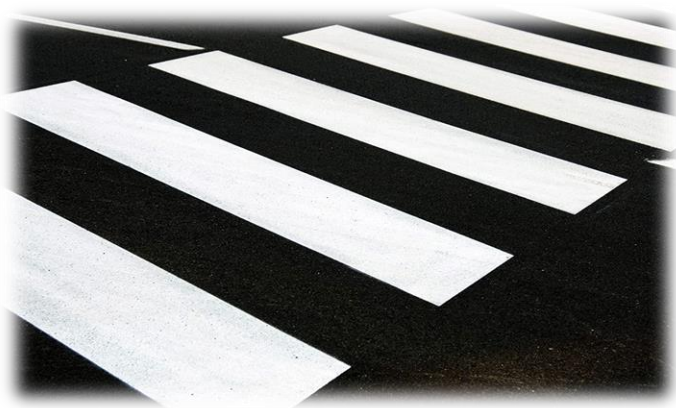


UNITIKA

Drop On Glass Beads for Road Marking

Made in Japan



UNITIKA

 FICUS ELASTICA
PRIVATE LIMITED

Drop On Glass Beads for Road Marking

Drop On Glass Beads are an integral part of hot-melt/thermoplastic road marking paint

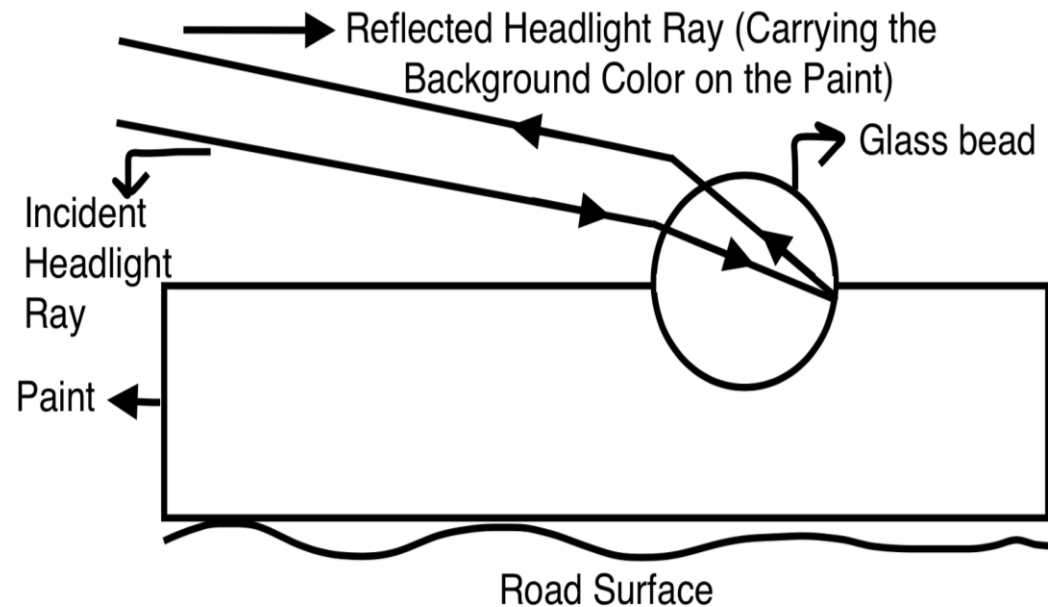
What is it ?

- Drop On Glass Beads are an integral part of thermoplastic road marking paint because of its retro-reflective properties
- The Glass Beads are dropped/sprayed on top of the wet paint during the application of the thermoplastic paint on the road's surface
- The retro-reflective properties of the Glass Beads cause the road marking paint to light up and become brighter as the light beams from the vehicles' headlights falls on it



Drop On Glass Beads for Road Marking

Drop On Glass Beads play an important role in the safety of passengers by improving the visibility of road markings in the dark and during wet road conditions



How It Works ?

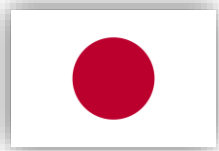
- 1 Light rays from the headlights of the vehicle hits the line marking that is embedded with Drop On Glass Beads
- 2 The light rays are refracted by the Glass Beads and reflected back towards the vehicles/drivers
- 3 This effect, called retro-reflection, lights up the line markings, thereby improving its visibility to the drivers at night-time and wet conditions

UB-108L Drop On Glass Beads By UNITIKA

UB-108L is a premium grade of Drop On Glass Beads manufactured by Unitika Ltd.

