



SWAREFLEX

Contents

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REFLECTORS

CATALOGUE

2018

REFLECTOR_CATALOGUE_2018

Contents

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REFLECTORS

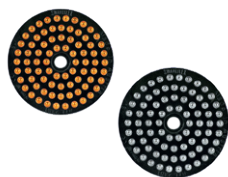
CATALOGUE

2018

REFLECTOR_CATALOGUE_2018

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SWAREFLEX
GLASS REFLECTORS

SWAREFLEX glass reflectors apply the principle of retroreflection: light is reflected back towards the light source by the biconvex **SWARO GLASS REFLECTIVES** – irrespective of the direction from which it arrives at the glass element.

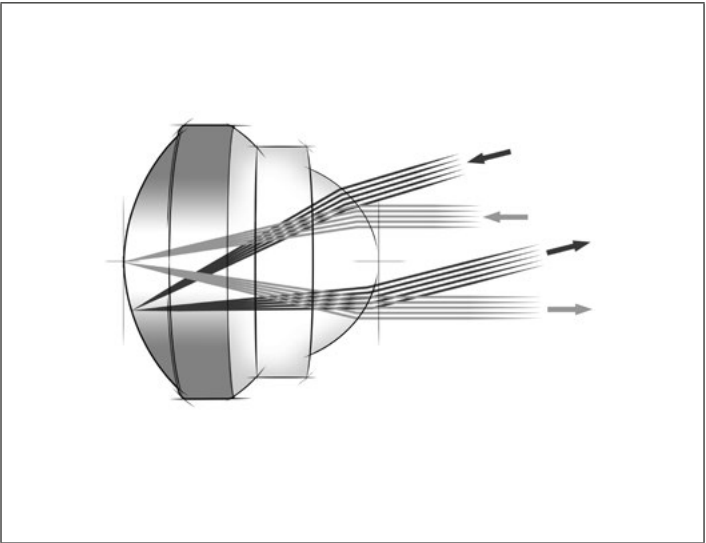
This ensures that the path of the road remains clear, even in darkness or poor visibility, and the driver is safely guided, ensuring that he has plenty of time to steer or brake to avoid an accident.

Reflectors are subjected to enormous physical and chemical stresses on the roads. They need to be highly resistant to pressure and impacts, as well as environmental influences such as abrasion, salt solutions, UV radiation and aggressive exhaust gases. Thanks to its visual, chemical and mechanical properties, glass meets the requirements for use in these harsh conditions better than other materials.

SWAREFLEX glass reflectors contain high quality, extremely robust and durable **SWARO GLASS REFLECTIVES** – glass elements made of Swarovski technical glass.

SWARO GLASS REFLECTIVES have a precisely calculated shape to provide optimum reflective performance. The back has a highly reflective silver mirror layer and several special protective coatings.

Principle of retroreflection



_INDIVIDUAL PRODUCT
SOLUTIONS

SWARO GLASS REFLECTIVES are mounted in special plastics to suit their intended use. The angle at which the **SWARO GLASS REFLECTIVES** are mounted is determined by the tilt of the carrier to ensure the best possible reflection, even over large distances.

The ideal combination of materials guarantees excellent resistance to mechanical, climatic and chemical influences and has developed a superb track record in outdoor applications.

SWAREFLEX glass reflectors do not require an external energy supply and are inexpensive to install and run.

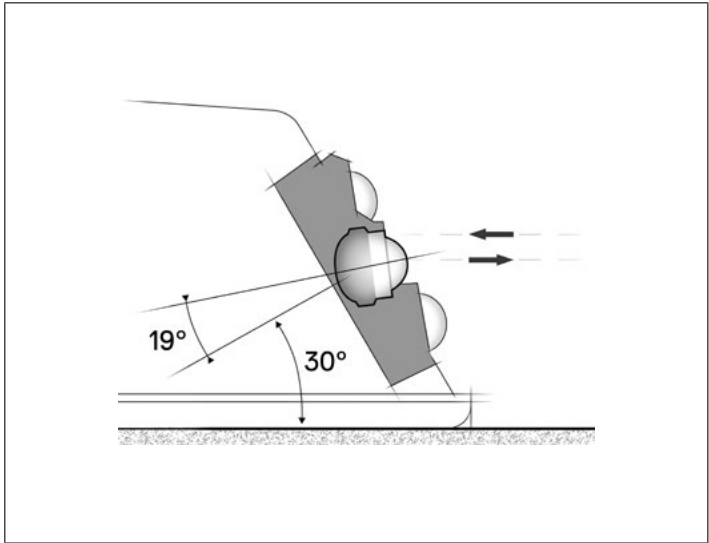
In addition to its standard range, SWAREFLEX can also offer individual, bespoke reflector product solutions. Depending on the desired function, the use and size of reflector bodies, the number of **SWARO GLASS REFLECTIVES** and specific colour combinations of glass, insert and body can be calculated and combined.

These are used in a wide variety of areas and especially where reflective surfaces are subject to severe influences, such as in parking divider and guidance systems, speed bumps or road marking studs.

_CONTACT

For an explanation of the countless possibilities, please contact us:
Tel. +43 5224 500 2463, or email swareflex.office@swarovski.com.

