

Proforma for New material & techniques

- 1) **Name of the new material & technique** – NuPhalt Infrared recycling technology (For repair of potholes, spot undulations and alligator cracks).
- 2) **Brief regarding the material technique** - **NU-PHALT** UK is a leading company in thermal road and pothole repair. They have offices in the whole of UK and also. We are the exclusive business associates of NuPhalt UK for the Indian sub continent. The technology is a globally proven and tested technique for repairing potholes and restoring the roads back to normal driving condition. It is widely preferred by road authorities and agencies for repairing potholes on city/colony roads and highways as it is not only simple and easy to use but also provides a long term and economical solution to pothole repair.
- 3) **Whether part of Ministry's specification (If yes, please mention relevant clause):** No.
This technology has been accredited thrice by IRC and has also been used extensively so we request that it should now be part of the Ministry's specification (Orange book)
In the highway research record for the year 2010-2011, our technology (NuPhalt) has been recommended (on page 20, point no 6) by the highway research board of IRC for inclusion in the code/guidelines.
- 4) **Possible Applications:** 1) Pothole repair, Crack repairs, Repair of surface undulations, surface leveling and for active preventive maintenance of new and old roads thus delays the overlay by couple of years.
- 5) **Method of application:** Simple, fast and hassle free application. Application is done thru NuPhalt machine which ensures an excellent thermal bonding between old and the new asphalt. Traffic can be resumed on roads just within 15 after NuPhalt application.
- 6) **Quality assurance plan:** Please find enclosed herewith
- 7) **Advantages:** Some key advantages mentioned below. Please refer to the encl document on advantages
 - NuPhalt technology ensures a permanent and economical repair of potholes
 - NuPhalt technology ensures a smooth and seamless repair due to a monolithic bond with the old surface (Thermal bonding)
 - Single vehicle operation thus causes minimal traffic disruption (traffic can be resumed within 15 minutes!!)
 - No wastage at all as existing asphalt is recycled and reused (GREEN Technology)
 - Ensure road is safe for the use and comfort of the road users.

8) **Specific Limitations:** No limitations has been observed in the application so far.

9) **Cost in Rs:**

A) For Machine sale:

- 1) Rs 80 Lacs (taxes and duties extra) for machine having 1 mtr X 1 mtr infrared heater &
- 2) Rs 90 Lacs (taxes and duties extra) for machine having 1 mtr X 2 mtr infrared heater

B) For per patch repair:

Price applicable for patch repair ranges between Rs 900- 1100 per sq mtr and depends on the scope of work, site location and other site specific conditions.

10) **Benefit cost analysis with alternate material technique** : In making a cost comparison with alternative or any other conventional techniques, it will be a mistake to simply compare tonne for tonne. It is necessary to make an overall comparison taking into account the life of repair, cost involved, ease of using the technology, safe and environment friendly technology etc. Only then can an accurate and realistic assessment can be made.

11) **Whether Indian or Imported:** This technology is a combination of both (The infra red heater along with the electrical and gas components is imported and the fabrication and mounting including sourcing of chassis is done locally) thus making the total system very cost effective.

12) **Whether Patented (If yes give the details):** Yes patented (European Patent specification EP 1786 969 B1)

13) **Whether IRC accredited** : Yes, it has received the prestigious accreditation 3 times from IRC (certificates enclosed).

14) **Whether tested in CRRI/other labs? (If yes, report may be added:** Yes, other than many global approvals from BBA HAPAS UK & Vibes Scotland, NuPhalt technology also has approvals from CRRI (central road research Institute) & IRC (Indian road congress) in India.

15) **Whether used in India? (if yes, feedback from implementing agencies):** In India, we have worked extensively with several PWD's, MCD, NDMC, JDA, HUDA Gurgaon, Municipal Corporation of Faridabad & NHAI. Please find feedback enclosed.

16) **Performance reports in India:** Please find enclosed performance reports.

- 17) **Name of similar competitive material/techniques:** Not similar but alternate techniques Shellmac , Jetpatcher (But none are able to provide the longevity and durability of NuPhalt).
- 18) **Video/Presentation about the material/technique for demonstration:** We have e mailed it on the ID provided
- 19) **Related photos of material/technique and finished applications:** We have e mailed on the ID provided
- 20) **Name of the developer/Promoter:** TRANS METALITE INDIA LTD
- 21) **Contact details:** Trans Metalite India Ltd, 4417/7, Ansari road, Daryaganj, New Delhi – 110002, India Phone: 011 – 23272725/2233/0084. Mobile: 9717973339, 8800353336
Email: vishal.saluja@metalite.in, info@metalite.in

Performa for New Materials and Techniques

No.	Particulars	Details
1	Name of the new Material/Techniques	Jarofix- Waste from Hydro metallurgical process
2	Brief regarding the Material/Techniques	Jarofix is process waste which is generated during Zinc production in Hydrometallurgical process.
3	Whether part of Ministry's specifications.(If yes, please mention relevant cause):	No
4	Possible Applications:	Jarofix waste material for the construction of embankment and sub grade layer on road
5	Method of Application:	Mixing, compaction and laying
6	Quality Assurance Plan:	NA
7	Advantages:	Substitution of natural soil
8	Specific Limitations:	Approval from State Pollution Control Board
9	Cost in Rs:	NA, As still not in commercial use
10	Benefit Cost Analysis with alternate Material/Technique:	NA
11	Whether Indian/Imported:	Indian
12	Whether patented.(If yes give the details):	No
13	Whether IRC Accredited:	Accreditation for trail purpose received from IRC
14	Whether tested in CRRi/other labs.(If yes, test report may be added):	Yes
15	Whether used in India.(If yes, feedback from the Implementing Agencies:	No
16	Performance Reports in India:	Further monitoring required (NA)
17	Name of the similar Competitive Material/Techniques for demonstration:	NA
18	Video/Presentation about the Material/Techniques for demonstration:	NA
19	Related photos of Material/Techniques and finished applications:	NA
20	Name of the Developer/Promote:	CIZS-HZL
21	Contact details:	AGM-Environment Chandaria Lead Zinc Smelter Hindustan Zinc Ltd,Chittorgarh(Raj)312021 Mo.09829297594 mahendra.vedav@vedania.co.in