The Company : **UNITIKA**

- Unitika Ltd. is a large conglomerate based in Osaka, Japan
- Primarily, the company produces various textiles, glass, plastics, and carbon fiber products
- The company manufactures a range of high quality Glass Beads for road marking



The Product : UB-108L

- UB-108L is a grade of premium Drop On Glass Beads for road marking
- It is approved for use on road marking projects across Japan and many other countries



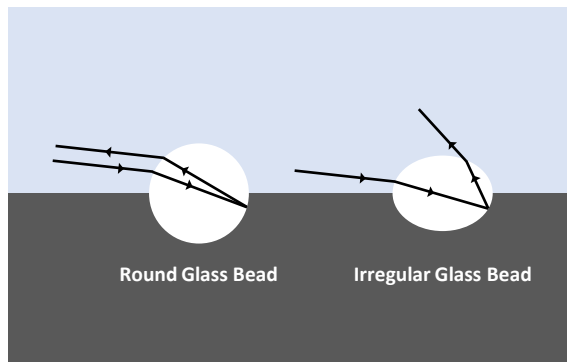
UB-108L Drop On Glass Beads By UNITIKA

UB-108L by Unitika exhibits excellent results across all relevant parameters, i.e. roundness, refractive index, size, clarity, etc.

Roundness

Typical Value: > 80% roundness

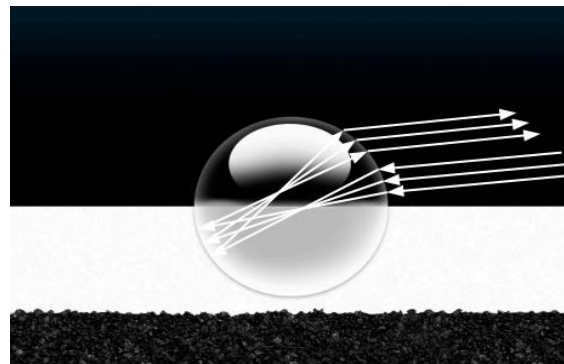
- Good roundness ensures proper retroreflection of the light rays from the vehicles' headlights back to the driver
- Uneven Glass Beads will cause scattering of the light rays



Refractive Index

Typical Value: > 1.5

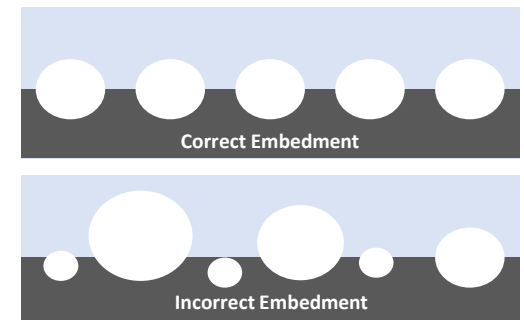
- The higher the refractive index of the Glass Beads, the better it reflects the light rays
- For roads and highways, the refractive index must be at least 1.5



Size

As per International Standards

- Correct size ensures ideal embedment of the Glass Beads in the paint. 50%-60% of the glass bead's diameter should be beneath the paint's surface
- If the Glass Beads are too small they will be buried within the paint
- If the Glass Beads are too big, they will not adhere to the paint properly



UNITIKA vs Other Brands

BRAND	ROUNDNESS	REFRACTIVE INDEX	SIZE	CLARITY	PRICE	IMPORTS INTO INDIA
UNITIKA	★★★★	★★★★	★★★★	★★★★	₹₹₹	-
OTHER PREMIUM BRANDS	★★★★	★★★★	★★★★	★★★★	₹₹₹₹₹	~4000 MT
OTHER INFERIOR BRANDS	★★	★★	★★	★★	₹₹	~4000 MT

Why adopt Unitika Glass Beads?