Embedding



COMPARATIVE TESTS

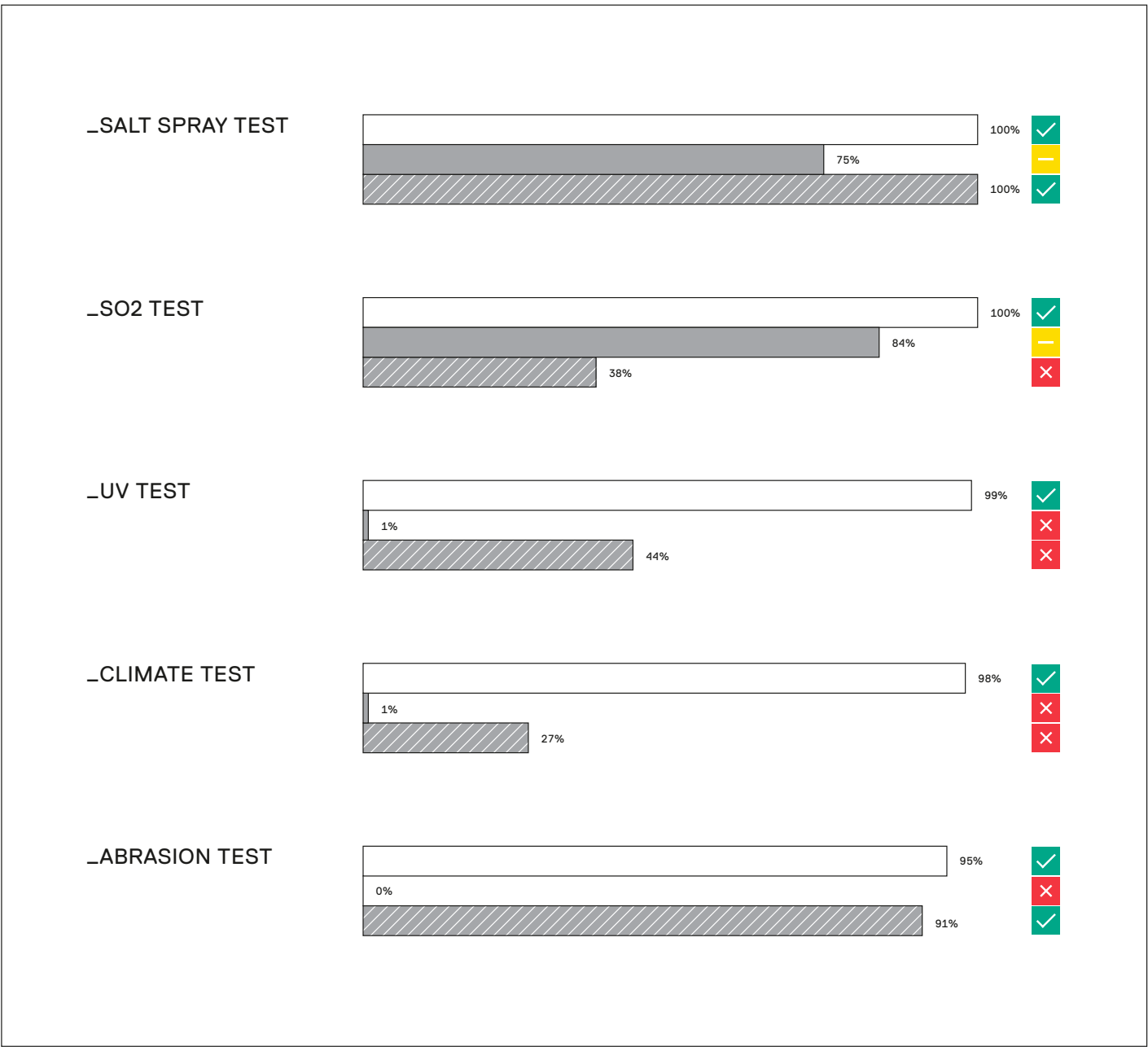
As part of a road marking stud, reflectors are subjected to great stresses. The requirements are defined in the EN 1463 standards and other places. In order to satisfy the requirements for current reflector materials, a distinction can be drawn between these three types of road marking studs:

- Glass reflectors (Type 1)
- Plastic reflectors (Type 2)
- Plastic reflectors with abrasion-resistant protective coating (Type 3)

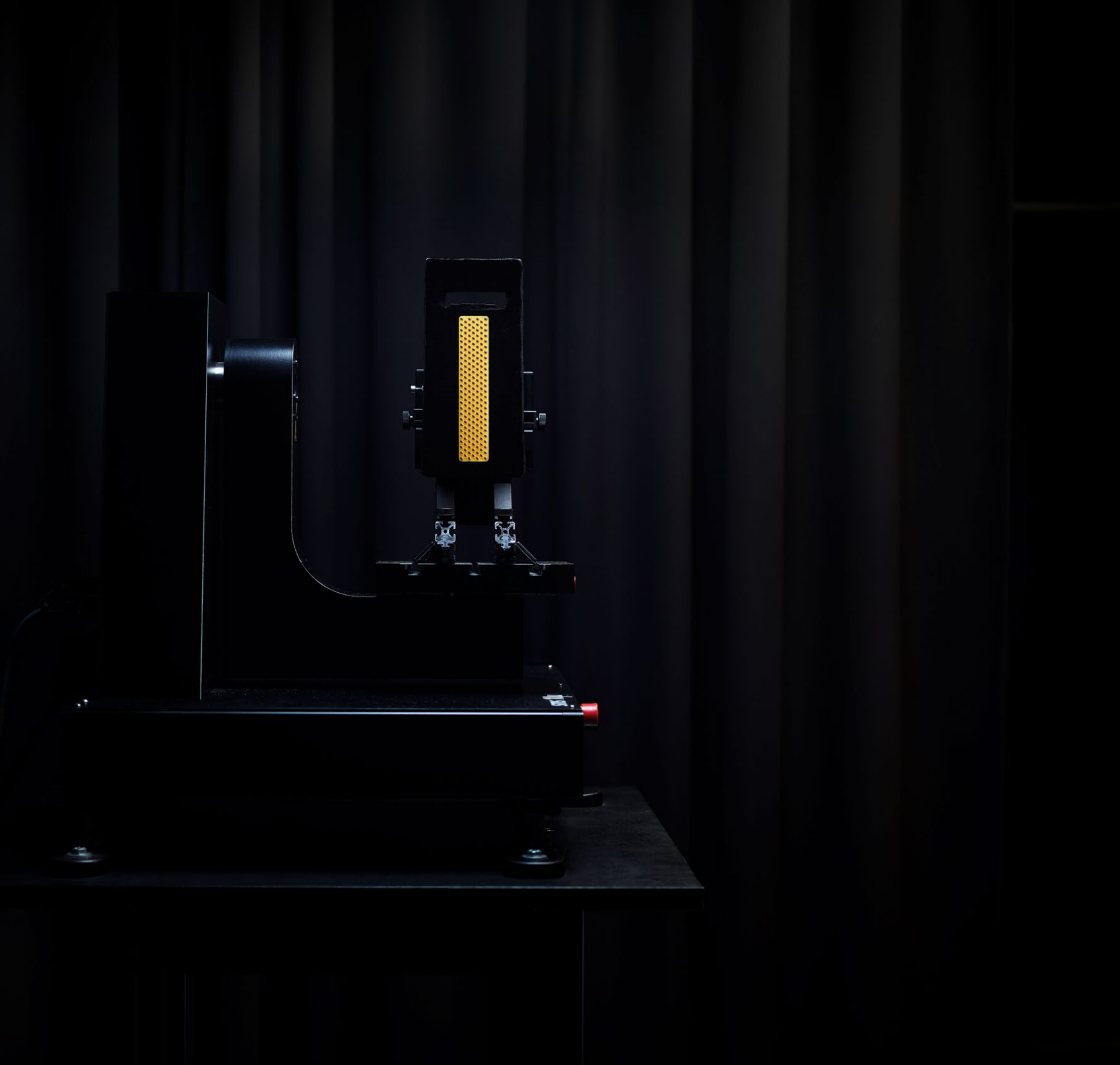
In various comparative assessments, all three types of reflectors were tested for their resistance to:

- salt
- sulphur dioxide gas (Kesternich test)
- UV radiation (Arizona sun test)
- air humidity (climate test)
- abrasion

SWAREFLEX glass reflectors were the only type of reflector to consistently achieve good scores in all five stress tests.



Light values at 0.3° angle of observation (EN 1463) according to test
□ SWAREFLEX glass reflectors ■ Plastic ▨ Plastic with abrasion-resistant coating



REFLECTOR COMPONENTS

In addition to complete reflector solutions, SWAREFLEX also offers a wide range of loose reflector components – **SWARO** GLASS REFLECTIVES – and reflective inserts for road marking studs – **SWARO** INSERTS.

