




# BRITESITE (NZ) LTD



# BRITESITE (NZ) LTD

- Glass Beads
- Thermoplastic
- Reflective Pavement Markers
- Marker Adhesive
- LED/Solar Markers
- Application Equipment



**britesite**

**HIGHWAY DELINEATION**

Thermoplastic Road Marking Materials

Thermoplastic Coloured Surfacing

Glass Beads

Reflective Raised Pavement Markers

Blunt nose Marker Adhesives

Self Adhesive

Solar Pavement Markers

Preformed Thermoplastic

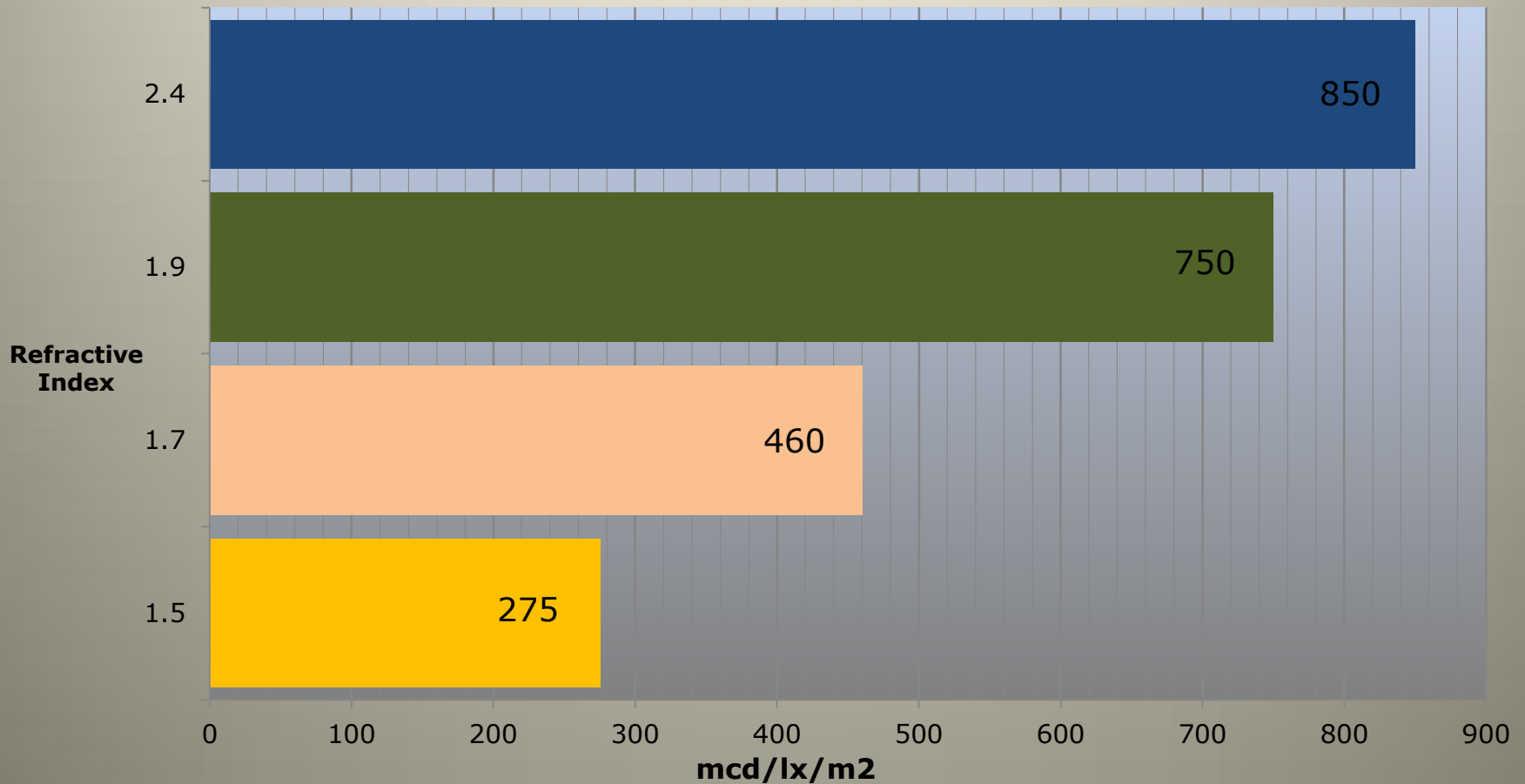
*All products comply with NZS/NZTA Standards and Specifications*