Quality

- Unitika Glass Beads are at par with other premium brands
- Unitika Glass Beads can replace inferior quality products, leading to better road markings, and therefore safer roads

Price

- Unitika Glass Beads cost between Rs.70-75. Other premium brands cost between Rs. 85-100
- Unitika Glass Beads can replace other costlier brands, thereby reducing the cost of India's infrastructure development and imports

THANK YOU



FICUS ELASTICA
PRIVATE LIMITED



409 Solaris 2, Sakivihar Road, Powai, Mumbai - 400072



+22 67858585 , +91 7900063804



sales@ficuselastica.net , austin@ficuselastica.net



www.ficuselastica.net

Authorised sole distributor for :

UNITIKA

Drop On Glass Beads for Road Marking

Made in Japan



ANNEXURE – NTH Test Report



भारत सरकार Government of India
 राष्ट्रीय परीक्षण शाला (पश्चिमी क्षेत्र)
National Test House (WR)
 राष्ट्रीय परीक्षण शाला (पश्चिमी क्षेत्र), ब्लॉक नं. एक - 10, एम.आई.डी.सी., मरोल, अंधेरी (पू.), मुंबई, महाराष्ट्र - 400093
 Plot No. F - 10, M.I.D.C, Marol, Andheri (E), Mumbai Maharashtra - 400093



001172

PART A. PARTICULARS OF SAMPLE SUBMITTED

आपका आदेश प्राप्त होना के लिए धन्यवाद।

COMPLETE TEST REPORT

परीक्षण प्रमाणपत्र सं/ Test Certificate No: **NTH(WR)/CHP/23/712_1**
 SRF Number: **NTH(WR)/CHP/23/712**
 जारी होने की तिथि/Date of issue: **17 Feb, 2023**
 कोड सं/QR Code/Barcode: **NTH230016975**

a) किसने जारी किया है/Issued To: **Ficus Elastica Pvt Ltd**
 b) पता/Address: **409, Solaris 2, Saki Vihar Road, Powai, Mumbai, Maharashtra 400076, mumbai, Mumbai, Maharashtra, India -400072, Mumbai, Maharashtra, India -400072**

c) श्रावण का संदर्भ सं/ सं/ दिनांक/
 Customer's Ref. No.: **TRWR23222 - 24 Jan, 2023**

d) नमूना मुहुरत स्थिति/Sample Sealed Status: **Not Sealed**

e) परीक्षण सामग्री का विवरण/Description of Test Item: **Drop On Glass Beads (type 2), Manufacturer: Unitka Ltd. Grade: UB-108. Country: Japan**

f) नमूना का विशिष्टता (यदि हो)/Product Specification(if any): **MORTH 803 (2013) - Ministry of Road Transport and Highways - Specifications form Road And Bridge Works**

g) नमूना प्राप्ति की तिथि/Date of Receipt of the Test item: **31 Jan, 2023**

h) कार्य संपन्न की तिथि/Date(s) of Performance of Tests: **From: 09 Feb, 2023 To: 13 Feb, 2023**

i) Quantity: **3.0.1**

j) Any other Information / Expiry Date, If any: **23CHP25CFN**

k) Section Code: **23CHP25CFN_1**

m) Report Type: **New**

n) Reference Report No.: **NA**

o) Remarks:

Handwritten signature

Hemchandra Meshram
 OIC SAMPLE CELL (Authorized Signatory)
 Hemchandra Meshram
 वैशालिक - C (विद्युत)
 Authorized on: 17 Feb, 2023

This Certificate Shall not be reproduced except in full, unless permission for the reproduction of an approved master copy, of India, has been obtained from the Director, National Test House (WR), Mumbai. The Conformity Statement is based on the values of the Product Specification.