SWARO GLASS REFLECTIVES
Loose glass elements



LOOSE GLASS ELEMENTS

SWARO GLASS REFLECTIVES are biconvex glass elements that work according to the principle of retroreflection. Their excellent reflective performance is created by their precisely calculated form, a highly reflective silver mirror layer applied to the back and several specialist protective coatings. **SWARO** GLASS REFLECTIVES are available in a wide range of colours and sizes.

| | | | | |
|--------------|---|---|---|---|
| |  |  |  |  |
| Article Name | SWARO GLASS REFLECTIVE | SWARO GLASS REFLECTIVE | SWARO GLASS REFLECTIVE | SWARO GLASS REFLECTIVE |
| Article No. | 9205-8 | 9205-10 | 9205-13 | 9205-14 |
| Dimensions | Ø 8 mm | Ø 10 mm | Ø 13 mm | Ø 14 mm |
| Colours | White, yellow, red, green | White, yellow, red, green | White, yellow, red, green | White, yellow, red, green |



SWARO GLASS REFLECTIVES

SWARO INSERTS

Reflective inserts



REFLECTIVE INSERTS

The easy-to-integrate **SWARO** INSERTS make it possible to fit products such as road marking studs, speed bumps, concrete barriers and signalling equipment with a retroreflective element. They are available in a range of sizes, shapes and colour combinations. A basic distinction can be drawn between round and rectangular inserts: **SWARO** INSERT ROUND and **SWARO** INSERT RECTANGLE.

Your application and its associated regulations and standards determine the right choice and integration of **SWARO** INSERTS, together with the fitting angle, carrier material and mounting options.

SWAREFLEX offers a wide portfolio of shapes and options for integrating **SWARO** INSERTS:

- Screw
- Glue
- Ultrasound weld
- Form-fitting extrusion coating
- Mechanical clamps
- Press-fit





_BENEFITS





- Specified and guaranteed photometric properties (Colour and retroreflection)
- Durable **SWARO** GLASS REFLECTIVES
- Durability and resistance
- Variety of shapes, sizes and colour combinations
- Ease of use and wide range of fitting options




_VERSIONS

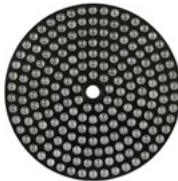



- **SWARO** INSERT
SWARO GLASS REFLECTIVE in black plastic housing
- **SWARO** INSERT RECTANGLE
Reflector for horizontal marking in rectangular shape
- **SWARO** INSERT ROUND
Reflector for horizontal marking in round shape

| | | |
|---|---|---|
| |  |  |
| Article Name | SWARO INSERT | SWARO INSERT |
| Article No. | 3020 | 3040 |
| Dimensions | Ø 14.8 mm | Ø 12.0 mm |
| Body Material Colours | Plastic Black | Plastic Black |
| SWARO GLASS REFLECTIVES Colours Number Tilt | White, yellow, red 1 0° | White, yellow, red 1 0° |
| Conformity with standards | Reflectivity values according to EN 1463-1 (10× Art. 3020) | Reflectivity values according to EN 1463-1 (10× Art. 3040) |

| | | | | |
|---|---|---|---|---|
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| Article Name | SWARO INSERT RECTANGLE | SWARO INSERT RECTANGLE | SWARO INSERT RECTANGLE | SWARO INSERT RECTANGLE |
| Article No. | 3392 | 3561 | 3563 | 3568 |
| Dimensions | 150.2×31 mm | 74.7 × 13.9 mm | 74.7 × 13.9 mm | 112.7 × 18.25 mm |
| Body Material Colours | Plastic White, yellow, red, black | Plastic White, yellow, orange, red, blue | Plastic White, yellow, red | Plastic White, yellow, red, black |
| SWARO GLASS REFLECTIVES Colours Number Tilt | White, yellow, red 179 0° | White, yellow, red, green 43 0° | White, yellow, red, green 43 19° | White, yellow, red 76 0° |
| Conformity with standards | Reflectivity values according to EN 1463-1, ASTM D4280 | Reflectivity values according to EN 1463-1 | Reflectivity values according to EN 1463-1, ASTM D4280 | Reflectivity values according to EN 1463-1 |

| | | | | |
|------------------------------|---|---|--|---|
| |  |  |  |  |
| Article Name | SWARO INSERT RECTANGLE | SWARO INSERT RECTANGLE | SWARO INSERT RECTANGLE | SWARO INSERT RECTANGLE |
| Article No. | 3570 | 3575 | 3577 | 3582 |
| Dimensions | 53 × 7 mm | 78 × 18 mm | 74.7 × 13.9 mm | 91.6 × 21.8 mm |
| Body Material Colours | Plastic White, yellow, green, black | Plastic White, yellow, red | Plastic White, yellow, red | Plastic White, yellow, red, black |
| SWARO GLASS REFLECTIVES | | | | |
| Colours Number Tilt | White, yellow, red 10 0° | White, yellow, red, green 56 0° | White, yellow, red 21 0° | White, yellow 69 0° |
| Conformity with standards | Reflectivity values according to EN 1463-1 (10x Art. 3570) | Reflectivity values according to EN 1463-1 | Reflectivity values according to EN 1463-1 | — |

| | | | |
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| |  |  |  |
| Article Name | SWARO INSERT RECTANGLE | SWARO INSERT RECTANGLE | SWARO INSERT RECTANGLE |
| Article No. | 3585 | 3589 | 3590 |
| Dimensions | 74.7 × 13.9 mm | 60 × 10 mm | 64.6 × 10 mm |
| Body Material Colours | Plastic White, yellow, red | Plastic White, yellow | Plastic White, yellow, red, black |
| SWARO GLASS REFLECTIVES | | | |
| Colours Number Tilt | White, yellow, red, green 31 0° | White, yellow, red, green 19 0° | White, yellow, red 21 0° |
| Conformity with standards | Reflectivity values according to EN 1463-1 | Reflectivity values according to EN 1463-1 | Reflectivity values according to EN 1463-1 |

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|------------------------------|---|---|---|---|
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| Article Name | SWARO INSERT ROUND | SWARO INSERT ROUND | SWARO INSERT ROUND | SWARO INSERT ROUND |
| Article No. | 3290 | 3601 | 3610 | 3620 |
| Dimensions | Ø 76.4 mm | Ø 16.55 mm | Ø 16.5 mm | Ø 22.7 mm |
| Body Material Colours | Plastic White, yellow, red, black | Plastic White, yellow, red, black | Plastic White, yellow, black | Plastic White, yellow, red, black |
| SWARO GLASS REFLECTIVES | | | | |
| Colours Number Tilt | White, yellow, red, green 197 0° | White, yellow, red, green 7 0° | White, yellow, red 6 0° | White, yellow, red, green 15 0° |
| Conformity with standards | — | Reflectivity values according to EN 1463-1 (3x Art. 3601) | Reflectivity values according to EN 1463-1 (3x Art. 3610) | Reflectivity values according to EN 1463-1 (3x Art. 3620) |

