

SMALL BEADS
GREAT EFFECT



HARNESSING BEAM POWER FOR ROADWAY SAFETY

“Challenging road conditions are among the most frequent causes of accidents. Modern premium glass beads can reduce this risk, especially at night and in wet conditions. They increase the visibility of road markings significantly, guiding road users to their destination more safely.”

PETER TOMAZIC
VP REGION EUROPE
(PRODUCTION/R&D)

SWARCO Road Marking Systems has been manufacturing reflective glass beads for road markings since 1969. There have been drastic changes in mobility over those five decades. Having said that, the vision we had back then is more true now than ever. Ensuring safety and comfort for all road users is fundamental to every road around the world.

The principle behind our reflective glass beads is as simple as it is brilliant: The micro glass beads which are embedded in the marking materials reflect the beam from the headlights back to the

driver illuminating the road markings. This enhances road safety substantially, in particular in the dark and in wet road conditions. In a nutshell, retro-reflective marking systems guide the traffic, keeping road users safe.

SWARCO Road Marking Systems is one of the world's leading manufacturers of reflective glass beads, with production facilities in Europe and the United States. Our glass bead products can help you improve the reflective power of the markings on your roads and increase the safety of all road users.

IT TAKES KNOW-HOW

Drop-on beads that fit

Drop-on beads are the cornerstones for the visibility of road markings at night. They create a high level of initial retro-reflection in new markings and make driving at night much safer. But which drop on beads systems are the right ones?

We can draw on our glass bead and marking binder knowledge to provide recommendations on: bead type, size distribution, coatings and anti-skid particles that will best fit your needs. For optimum work results and safe driving.



EACH BEAD IS UNIQUE

There are different types of reflective glass beads. Our smallest micro glass beads only measure a few thousandths of a millimetre, while the maximum diameter is two millimetres. Our product range consists of five different types of beads to satisfy all requirements.

SWARCO SOLIDPLUS

The next generation of glass beads

Characteristics

- 212 to 1400 µm
- Premium reflective glass beads
- Excellent retroreflection values of over 1000 mcd/m²*lx
- Excellent retroreflection even in coloured road markings
- Excellent visibility at night and in wet and foggy conditions
- Exceptionally robust thanks to the special glass composition
- Increased anti-skid values with high retroreflection possible

Recommendation for use

- For all road marking materials

MEGALUX-BEADS

Larger beads for enhanced wet night visibility

Characteristics

- 600 to 1400 µm
- Increased retro-reflective values
- Enhanced wet night visibility achieved by their crystal clear surfaces and large diameter

Recommendation for use

- Marking systems with increased requirements for visibility in wet conditions (type II markings)

SWARCOFLEX

The standard in reflective glass beads

Characteristics

- 100 to 850 µm
- Very good retro-reflective values
- Conforms to all national and international standards

Recommendation for use

- For all road marking materials

SWARCOLUX

Heavy-duty bead mix

Characteristics

- 100 to 1400 µm
- Glass bead mixture comprising SWARCOFLEX and MEGALUX-BEADS
- Exceptional retroreflection

Recommendation for use

- Marking systems with increased requirements for visibility in wet conditions (type II markings)

PLUS9BEADS

High-index beads in top-notch quality

Characteristics

- 200 to 1000 µm
- Top-quality reflectors with refractive index ≥ 1.9

Recommendation for use

- Airport markings





SWARCO SOLIDPLUS

the next generation of glass beads

EXCELLENT RETROREFLECTION

SWARCO SOLIDPLUS premium reflective glass beads increase road safety thanks to their excellent retroreflectivity values (R_L value). Both white and coloured road markings with SWARCO SOLIDPLUS can be seen much more clearly, especially at night and in wet and foggy conditions.

$R_L > 1000$

SWARCO SOLIDPLUS impresses with retroreflection values of over 1000 mcd/m²*lx.