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Keeping DRIVERS on the ROAD

# BRITESITE (NZ) LTD

## Glass Beads - High Index



# BRITESITE (NZ) LTD

## Glass Beads – Camsizer

**Particle Analyzer CAMSIZER®**  
Particle size and particle shape measurement with Dynamic Image Analysis

Measurement of dry, free flowing bulk materials in a range from 30 µm to 30 mm

**Retsch**  
TECHNOLOGY  
Solutions in Particle Sizing

**PARTICLE ANALYZER CAMSIZER**

### Key features

#### Quality control of particle size and shape

**Example: Glass beads**

Glass beads are used for a great variety of applications. They are added to paints used for road and advertising markings to guarantee high retro-reflectivity at night and when the road or airport runway is wet. Size and shape of the glass beads are monitored to ensure that the beads get to reflector directly back to the driver at night.

The graph shows the increase over of the sphericity of glass beads. At least 80% of the beads need to be spherical to fulfil the quality standards for retro-reflectivity.

#### Old analysis specifications – new method – identical results

**Example: Glass beads**

The quality control of glass beads used in road markings is regulated in ISO standards ISO 1428 and ASTM D 1135. The measurements are either line scanning, only a small number of beads are analyzed (user statistics) and the results largely depend on the filter used for analysis. The CAMSIZER allows for automated measurement of both particle size and particle shape. The measurements results can be validated against the methods described in the industrial standards, making the time-consuming manual methods obsolete. The CAMSIZER provides identical results – but faster, with better reproducibility and with considerably improved statistics.

#### Determination of length and diameter

**Example: Extrudates**

Many samples consist of particles which are not frequently characterized by "size" only. In many cases, the length and diameter of the particles differ considerably, and the variation of both parameters have to be monitored as part of the quality control procedure. The example shows the measurement of the length (green) and the diameter (blue) of a catalyst support material. The other complex classical geometry of the rods is measured by the line scanning of the diameter distribution which can be clearly detected thanks to the high resolution of the CAMSIZER. The CAMSIZER results are based on the evaluation of approx. 100,000 particles in 2 minutes and fully correspond to the results of a time-consuming manual measurement (caliper measurement of a few hundred particles).

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# **BRITESITE (NZ) LTD**

## **Thermoplastic**

- **Dot Matrix Trial**
- **ATP Impact Resistance**
- **Glow in Dark Preform**

# BRITESITE (NZ) LTD

## News Update – June 2013



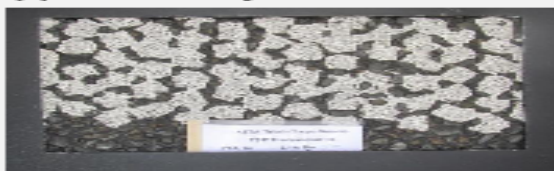
KEEPING DRIVERS ON THE ROAD

News UPDATE

June 2013

### Britesite Thermoplastic .....

NZTA are responsible for ensuring road marking materials meet specification and this entails applying materials transversely on selected trial sites. Leading up to a new round of testing in November 2013, trial sites were selected following a pre-trial test, which was conducted in June 2010 when Britesite applied Thermoplastic (Dot Matrix) at the pre-trial test sites. This May 2013, Britesite engaged Opus Research to measure the markings at Taupo Swamp on SH1 North of Wellington where approximately 8,200 vehicles per day cross the transverse lines.



Left: The photos show the Thermoplastic Dot Matrix markings in the wheel path, 8 x 10<sup>6</sup> vehicle passes.