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| Article Name | SWARO INSERT ROUND | SWARO INSERT ROUND | SWARO INSERT ROUND | SWARO INSERT ROUND |
| Article No. | 3630 | 3640 | 3650 | 3660 |
| Dimensions | Ø 22.7 mm | Ø 32.3 mm | Ø 32.3 mm | Ø 41.8 mm |
| Body Material Colours | Plastic White, yellow, black | Plastic White, yellow, red, black | Plastic White, yellow, black | Plastic White, red |
| SWARO GLASS REFLECTIVES | | | | |
| Colours Number Tilt | White, yellow, red, green 15 0° | White, yellow, red 24 0° | White, yellow, red, green 23 0° | White, red 46 0° |



SWARO INSERTS

_SWARO_INSERTS

_SWAREFLEX

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|---|---|--------------------------------|--|--|
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| Article Name | SWARO INSERT ROUND | SWARO INSERT ROUND | SWARO INSERT ROUND | SWARO INSERT ROUND |
| Article No. | 3671 | 3680 | 3690 | 3900 |
| Dimensions | Ø 41.8 mm | Ø 50.8 mm | Ø 50.8 mm | Ø 104 mm |
| Body Material Colours | Plastic White, yellow, red | Plastic White, red | Plastic White, yellow, black | Plastic White, yellow, black |
| SWARO GLASS REFLECTIVES Colours Number Tilt | White, yellow, red, green 45 0° | White, red 70 0° | White, yellow, red 69 0° | White, yellow, red 256 0° |
| Conformity with standards | — | — | — | Reflectivity values according to EN 12899-3 |

_REFLECTOR_COMPONENTS

_025



PASSIVE GUIDANCE

SWAREFLEX passive guidance products are complete reflector solutions that ensure increased road visibility and improved road-user safety in darkness, poor visibility or adverse weather conditions. They support improved traffic flow on streets and highways, especially on complex or dangerous road layouts.

SWARO CLASSIC MARKER

Plastic-bodied road marking studs



PLASTIC-BODIED ROAD MARKING STUDS

SWAREFLEX road marking studs are ideal for making the road layout visible in darkness and poor weather; they can be heard and felt when they are driven over. Ribbing on the underside of the **SWARO** CLASSIC MARKER strengthens the structure of the body and enables it to best spread pressure onto the substructure. It also increases adhesion when the markers are stuck down.


The **SWARO** CLASSIC MARKER product versions meet the light technology requirements of the EN 1463 standard.

_BENEFITS

- Very durable plastic-bodied road marking studs for long-term use
- Durable **SWARO** GLASS REFLECTIVES
- Consistently high reflectivity values
- Creates a “rumble effect” that can be heard and felt when driven over
- Self-cleaning effect with rain and car tyres rolling over it
- Ease of use and fitting, **SWARO** GLOBEMARKER also has recessed grips at the sides

_VERSIONS

- **SWARO** GLOBEMARKER
plastic-bodied universal road marking stud for permanent use in a range of designs (colour variations on body, reflector insert and **SWARO** GLASS REFLECTIVES)
- **SWARO** CITYSTUD
Plastic-bodied road marking stud for permanent use, especially as edge marking for kerbstones and outlining bus and taxi lanes
- **SWARO** MEGASTAR
Plastic-bodied road marking stud for permanent use, especially as speed bumps for traffic calming




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| Article Name | SWARO GLOBEMARKER CLASSIC 19° | SWARO GLOBEMARKER ECONOMY 19° | SWARO GLOBEMARKER SMALL 19° |
| Article No. Reflective, single-sided Reflective, double-sided | 3551 3552 | 3541 3542 | 3555 3556 |
| Dimensions | 100×100×17.9 mm | 100×100×17.9 mm | 120×60×15.5 mm |
| Body Material Colours | Body with recessed grips Plastic White, yellow, orange, red, green, blue | Body with recessed grips Plastic White, yellow, orange, red, green, blue | Body with recessed grips Plastic White, yellow, orange, red, green, blue |
| Insert Material Colours | Plastic White, yellow, orange, red, green, blue | Plastic White, yellow, orange, red, green, blue | Plastic White, yellow, orange, red, green, blue |
| SWARO GLASS REFLECTIVES Colours No. per reflective side Tilt | White, yellow, red, green, blue 45 19° | White, yellow, red, green, blue 29 19° | White, yellow, red, green, blue 39 19° |
| Conformity with standards | EN 1463-1; EN 1463-2 Reflectivity values according to ASTM D4280. BSI certified | Reflectivity values according to ISO 1463-1 | EN 1463-1; EN 1463-2 Reflectivity values according to ASTM D4280. BSI certified |
| Mounting (see also Adhesive Matrix p. 50) | Using two-part adhesive. | Using two-part adhesive. | Using two-part adhesive. |



SWARO GLOBEMARKER CLASSIC 19°, Art. 3551

_SWARO_CLASSIC_MARKER

_SWAREFLEX

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| |  |  |  |
| Article Name | SWARO CITYSTUD CLASSIC | SWARO CITYSTUD ANCHOR | SWARO MEGASTAR |
| Article No. Reflective, single-sided Reflective, double-sided | 5001 5002 | 5003 5004 | 5006 |
| Dimensions | 220×100×40 mm | 220×100×40 mm, Length of anchor bolts 64 mm | 220×150×25 mm |
| Body Material Colours | Plastic White, yellow | Plastic White, yellow | Plastic White, yellow |
| Insert Material Colours | Plastic White, yellow, red | Plastic White, yellow, red | Plastic White, yellow |
| SWARO GLASS REFLECTIVES Colours No. per reflective side Tilt | White, yellow, red 179 0° | White, yellow, red 179 0° | White, yellow, red 128 0° |
| Conformity with standards | Reflectivity values according to ISO 1463-1 Reflectivity values according to ASTM D4280 | Reflectivity values according to ISO 1463-1 Reflectivity values according to ASTM D4280 | Reflectivity values according to ISO 1463-1 Reflectivity values according to ASTM D4280 |
| Mounting (see also Adhesive Matrix p. 50) | Using two-part adhesive. | Using two-part adhesive and anchor bolts | Using two-part adhesive. |

_PASSIVE_GUIDANCE

_033

SWARO METAL MARKER
Metal-bodied road marking studs



METAL-BODIED ROAD MARKING STUDS

An extremely robust aluminium body makes **SWARO** METAL MARKER ideal for roads where it will frequently be driven over by heavy traffic. Its use is also recommended on soft asphalt or in very high ambient temperatures.

Ribbing on the underside of the **SWARO** METAL MARKER strengthens the structure of the body. This enables it to best spread pressure onto the substructure and increases adhesion when the markers are stuck down.




