur –Palansari Kestara Road (L=2.700 Km),in the State of Chattisgarh, CHHATISGARH PWD
3. Road Banki to Doukidah Road(L=2.125km) in the State of Chattisgarh, CHHATISGARH PWD
4. Road from Basantpur to Bhadi Km 0.000 To Km 5.000 in the State of Chattisgarh, CHHATISGARH PWD
5. U.P (Saharanpur)Smart city road 78 km., UTTAR PRADESH
6. Construction & Maintenance Chooragad to Sutol Kanol Motor Road of 11.6 kms, Uttrakhand PMGSY
7. (C/O Road from BRTF To Langra) length (23 Km Total) Arunachal, Arunachal PMGSY
8. Approximately 75 Km Road under the PMGSY (Uttrakhnad Rural Road Development Authority), URRDA
9. Approximately 45 Km Road under the PMGSY (Jharkhnad Rural Road Development Authority), URRDA
10. Developers Road in Bengluru of 13 kms, Bengluru
11. Bihar PWD Road in Muzzafferpur District of 4 kms, Bihar PWD
12. Construction of Road in Pedong, West Bengal
13. Construction of Road in Reshi, West Bengal
14. Construction of Road in Rongra, Sikkim
15. Construction of Road in Manki, Sikkim
16. Construction of Road in Ranipool, Sikkim
17. Ranbikor to Bhagmara, Meghalaya
18. Nongstain to Wakhajilchaj 12 kms, Meghalaya
19. Panggin to Potin 10 kms in Arunachal Pradesh Package no 8, Arunachal Pradesh
20. Panggin to Potin 10 kms in Arunachal Pradesh Package no 9, Arunachal Pradesh

Performance Certificate



INDIAN TECHNOCRAT LIMITED
Engineering Consultants

Date- 10.02.2020

To whom it may concern

This is to certify that M/S CS Infra construction Limited, Lucknow (Prime Contractor) and M/S ACE Construction (Sub Contractor) was awarded the project "Rehabilitation and up gradation of Wokha Merapani Road from Km 0 to Km 60.585 in the state of Nagaland and Assam on EPC basis " under NHIDCL, Govt. of India.
The contractor has executed the pavement stabilization work using ANT Stabilizer for sub base and base layer on above project which is designed for design traffic of 10 MSA. Performance of this road is found to be satisfactory.
Status of Project as on date is

Project	Scope of Work (Km)	Total work executed till date (Km)
PKG-I (0 to 26Km)	26	26.0 including BC
PKG-II (26 to 48Km)	22	16.0- up to base layer
PKG-III (48 to 60.585Km)	12.585	2.50- up to base layer

This road was designed by IIT PAVE software, as recommended by IRC: 37-2012.
The various characteristics of the road with ANT Product were found to indicate good performance.
Construction of road started in October 2018 and traffic is running for more than one year on PKG-1 and PKG- 2 even on stretches where only base layer is completed and BC is not done. It has not shown any cracking, deflection, rutting and any other sign of distress on the completed stretches with ANT Technology.
We, along with our team are fully satisfied with overall performance of the road and services provided by the contractor.

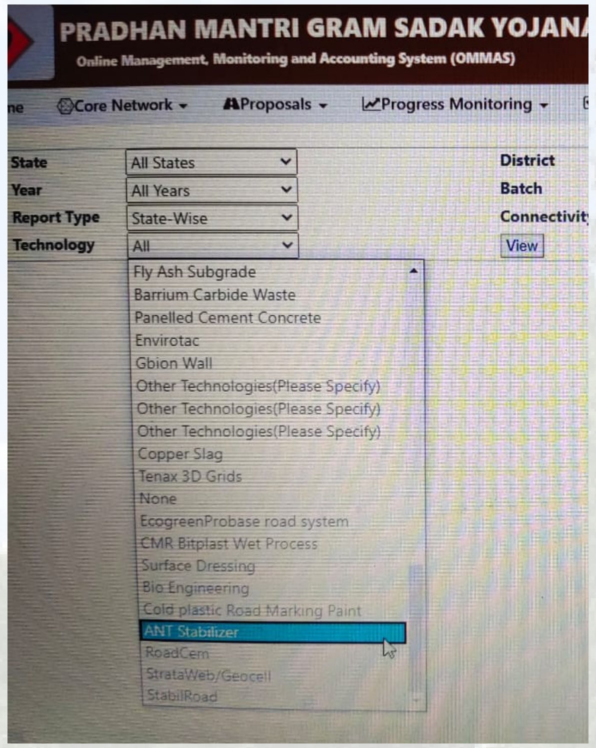
Thanking You
Yours Faithfully
For M/s INDIAN TECHNOCRAT LIMITED