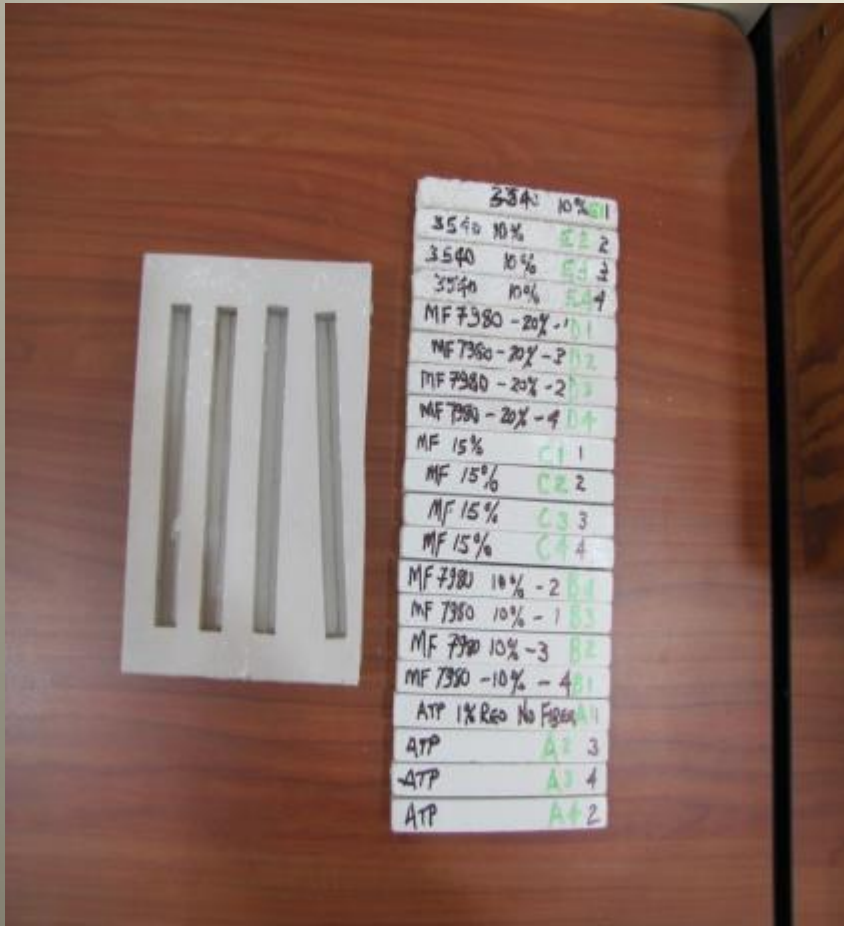
#### TEST RESULTS: Britesite Thermoplastic EXSCRE35 compared to specifications

| Performance Parameter                         | Britesite Thermoplastic EXSCRE35 |                 | Specifications |        |               |                       |        |
|-----------------------------------------------|----------------------------------|-----------------|----------------|--------|---------------|-----------------------|--------|
|                                               | Line T10 White                   | Line T11 Yellow | M20 2003       |        | AS4049.2 2005 | Proposed M7 Long life |        |
|                                               |                                  |                 | White          | Yellow |               | White                 | Yellow |
| Retroreflectivity mod                         | 118                              | 81              | 100            | 80     | 100           | 150                   | 150    |
| Skid Resistance BPN                           | 58                               | 64              | 50-65          |        | 45            | 50-65                 |        |
| Test Duration Vehicle Passes x10 <sup>6</sup> | 8                                | 8               | 3              |        | 3             | 5                     |        |

The results off the pre-trial test at 8 million vps are very encouraging and show without question, we exceed the requirements of the current NZTA M20 Long Life Road Marking Material Specification and Australia's Thermoplastic Road Marking Material Specification (AS4049.2) **after more than twice the specified exposure**, and whilst our 'retro's' are lower than the draft M7 targets, the 60% greater trafficking exposure of our test lines indicates we are heading in the right direction.