All **SWARO** METAL MARKER product versions meet the light technology requirements of the EN 1463 standard. The **SWARO** METAL MARKER Classic product versions, Article No. 3543, 3544, 3547 and 3548, are also certified to EN 1463-1 standard. The **SWARO** METAL MARKER Classic No. 3547 and 3548 also meet the reflectivity values of the US ASTM D4280 standard.

_BENEFITS

- Extremely durable **SWAREFLEX** product with a combination of resistant **SWARO** GLASS REFLECTIVES and aluminium body
- Specially suited to harsh environmental conditions and high traffic levels
- Consistently high reflectivity values
- Creates a “rumble effect” that can be heard and felt on leaving the carriageway
- Self-cleaning effect with rain and car tyres rolling over it
- Also available in a variant with a 19° tilt on the **SWARO** GLASS REFLECTIVES for higher light values on greater distances

SWARO METAL MARKER CLASSIC, Art. 3543



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|---|---|---|---|---|
| |  |  |  |  |
| Article Name | SWARO METAL MARKER CLASSIC | SWARO METAL MARKER CLASSIC 19° | SWARO METAL MARKER ECONOMY | SWARO METAL MARKER LARGE |
| Article No. Reflective, single-sided Reflective, double-sided | 3543 3544 | 3547 3548 | 3533 3534 | 5031 5032 |
| Dimensions | 100×100×19.8 mm, Length of anchor bolts 50 mm | 100×100×19.8 mm, Length of anchor bolts 50 mm | 100×100×19.8 mm, Length of anchor bolts 50 mm | 150×150×27 mm, Length of anchor bolts 80 mm |
| Body Material | Aluminium | Aluminium | Aluminium | Aluminium |
| Insert Material Colours | Plastic White, yellow, red | Plastic White, yellow, red | Plastic White, yellow, red | Plastic White, yellow, red |
| SWARO GLASS REFLECTIVES Colours No. per reflective side | White, yellow, red, blue, green 43 | White, yellow, red, blue, green 43 (19° tilt) | White, yellow, red, green 21 | White, yellow, red, blue, green 76 |
| Conformity with standards | EN 1463-1 BSI certified Reflectivity values according to ASTM D4280 | EN 1463-1 BSI certified Reflectivity values according to ASTM D4280 | Reflectivity values according to EN 1463-1 ASTM D4280 | Reflectivity values according to EN 1463-1 ASTM D4280 |
| Mounting (see also Adhesive Matrix p. 50) | With anchor bolts and two-part or hot-melt adhesive | With anchor bolts and two-part or hot-melt adhesive | With anchor bolts and two-part or hot-melt adhesive | With anchor bolts and two-part or hot-melt adhesive |

SWARO CIRCLE
360° vitreous reflector



360° VITREOUS REFLECTOR

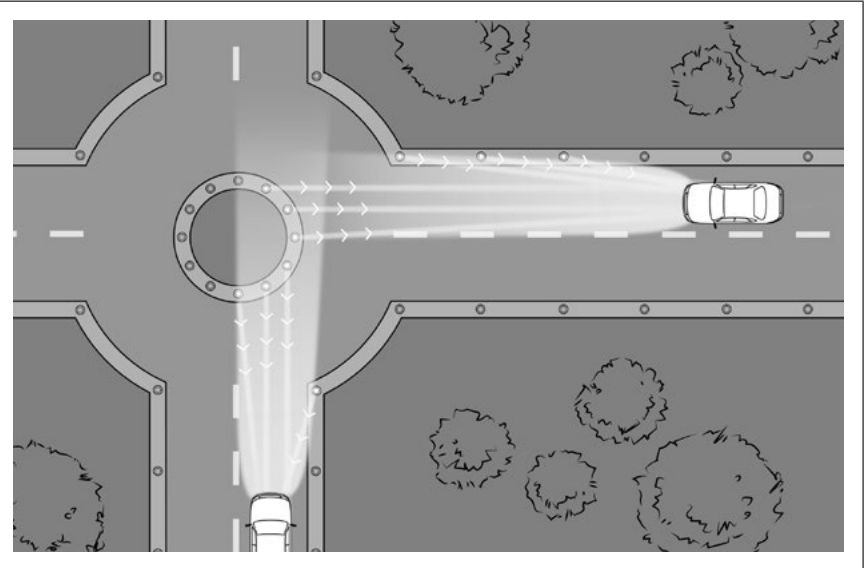
The **SWARO** CIRCLE vitreous reflector is made of resistant Swarovski technical glass and was developed specially for guidance on roundabouts, junctions and traffic islands. Its outstanding reflectivity and durability make the **SWARO** CIRCLE ideal for use as both a road marking stud for highways and regional roads, and for locations where no power supply is available.


Its special optical design and precise shape mean that the **SWARO** CIRCLE achieves consistently high reflectivity values which exceed the photometric requirements of the EN 1463 standard by 15 times. This makes the **SWARO** CIRCLE the brightest reflector in this segment.

The high light output of the reflector is irrespective of the angle of incidence of the vehicle's lights. Alongside the horizontal concentration of light, the reflection also achieves optimum vertical visibility. The result is that the reflection from the **SWARO** CIRCLE is equally recognisable for car and truck drivers and from a great distance as well as on roundabouts.

_BENEFITS

- Vitreous reflector
- 360° reflection, irrespective of angle of incidence
- Consistently high reflectivity values
- Blends aesthetically into its surroundings
- Can be driven over (pressure resistant to 25 t)
- Certified to EN 1463-1 and -2
- Early identification of roundabouts and traffic islands
- No electricity supply required for installation
- No energy costs



| | |
|--|---|
| |  |
| Article Name | SWARO CIRCLE |
| Article No. | 5221 |
| Dimensions | Ø 100 mm Overall height 36 mm Height above the ground approx. 18 mm |
| Body | High transparency, abrasion resistant technical glass from Swarovski (conforms to RoHS), coated, approx. 400g |
| Conformity with standards | EN 1463-1 EN 1463-2 |
| Mounting (see also Adhesive Matrix p. 50) | With bitumen adhesive, no adjustment costs |

SWARO CIRCLE 100 mm, Art. 5221





SWARO LANE DIVIDER

Horizontal road markings



SWARO LANE DIVIDER CLASSIC, Art. 5020

_SWARO_LANE_DIVIDER





_SWAREFLEX

HORIZONTAL ROAD
MARKINGS FOR PERMANENT
AND TEMPORARY USE

The plastic-bodied **SWARO** LANE DIVIDER road marking stud was specially developed for permanent road marking, long term use in car parks and temporary use on roadworks sites. Depending on the product version, a reflector integrated into the rubber tab, which can be driven over, increases the visibility of the lane divider.