$R_L > 500$

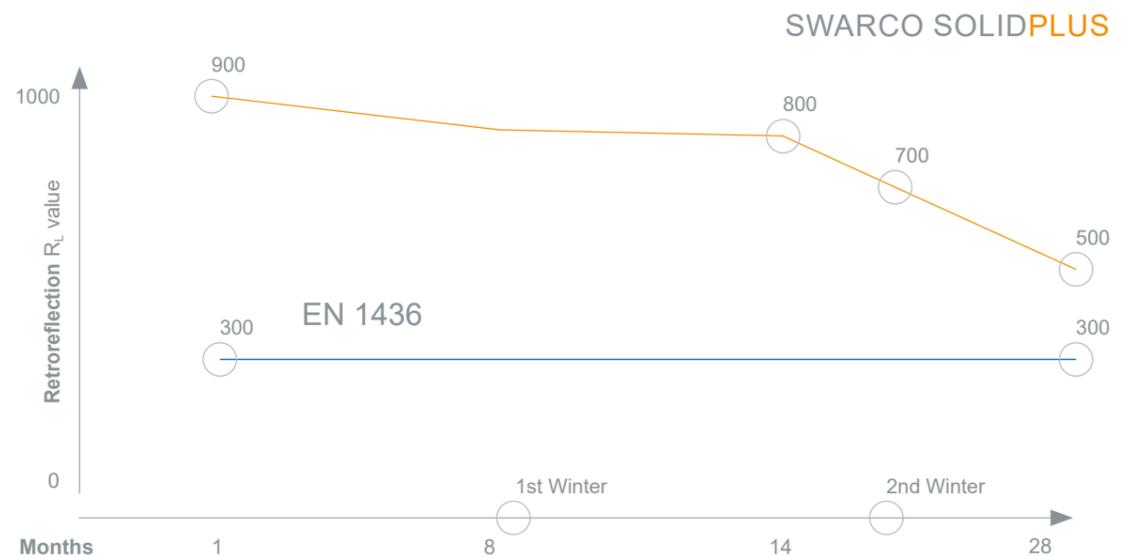
When it comes to coloured markings, SWARCO SOLIDPLUS also impresses with excellent retroreflection values.



VERY DURABLE – SWARCO SOLIDPLUS

The unique glass formulation makes SWARCO SOLIDPLUS beads exceptionally durable. As a result, these premium reflective glass beads significantly extend the service life of road markings.

The chart proves that the reflectivity values (R_L value) of road markings with SWARCO SOLIDPLUS beads far surpass even the strictest requirements of the EN 1436 class over a period of 28 months. Measurements taken during this period (after 1, 8, 14 and 28 months) show excellent retroreflectivity even after several winters. Thanks to their durability, SWARCO SOLIDPLUS beads reduce the costs for remarking.



PLUS9BEADS

High-index beads in top-notch quality

Our high-index glass PLUS9BEADS act as top-quality reflectors for airport markings. In our production process, high-quality raw materials are melted into high-grade reflective material and shaped into the finest micro-glass beads.

SPECIFICATION TT-B-1325

As per US Federal Specification TT-B-1325, there are three types of glass beads suitable for airports. These three types differ in glass composition, size, refractive index and retroreflection.

| | |
|-------------------------|--|
| TYPE III (≥ 1.9) | High-index • up to 1500 mcd/m ² *lx Type III glass beads deliver up to five times higher retroreflection, as tested by the FAA, USACE and IPRF |
| TYPE IV (≥ 1.5) | Low-index • up to 600 mcd/m ² *lx |
| TYPE I (≥ 1.5) | • up to 400 mcd/m ² *lx |



SHOWING THE WAY, WORLDWIDE

SWARCO | The Better Way. Every Day.

In 1969 we started out with the manufacture of tiny reflective glass beads. Today we have grown into the world's largest systems provider for road markings. Making roads safer and saving lives on a daily basis. Our high quality products and services, safely direct traffic flow from A to B, every day and night. On all roads, in any weather, and all from SWARCO.

We prepare for the future, by fusing knowledge with innovation at our Competence Center for Glass Technology and Marking Systems. So, even with smart and autonomous driving, we continue to blaze the trail of premium road markings to the world. Jump in and drive with us; we will be happy to help you find your ideal road marking solutions.

www.swarco.com/rms



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