# BRITESITE (NZ) LTD

## ATP Impact Resistance



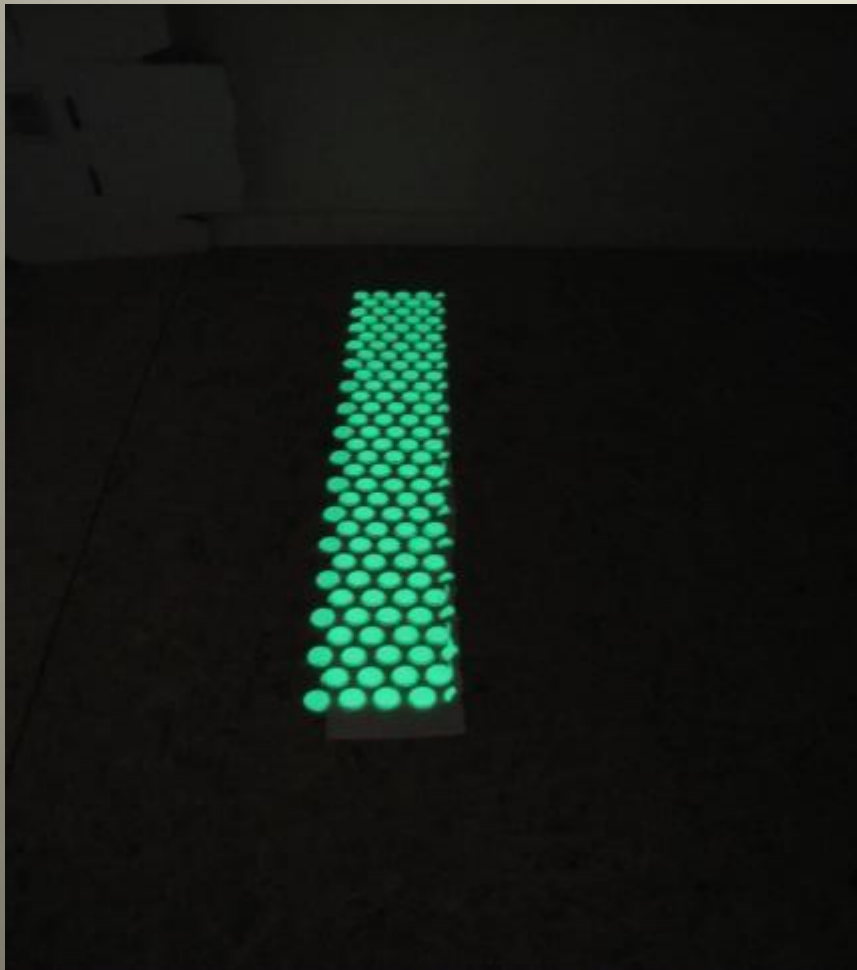
## ATP IMPACT RESISTANCE

### CHARPY IMPACT TESTING

| Britesite ATP Production Year | Impact Resistance J/M |
|-------------------------------|-----------------------|
| 2010                          | 11.75                 |
| 2011                          | 12.92                 |
| 2013                          | 14.23 (+ 20%)         |
| Trials                        | 20.37 (+ 73%)         |
| Difficult Application         | 45.10 (+ 384%)        |

# BRITESITE (NZ) LTD

## Glow in Dark Preform



### LUMINESCENT PREFORM

#### TYPICAL AFTERGLOW (AFTER LIGHTS OUT)

| MINUTES | MCD/M <sup>2</sup> |
|---------|--------------------|
| 2       | 1550               |
| 5       | 700                |
| 10      | 360                |
| 60      | 50                 |
| 120     | 20                 |



# BRITESITE (NZ) LTD

## Martin Bituminous Marker Adhesive

### BITUMINOUS MARKER ADHESIVE

MARTIN

|                    |                  |
|--------------------|------------------|
| <b>RED BOX</b>     | <b>GREEN BOX</b> |
| FOR                | FOR              |
| SAND               | NON-SAND         |
| BASED              | BASED            |
| MARKERS            | MARKERS          |
| <b>TIME PROVEN</b> | <b>NEW</b>       |

# BRITESITE (NZ) LTD

- Application Equipment



Unimark Hymix Premelter.



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2 x 30 gallon (2 x 135 litre ) Oil Jacketed,  
Premelter, Gas fired.

- 8/10 Hp Electric start Propane fired Honda engine Hydraulic Power pack, to power Hydraulic agitators.
- 12V DC electronic flame management system with auto ignition, Flame sensor and Thermostat.
- 1.5 M long, 2.0 M wide, 1.2 M high 1000 kg
- Price NZD \$ 18,300.00 ( subject to exchange rate )
- Prices plus GST ex plant Auckland



BRITESITE - KEEPING DRIVERS ON THE ROAD