_BENEFITS

- Can be driven over with hard-wearing rubber tab
- Durable and resistant
- Easy to use, install and remove

| | | | | |
|---|---|---|---|---|
| |  |  |  |  |
| Article Name | SWARO LANE DIVIDER CLASSIC | SWARO LANE DIVIDER CLASSIC PLAIN | SWARO LANE DIVIDER ANCHOR | SWARO LANE DIVIDER ECONOMY PLAIN |
| Article No. Reflective, single-sided Reflective, double-sided | — 5020 | 5017 5018 | 5021 5022 | 5058 5060 |
| Dimensions | 220×150×285 mm Base plate height 25 mm | 220×150×285 mm Base plate height 25 mm | 220×150×285 mm Base plate height 25 mm | 220×150×285 mm Base plate height 25 mm |
| Base plate body Material Colours | Plastic White, yellow, orange | Plastic White, yellow, orange | Plastic White, yellow, orange | Plastic White, yellow, orange |
| Base plate insert and rubber tab Material Colours | Plastic White, yellow, red, orange | Plastic White, yellow, red, orange | Plastic White, yellow, red, orange | Plastic White, yellow, red, orange |
| SWARO GLASS REFLECTIVES BASE PLATE Colours No. per reflective side | White, yellow, red 128 | White, yellow, red, 128 | White, yellow, red 21 | White, yellow, red 21 |
| SWARO GLASS REFLECTIVES RUBBER TAB Colours No. per reflective side | White, yellow, red 45 | — — | — — | — — |
| Conformity with standards | Reflectivity values according to EN 1463-1; ASTM D4280 | Reflectivity values according to EN 1463-1; ASTM D4280 | Reflectivity values according to EN 1463-1; ASTM D4280 | Reflectivity values according to EN 1463-1; ASTM D4280 |
| Mounting (see also Adhesive Matrix p. 50) | Using two- part adhesive | Using two- part adhesive | Using two- part adhesive | Using two- part adhesive |

_PASSIVE_GUIDANCE

SWARO TEMP MARKER

Road marking stud for temporary use



HORIZONTAL ROAD MARKING
STUD FOR TEMPORARY USE

SWARO TEMP MARKER is ideal for temporary use to protect the path of the road or for roadworks sites. It is characterised by its ease of use, installation and removal. Despite their temporary purpose, **SWARO** TEMP MARKERS are extremely durable and resistant.

_BENEFITS



- Can be driven over
- Durable and resistant to external influences
- Easy to use, install and remove

_VERSIONS

- **SWARO** MINISTAR
plastic road marking stud with **SWARO** GLASS REFLECTIVES for improved guidance in darkness or adverse weather, optionally available with pre-applied bitumen adhesive.

SWARO MINISTAR, Art. 3092



| | | |
|--|---|---|
| |  |  |
| Article Name | SWARO MINISTAR | SWARO MINISTAR BUTYL |
| Article No. Reflective, single-sided Reflective, double-sided | 3091 3092 | 3091B 3092B |
| Dimensions | 68×34×9.8 mm | 68×34×9.8 mm |
| Body Material Colours | Plastic White, yellow, orange, blue | Plastic White, yellow, orange, blue |
| Insert Material Colours | Plastic White, yellow, orange, red, blue | Plastic White, yellow, orange, red, blue |
| SWARO GLASS REFLECTIVES Colours No. per reflective side | White, yellow, red, blue 8 | White, yellow, red, blue 8 |
| Conformity with standards | Reflectivity values according to ISO 1463-1 | Reflectivity values according to ISO 1463-1 |
| Mounting (see also Adhesive Matrix p. 50) | Using two-part adhesive | With pre-applied butyl adhesive |

ADHESIVE MATRIX

To ensure a service life that corresponds to the durability and longevity of our products, depending on the item and application (permanent or temporary), we recommend the use of the following adhesives and quantities.

| Adhesive | COLDFYX | Granular hot-melt adhesive (EVA-based) | Hot-melt adhesive (Probit polymer-based) – Tropical grade | Hot-melt adhesive (Probit polymer-based) – European grade |
|------------------------------|-----------|---|---|---|
| Article | 1473 | 1474 | 1475 | 1479 |
| Application (temp./perm.) | permanent | temporary | permanent | permanent |
| 3091 | 20 g | 22 g | — | — |
| 3092 | 20 g | 22 g | — | — |
| 3091B | — | — | — | — |
| 3092B | — | — | — | — |
| 3551 | 60 g | 70 g | — | — |
| 3552 | 60 g | 70 g | — | — |
| 3541 | 60 g | 70 g | — | — |
| 3542 | 60 g | 70 g | — | — |
| 3555 | 45 g | 50 g | — | — |
| 3556 | 45 g | 50 g | — | — |
| 5001 | 130 g | — | — | — |
| 5002 | 130 g | — | — | — |
| 5003 | 200 g | — | — | — |
| 5004 | 200 g | — | — | — |
| 5005 | 160 g | 180 g | — | — |
| 5006 | 160 g | 180 g | — | — |
| 5017 | 220 g | 245 g | — | — |
| 5018 | 220 g | 245 g | — | — |
| 5020 | 220 g | 245 g | — | — |
| 5021 | 225 g | — | — | — |
| 5022 | 225 g | — | — | — |
| 5058 | 220 g | 245 g | — | — |
| 5060 | 220 g | 245 g | — | — |

| Adhesive | COLDFYX | Granular hot-melt adhesive (EVA-based) | Hot-melt adhesive (Probit polymer-based) – Tropical grade | Hot-melt adhesive (Probit polymer-based) – European grade |
|------------------------------|-----------|---|---|---|
| Article | 1473 | 1474 | 1475 | 1479 |
| Application (temp./perm.) | permanent | temporary | permanent | permanent |
| 3533 | 95 g | — | 160 g | 160 g |
| 3534 | 95 g | — | 160 g | 160 g |
| 3543 | 95 g | — | 160 g | 160 g |
| 3544 | 95 g | — | 160 g | 160 g |
| 3547 | 95 g | — | 160 g | 160 g |
| 3548 | 95 g | — | 160 g | 160 g |
| 5031 | 300 g | — | 415 g | 415 g |
| 5032 | 300 g | — | 415 g | 415 g |
| 5209 | 95 g | — | 160 g | 160 g |
| 5210 | 95 g | — | 160 g | 160 g |
| 5221 | — | — | 180 g | 180 g |

_RECOMMENDATIONS

- Allow an additional 5% to adhesive quantities for wastage (stirrer, container, spreader)
- Always round to full container

SWARO BARRIER
Reflectors for concrete barriers



REFLECTORS FOR CONCRETE
BARRIERS, TUNNELS
AND UNDERPASSES

SWARO BARRIER reflectors can be fitted to concrete barriers, in tunnels, galleries and underpasses and to the concrete walls of industrial structures.

The **SWARO BOOMERANG** and **SWARO WALLFLEX** products contain **SWARO GLASS REFLECTIVES** embedded in an especially durable and weather-resistant high-performance plastic (thermoplastic polyester elastomer). This exhibits excellent strength and elasticity, even at low temperatures. The resulting longevity and minimal installation costs ensure superb value for money. Its high flexibility reduces material damage in the event of vehicle contact and the risk of injury in accidents, e.g. with motorcyclists.