Scientist - C (Electrical),
 National Test House,
 Mumbai-93

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ANNEXURE – NTH Test Report (cont)



भारत सरकार
राष्ट्रीय परीक्षण शाला (पश्चिमी क्षेत्र)
National Test House (WR)

राष्ट्रीय परीक्षण शाला (पश्चिमी क्षेत्र), ब्लॉक नं. एक -10, एन.आई.डी.सी., मंगल अडोरी (पू), मुंबई, महाराष्ट्र - 400093
Plot No. F - 10, M.I.D.C, Marol, Andheri (E), Mumbai Maharashtra - 400093



Section Report No.: 23CHP25CFN_1

MORTH 803 (2013)

PART C. TEST RESULT

S.No.	Clause No Table No. Sl. No	Parameter - Method of test	Test Description	Min Limit	Max Limit	Unit	Result/ Observation
1	803.4.3	Appearance	Appearance - the glass beads shall be transparent, colourless and free from milkiness, dark particles and excessive air inclusions.				Glass beads are transparent, colourless and free from milkiness
2	803.4.3	Roundness	Percentage of true spheres	70.0	80.0	percent	80.0

Souvik Sarkar
Souvik Sarkar

Lab Sc. Testing/Calibration Chemical (Paint, High Polymer, Outdoor)
(Authorized Signatory)

Mangesh Gharnure
Mangesh Gharnure

Dr. Mangesh Padharinath Gharnure
OIC Testing/Calibration Chemical (Paint, High Polymer, Outdoor)
(Authorized Signatory)

Authorized on: 13 Feb, 2023 12:02 PM

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ANNEXURE – NTH Test Report (cont)



भारत सरकार Government of India
राष्ट्रीय परीक्षण शाला (पश्चिमी क्षेत्र)
National Test House (WR)

राष्ट्रीय परीक्षण शाला (पश्चिमी क्षेत्र), ब्लॉक नं. एफ - 10, एन आई डी सी, मॉडल अर्धे (पू), मुंबई, महाराष्ट्र - 400093
Plot No. F - 10, M.I.D.C, Marol, Andheri (E), Mumbai Maharashtra - 400093



Section Report No. : 23CHP25CFN_1

MORTH 803 (2013)

PART D. REMARKS

The sample meets the requirement of Type 2 glass beads for the MORT&H 803.4: 2013 specification in respect of the above tested parameters.

PART D. Notes

The remark conformity statement is given based upon the limiting values of the MORT&H 803.4 specification without considering measurement uncertainty.

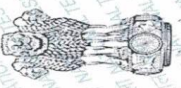
Dr. Mangesh Pandharnath Giarpure
OIC Testing/Calibration Chemical (Paint, High Polymer, Outdoor)
(Authorized Signatory)

Authorized on: 13 Feb, 2023 12:02 PM


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ANNEXURE – NTH Test Report (cont)

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भारत सरकार Government of India
राष्ट्रीय परीक्षण शाला (पश्चिमी क्षेत्र)
National Test House (WR)
राष्ट्रीय परीक्षा शाला (पश्चिमी क्षेत्र), प्लॉट नं. एक -10, ए.आई.डी.सी., मारोल, अंधेरी
(पु.) पूर्व, महाराष्ट्र - 400093
Plot No. F - 10, M.I.D.C. Marol, Andheri (E), Mumbai
Maharashtra - 400093




ULR : TC718523100001003F
MORTH 803 (2013)

Section Report No. : 23CHP25CFN_1

NABL'S SUPPLEMENTARY INFORMATION

1. नमूना लेने की प्रक्रिया का चित्रण, चर्चा/लाभू हो।
Reference to sampling procedure, wherever applicable. Not Applicable
2. परीक्षा सिस्टम में संशोधित मान एवं परिमाण गति हेतु संश्लेषक प्रलेख जैसे ग्राफ, तालिका, चित्र और / अथवा फोटोग्राफ, यदि कोई हो।
Supporting documents for the measurements taken and results derived like graphs, table sketches and or photographs as appropriate to test report, if any. Not Applicable
3. संश्लेषक मानक / कार्य विवरण में विहित परीक्षण पद्धति से विचलन, यदि कोई हो।
Deviation from the test methods as prescribed in relevant ISS/Work instruction, if any. Not Applicable
4. परीक्षण सामग्री की पहचान/identification of test item Not Applicable
5. व्यावहृत की प्रणाली की पहचान(Method(s) used for test
On the lines of MORT&H 803.4.3.(D) and BS 6088: 1981 Not Applicable
6. नमूना प्रतिष्ठा जहाँ प्रासंगिक हो/Sampling Procedure where relevant
As per specification Not Applicable
7. पर्यावरण की स्थिति(Environmental Conditions
As per specification Not Applicable
8. उपकरण और उनके ब्रान्ड मानक/उपकरण/Major Standards/Equipments used
As per specification Not Applicable
9. कैलिब्रेशन स्थल(Site of Calibration
As per specification Not Applicable
10. मानक का पता लगाने की क्षमता/Traceability of Measurement
As per specification Not Applicable