(Gautam Charanga)
Resident Engineer
Resident Engineer ITL Golaghat

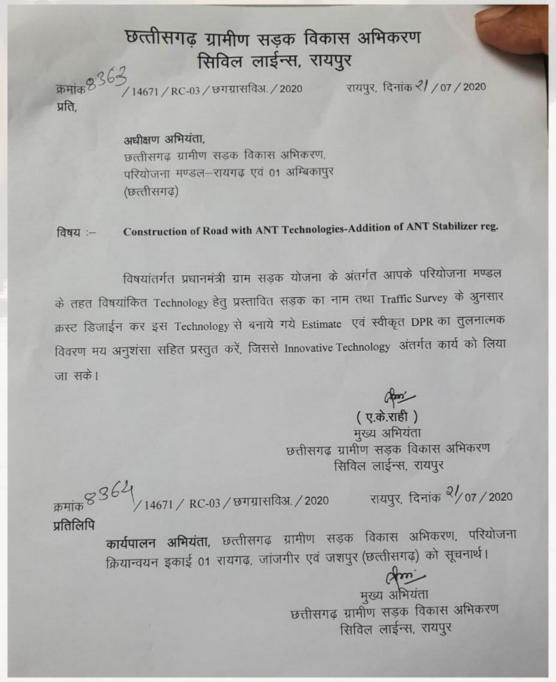
Delhi Office : Plot No. 8, Sector - B7, Local Shopping Centre, Vasant kunj, New Delhi - 110070 (INDIA)
Site Office : Wokha Merapani Road Project, Vill Jonaki Nagar, PO Golaghat, PS Golaghat, District Golaghat (Assam) Pincode-785621 Mobile No. 7002425145 E-mail : acitlnewmgolaghat@gmail.com
E-mail : info@itl.net.in Website : www.itl.net.in CIN : U74140DL1980PLC010753
Ph. No. : +91-11-49531100

Scanned by CamScanner

Approved for PMGSY



Chattisgarh RRDA



छत्तीसगढ़ ग्रामीण सड़क विकास अभिकरण
सिविल लाईन्स, रायपुर

क्रमांक 8363 / 14671 / RC-03 / छगग्रासविअ. / 2020 रायपुर, दिनांक 21 / 07 / 2020

प्रति,

अधीक्षण अभियंता,
छत्तीसगढ़ ग्रामीण सड़क विकास अभिकरण,
परियोजना मण्डल–रायगढ़ एवं 01 अम्बिकापुर
(छत्तीसगढ़)

विषय :– **Construction of Road with ANT Technologies-Addition of ANT Stabilizer reg.**

विषयांतर्गत प्रधानमंत्री ग्राम सड़क योजना के अंतर्गत आपके परियोजना मण्डल के तहत विषयांकित Technology हेतु प्रस्तावित सड़क का नाम तथा Traffic Survey के अनुसार क्रस्ट डिजाईन कर इस Technology से बनाये गये Estimate एवं स्वीकृत DPR का तुलनात्मक विवरण मय अनुशंसा सहित प्रस्तुत करें, जिससे Innovative Technology अंतर्गत कार्य को लिया जा सके।

(ए.के.राही)
मुख्य अभियंता
छत्तीसगढ़ ग्रामीण सड़क विकास अभिकरण
सिविल लाईन्स, रायपुर

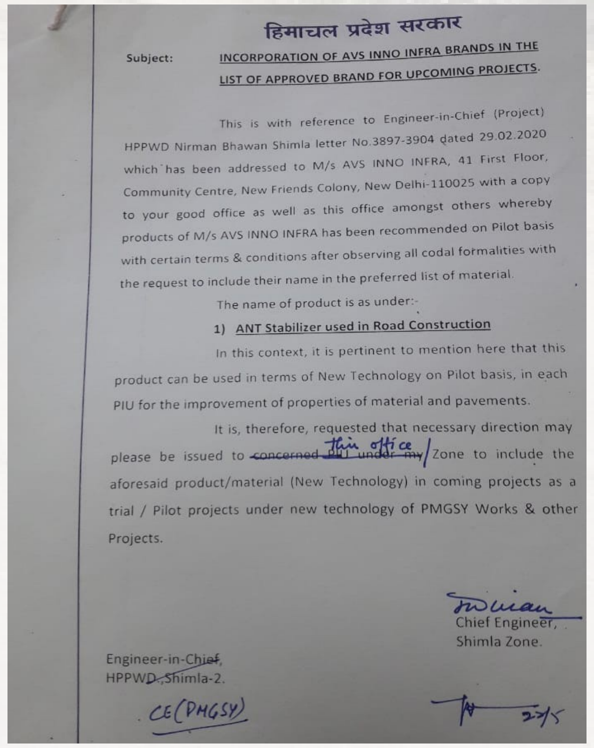
क्रमांक 8364 / 14671 / RC-03 / छगग्रासविअ. / 2020 रायपुर, दिनांक 21 / 07 / 2020