_BENEFITS

- High resistance to breakage (**SWARO BOOMERANG** and **SWARO WALLFLEX**)
- Flexibility creates high impact resistance (**SWARO BOOMERANG** and **SWARO WALLFLEX**)
- Easy to use and install

_VERSIONS

- **SWARO BOOMERANG**
Flexible reflector strip with high visibility, suitable for mounting on all standard concrete barriers
- **SWARO BAR**
Compact reflector for concrete barriers
- **SWARO WALLFLEX**
Reflector for mounting on or beside the concrete barrier*.
High flexibility reduces material damage when driven over by vehicles and risk of injury in the event of an accident.
Suitable for guard rail fitting with adapter




* **SWARO WALLFLEX TOP** can also be mounted on guard rails with adapter

| | | | |
|---|---|---|---|
| |  |  |  |
| Article Name | SWARO BOOMERANG CLASSIC | SWARO BOOMERANG ECONOMY | SWARO BAR |
| Article No. Reflective, single-sided Reflective, double-sided | 5191 5192 | 5193 5194 | 3351 3350 |
| Dimensions | 550 × 45 × 40 mm | 550 × 45 × 40 mm | 154 × 40 × 36 mm |
| Body Material Colours | Plastic Grey | Plastic Grey | Plastic Black |
| Insert Material Colours | Plastic White, yellow, red, black | Plastic White, yellow, red, black | Plastic Black |
| SWARO GLASS REFLECTIVES Colours Number Tilt | White, yellow, red 513 0° | White, yellow, red 300 0° | White, yellow, red 171 0° |
| Conformity with standards | Reflectivity values according to EN 12899-3 | Reflectivity values according to EN 12899-3 | Reflectivity values according to EN 12899-3 |
| Mounting | With screws | With screws | With screws |

| | | | |
|---|---|---|---|
| |  |  |  |
| Article Name | SWARO WALLFLEX TOP ECONOMY | SWARO WALLFLEX TOP CLASSIC | SWARO WALLFLEX TOP METAL HOLDER |
| Article No. Reflective, single-sided Reflective, double-sided | 5111 5112 | 5121 5122 | 5105 |
| Dimensions | 146 × 88 mm | 146 × 88 mm | — |
| Body Material Colours | Plastic Black | Plastic Black | Metal Metal |
| Insert Material Colours | Plastic Black | Plastic Black | — — |
| SWARO GLASS REFLECTIVES Colours Number Tilt | White, yellow, red 188 0° | White, yellow, red 346 0° | — — — |
| Conformity with standards | Reflectivity values according to EN 12899-3 | Reflectivity values according to EN 12899-3 | — |
| Mounting | With screws or SWARO METAL HOLDER on profile guard rails | With screws or SWARO METAL HOLDER on profile guard rails | For fitting all SWARO WALLFLEX TOP products to profile guard rails |

SWARO WALLFLEX SIDE CLASSIC Art. 5164



| | | | |
|---|---|---|---|
| |  |  |  |
| Article Name | SWARO WALLFLEX SIDE SMALL | SWARO WALLFLEX SIDE ECONOMY | SWARO WALLFLEX SIDE CLASSIC |
| Article No. Reflective, single-sided Reflective, double-sided | 5091 5092 | 5161 5162 | 5163 5164 |
| Dimensions | 133 × 50 mm | 128 × 110 mm | 128 × 110 mm |
| Body Material Colours | Plastic Black | Plastic Black | Plastic Black |
| Insert Material Colours | Plastic Black | Plastic Black | Plastic Black |
| SWARO GLASS REFLECTIVES Colours Number Tilt | White, yellow, red 101 0° | White, yellow, red 188 0° | White, yellow, red 346 0° |
| Conformity with standards | Reflectivity values according to EN 12899-3 | Reflectivity values according to EN 12899-3 | Reflectivity values according to EN 12899-3 |
| Mounting | With screws | With screws | With screws |

SWARO GUARD

Reflectors for guard rails



REFLECTOR
FOR GUARD RAILS

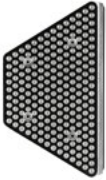


SWARO GUARD reflectors for guard rails help to improve visibility of the path of the road in darkness or poor weather conditions. They are available in a range of versions for different guard rail profiles. **SWARO** GUARD reflectors are highly resistant to mechanical damage from snow clearance. **SWARO** GUARD reflectors are durable, easy to install and great value for money.

_BENEFITS

- Highly resistant to breakage
- Efficient and good value
- Easy to use and install




_VERSIONS

- **SWARO** GUARD METAL
Reflector with metal bracket
- **SWARO** GUARD CLASSIC
Plastic-bodied reflector, suitable for most standard metal rails

| | | | |
|--|---|---|---|
| |  |  |  |
| Article Name | SWARO GUARD METAL LARGE CLASSIC | SWARO GUARD METAL LARGE ECONOMY | SWARO METAL ALLROUND |
| Article No. Reflective, single-sided Reflective, double-sided | 3257 3256 | — 3254 | 3240 3241 |
| Dimensions | 115×73 mm | 115×73 mm | 78×66 mm |
| Body Material | Steel sheet, 2 mm thick, galvanized | Steel sheet, 2 mm thick, galvanized | Steel sheet, 1.5 mm thick, galvanized |
| Insert Material Colours | Plastic Black | Plastic Black | Plastic Black |
| SWARO GLASS REFLECTIVES Colours No. per reflective side Tilt | White, yellow, red 213 0° | White, yellow, red 158 0° | White, yellow, red 166 0° |
| Conformity with standards | Reflectivity values according to EN 12899-3 | Reflectivity values according to EN 12899-3 | Reflectivity values according to EN 12899-3 |
| Mounting | With screws | With screws | With screws |
| Details | Guard rail reflector for large profile | Guard rail reflector for large profile | Guard rail reflector for all current profiles |



SWARO GUARD CLASSIC MULTI, Art. 3274

| | | | |
|--|---|---|---|
| |  |  |  |
| Article Name | SWARO GUARD CLASSIC MULTI | SWARO GUARD CLASSIC ALPINE 2 | SWARO CLASSIC TYPE RANSHOFEN |
| Article No. Reflective, single-sided Reflective, double-sided | 3273 3274 | 3510 3500 | — 3520 |
| Dimensions | 145×66 mm | 100×38 mm | 91×38 mm |
| Body Material Colours | Plastic Black | Plastic Black | Plastic Black |
| Insert Material Colours | Plastic Black | Plastic Black | Plastic Black |
| SWARO GLASS REFLECTIVES Colours No. per reflective side Tilt | White, red 213 0° | White, yellow, red 106 0° | White, red 106 0° |
| Conformity with standards | RVS / reflectivity values according to EN 12899-3 | RVS / reflectivity values according to EN 12899-3 | RVS / reflectivity values according to EN 12899-3 |
| Mounting | With screws | With screws | With screws |
| Details | Guard rail reflector for all current profiles | Guard rail reflector for Alpine 2 profile | Guard rail reflector for Ranshofen profile |

SWARO POST

Reflector for vertical markings



REFLECTOR FOR
VERTICAL MARKINGS

The **SWARO** POST products are reflectors for vertical markings such as guide posts. They are available as round or rectangular versions in a range of sizes, colours and colour combinations. Their resistance to damage from stones and snow clearance makes them really stand out.