Dr. Mangesh Pandharinath Gharpure
OIC Testing/Calibration Chemical (Paint, High Polymer, Outdoor)
(Authorized Signatory)
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ANNEXURE – NTH Test Report (cont)


001172



भारत सरकार Government of India
राष्ट्रीय परीक्षण शाला (पश्चिमी क्षेत्र)
National Test House (WR)
 राष्ट्रीय परीक्षण शाला (पश्चिमी क्षेत्र), प्लॉट नं. एक -10, एम.आई.डी.सी., मरल, अहमदी
 (ए), मुंबई, महाराष्ट्र - 400093
 Plot No. F - 10, M.I.D.C. Marol, Andheri (E), Mumbai
 Maharashtra - 400093



राष्ट्रीय परीक्षण शाला (पश्चिमी क्षेत्र)
National Test House (WR)
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भारतीय परीक्षण शाला (पश्चिमी क्षेत्र)
Indian Test House (WR)
 भारतीय परीक्षण शाला (पश्चिमी क्षेत्र), प्लॉट नं. एक -10, एम.आई.डी.सी., मरल, अहमदी
 (ए), मुंबई, महाराष्ट्र - 400093
 Plot No. F - 10, M.I.D.C. Marol, Andheri (E), Mumbai
 Maharashtra - 400093

Section Report No : 23CHP25CFN_1
 ULR : TC178523100001003F
 MORTH 803 (2013)

NABL C. TEST RESULT

S.No.	Clause No Table No. Si. No	Parameter - Method of test	Test Description	Min Limit	Max Limit	Result/ Observation
1	803.4.3	Gradation (Type 2) - 850 micron (BS 6088)	Percent retained	0.0	5.0	0
2	803.4.3	Gradation (Type 2) - 600 micron (BS 6088)	Percent retained	5.0	20.0	6.0
3	803.4.3	Gradation (Type 2) - 300 micron (BS 6088)	Percent retained	30.0	75.0	58.0
4	803.4.3	Gradation (Type 2) - 180 micron (BS 6088)	Percent retained	10.0	30.0	29.0
5	803.4.3	Gradation (Type 2) - below 180 micron (BS 6088)	Percent retained	0.0	15.0	7.0
6	803.4.3	Free flowing properties (MORT&H 803.4.3.3 (D))	Shall pass the free flow test			Satisfactory


Souvik Sarkar
 Lab Sc. Testing/Calibration Chemical (Paint, High Polymer, Outdoor)
 (Authorized Signatory)


Dr. Mangesh Pandharinath Gharpure
 OIC Testing/Calibration Chemical (Paint, High Polymer, Outdoor)
 (Authorized Signatory)
 Authorized on: 13 Feb, 2023 12:02 PM

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ANNEXURE – NTH Test Report (cont)

भारत सरकार Government of India
राष्ट्रीय परीक्षण शाला (पश्चिमी क्षेत्र)
National Test House (WR)
राष्ट्रीय परीक्षण शाला (पश्चिमी क्षेत्र), प्लॉट नं. एफ-10, एम.आई.डी.सी., मारोल अंधेरी
(पु.), पुणे, महाराष्ट्र - 400093
Plot No. F - 10, M.I.D.C, Marol, Andheri (E), Mumbai
Maharashtra - 400093

Section Report No. : 23CHP25CFN_1
ULR : TC718523100001003F
MORTH 803 (2013)

MABL D. REMARKS

The sample meets the requirement of Type 2 glass beads for the MORT&H 803.4: 2013 specification in respect of the above tested parameters.

MABL D. Notes

The remark conformity statement is given based upon the limiting values of the MORT&H 803.4 specification without considering measurement uncertainty.

Dr. Magesh

Dr. Magesh Pandharinath Giarpure
OIC Testing/Calibration Chemical (Paint, High Polymer, Outdoor)
(Authorized Signatory)
Authorized on: 13 Feb, 2023 12:02 PM

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