प्रतिलिपि

कार्यपालन अभियंता, छत्तीसगढ़ ग्रामीण सड़क विकास अभिकरण, परियोजना क्रियान्वयन इकाई 01 रायगढ़, जांजगीर एवं जशपुर (छत्तीसगढ़) को सूचनार्थ।

मुख्य अभियंता
छत्तीसगढ़ ग्रामीण सड़क विकास अभिकरण
सिविल लाईन्स, रायपुर

Himachal Pradesh PWD



हिमाचल प्रदेश सरकार

Subject: INCORPORATION OF AVS INNO INFRA BRANDS IN THE LIST OF APPROVED BRAND FOR UPCOMING PROJECTS.

This is with reference to Engineer-in-Chief (Project) HPPWD Nirman Bhawan Shimla letter No.3897-3904 dated 29.02.2020 which has been addressed to M/s AVS INNO INFRA, 41 First Floor, Community Centre, New Friends Colony, New Delhi-110025 with a copy to your good office as well as this office amongst others whereby products of M/s AVS INNO INFRA has been recommended on Pilot basis with certain terms & conditions after observing all codal formalities with the request to include their name in the preferred list of material.

The name of product is as under:-

1) ANT Stabilizer used in Road Construction

In this context, it is pertinent to mention here that this product can be used in terms of New Technology on Pilot basis, in each PIU for the improvement of properties of material and pavements.

It is, therefore, requested that necessary direction may please be issued to ~~concerned PIU under my~~ [this office] Zone to include the aforesaid product/material (New Technology) in coming projects as a trial / Pilot projects under new technology of PMGSY Works & other Projects.

Chief Engineer,
Shimla Zone.

Engineer-in-Chief,
HPPWD, Shimla-2.

CE(PMGSY)

IRC Accreditation Letter

कामा कोटि मार्ग, सेक्टर–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
E-mail: secygen.irc@gov.in

YEARS OF CELEBRATING THE MAHATMA

No. IRC-24(7)/2018(ACC-253)

Dated 1st May, 2019

M/s. AVS Inno Infra
216, 2nd floor, DLF City Court
Sikanderpur
Gurugram – 122 002

Sub: Accreditation of New Materials and Techniques - "ANT Stabilizer"

This is to inform that the Committee for Accreditation of New Materials and Techniques, Indian Roads Congress, New Delhi has accredited "ANT Stabilizer" - used in road construction, promoted by M/s. AVS Inno Infra, Gurugram.

(i) The Accreditation certificate shall remain **valid for a period of three years from the date of issue of this Certificate of Accreditation** or till the date the 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 earlier.

(ii) The accredited material shall, however, conform to provisions relevant National/International Standards.

(iii) 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.

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

(v) The Highway Research Board shall advise the relevant Committees of IRC for considering/recommending the usage of accredited new material/techniques based upon satisfactory performance report from the client and Head of user department, from their experience.

(vi) 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.

(vii) The Highway Research Board as a body shall not be responsible for adverse performance or failure of a stretch of road or part of bridge where the accredited new material/product has been tried on experimental basis.

(viii) The developers/promoters shall show long term commitment to the goal of innovative infrastructure development in India.

Yours faithfully,

(R V Patil)
Deputy Director (Tech.)

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

Authority

«ANT-Engineering»
16/1 Portovaya street, Volzhsky city , Volgograd area, Russia
ant-russia@mail.ru www.ant-roads.com

TO WHOM IT MAY CONCERN

I, Anton Negulyaev, authorized Signatory of ANT-Engineering LLC (Russia), allow /authorize AVS INNO INFRA (India) to use, sell, distribute ANT products and do all things necessary in this regard in India without any hindrance and limitation.We will provide all technical support, data, training if required and other assistance to AVS INNO INFRA for execution of any road project in India.

AVS INNO INFRA have the full authority to do business pertaining to ANT technologies.

AVS INNO INFRA shall be responsible for taking approval/permission from Client in India.

AVS INNO INFRA shall have the rights to indicate to the public/ clients/ Customers that it is an authorized representative of ANT-Engineering.

AVS INNO INFRA and ANT-Engineering will comply with all government laws, regulations and other legal requirements.

Director of ANT-Engineering LLC,
Anton Negulyaev

Thank You

Contact Us

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