_BENEFITS

- Highly resistant to damage from stones and snow clearance
- Wide choice of sizes and colour combinations
- Easy to use and install
- Meets a variety of national and international standards and regulations




_VERSIONS




- **SWARO POST ROUND**
Reflector for vertical markings, round shape
- **SWARO POST RECTANGLE**
Reflector for vertical markings, rectangular shape
- **SWARO POST SNOW**
Reflector for vertical markings on snow poles



SWARO POST RECTANGLE; Art. 2371

| | | | |
|-----------------------------|---|---|---|
| |  |  |  |
| Article Name | SWARO POST RECTANGLE | SWARO POST RECTANGLE | SWARO POST RECTANGLE |
| Article No. | 2371 | 2390 | 3320 |
| Dimensions | 180×40 mm | 150×31 mm | 250×40 mm |
| Body Material Colours | Plastic White, yellow, red, black | Plastic White, yellow, red, black | Plastic White, yellow, red, black |
| SWARO GLASS REFLECTIVES | | | |
| Colours Number Tilt | White, yellow, red 170 0° | White, yellow, red 100 0° | White, yellow, red 268 0° |
| Conformity with standards | EN 12899-3 RVS | Reflectivity values according to EN 12899-3 | Reflectivity values according to EN 12899-3 |
| Mounting | With screws | With screws | With screws |

| | | | |
|-----------------------------|---|---|---|
| |  |  |  |
| Article Name | SWARO POST RECTANGLE | SWARO POST RECTANGLE | SWARO POST SNOW |
| Article No. | 3370 | 3390 | 3852 |
| Dimensions | 180×40 mm | 150×31 mm | 125×24 mm |
| Body Material Colours | Plastic White, yellow, red, black | Plastic White, yellow, red, black | Plastic White, yellow, black |
| SWARO GLASS REFLECTIVES | | | |
| Colours Number Tilt | White, yellow, red 272 0° | White, yellow, red 171 0° | White, yellow, red 101 0° |
| Conformity with standards | EN 12899-3 RVS | Reflectivity values according to EN 12899-3 | Reflectivity values according to EN 12899-3 |
| Mounting | With screws | With screws | With screws |

| | | | |
|-----------------------------|---|---|---|
| |  |  |  |
| Article Name | SWARO POST ROUND | SWARO POST ROUND | SWARO POST ROUND |
| Article No. | 2380 | 2381 | 3380 |
| Dimensions | Ø 61 mm | Ø 60 mm | Ø 65 mm |
| Body Material Colours | Plastic White, yellow, red, black | Plastic White, yellow, red, black | Plastic White, yellow, red, black |
| SWARO GLASS REFLECTIVES | | | |
| Colours Number Tilt | White, yellow, red, green 72 0° | White, yellow, red 80 0° | White, yellow, red 121 0° |
| Conformity with standards | Reflectivity values according to EN 12899-3 | EN 12899-3 | Reflectivity values according to EN 12899-3 |
| Mounting | With screws | With screws | With screws |

On all **SWARO** POST products, both the **SWARO** GLASS REFLECTIVES and the bodies can be manufactured in custom colours on request.



SWARO WARN

SWARO WARN products protect both people and animals from accidents due to wildlife crossings.

SWARO WARN

Visual wildlife warning for guide post mounting



WILDLIFE WARNING SYSTEM
TO PREVENT
WILDLIFE ACCIDENTS

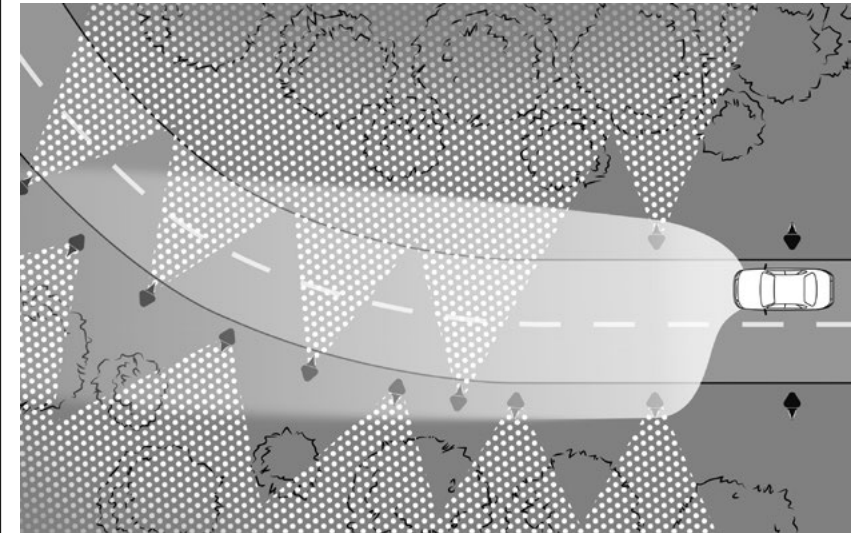
The **SWARO** WARN visual warning system deflects the headlights of an approaching vehicle towards the roadside at dusk or at night. This creates a constantly changing visual warning fence that either stops wildlife in its tracks or sends it fleeing back to the countryside.

SWARO WARN only reflects the light towards the verge, so that there is no risk of dazzling road users. The wildlife warning reflectors have been developed for all kinds of terrain and offer an effective and inexpensive alternative to wildlife fencing and scent barriers. Its use prevents the division of natural wildlife habitat: once the vehicle moves on, the visual warning fence is deactivated and wildlife can cross the road safely.

The materials used make **SWARO** WARN resistant to environmental influences such as weather, road salt, extreme temperatures, solar radiation and exhaust gases. The wildlife warning system is easy to install and clean.

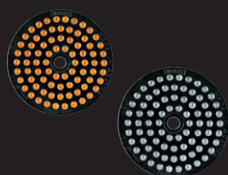
_BENEFITS

- Suitable for all types of terrain
- No risk of dazzling road users
- No division of natural wildlife habitat
- Inexpensive option to reduce wildlife accidents
- Easy to use and install



| | | | |
|-----------------------------|---|---|---|
| |  |  |  |
| Article Name | SWARO WARN | SWARO WARN | SWARO WARN |
| Article No. | 7172 | 7178 | 7182 |
| Dimensions | 184×81×60 mm | 184×81×60 mm | 184×81×60 mm |
| Body Material Colours | Plastic Black | Plastic Black | Plastic Black |
| Reflector colour | White, blue | White, blue | White, blue |
| Application | Visual wildlife warning system for flat to slightly sloping terrain | Visual wildlife warning system suitable for all types of terrain | Visual wildlife warning system for steeply sloping terrain |
| Mounting | On roadside guide posts | On roadside guide posts | On roadside guide posts |
| Conformity with standards | RVS 04.03.12 | RVS 04.03.12 | RVS 04.03.12 |

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