

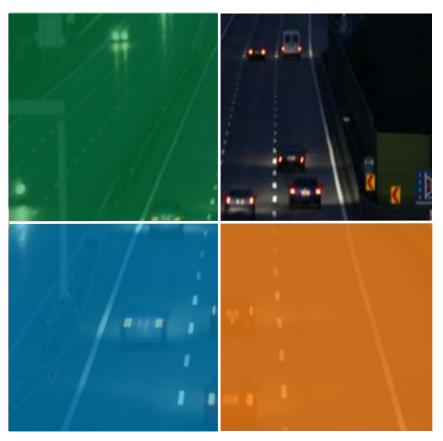


high performance ROAD MARKINGS





A Reliable Partner



SWARCO VICAS S.A. Romania is a member of SWARCO AG GROUP Austria, one of the world's most important specialists in road marking, signaling and traffic management products, services and solutions with more than 40 years experience.

The origins of the SWARCO group date back to 1969 when Manfred Swarovski built his first factory for the production of glass beads in Amstetten / Lower Austria. Glass beads continue to play a vital role when it comes to the clear visibility of road markings at night.

In the past four decades, the group expanded both geographically and productwise. Today, SWARCO is one of the biggest worldwide traffic signals and glass beads producers, involving actively in glass recycling processes, developing LEDbased technology for traffic signals and offering quality services in the traffic and control systems management.

In 2006, SWARCO AG GROUP acquired the Romanian paint & varnishing producer VICAS S.A., which changed its name to SWARCO VICAS S.A. Today, SWARCO VICAS S.A. is he biggest Romanian producer specialized in road marking paints.

SWARCO VICAS produces and sells a wide range of road marking paints, from waterborne and solventborne paints to bicomponent and thermoplastic systems. SWARCO VICAS also sells high quality reflective glass beads customized for different types of road marking systems.

Why SWARCO VICAS?



- High quality products with international and Romanian homologation, successfully tested in real traffic conditions;
- Fast deliveries regardless of the location;
- Application demos with own products;
- Professional consultancy and technical support whenever is required;
- A reliable partner;
- Optimal solutions according to customer's requirements;
- Best quality/price ratio.



LIMBOROUTE LW48

WATERBORNE ROAD MARKING PAINT

Product description

Limboroute LW48 is a waterborne, environmentally friendly high solid paint. It is characterized by good drying and bead embedment properties, excellent covering power and good resistance to abrasion.

Limboroute LW48 is suitable for both bituminous (e.g. mastic asphalt, asphaltic concrete) and concrete surfaces. Limboroute LW48 is suitable for applications with airless and atomizing machines.

Limboroute LW48 can be applied as type I marking as well as type II rain safety marking with enhanced nighttime visibility under wet conditions.



System advantages

- excellent adhesion to concrete and asphalt surfaces;
- recommended for AIRLESS type machines;
- > film without cracks, high wear resistance;
- very good adhesion to SWARCOFLEX T15 beads and improved reflectivity;
- very good resistance to salt, water and petroleum based products;
- high durability.

Technical information:

- 1. Air/ground temperature requirements:
- 2. Wet film:
- 3. Theoretic consumption:
- 4. Drying time:
- 5. Glass beads:

- Air: min +10 C, Ground: +10 +45 C, Humidity: up to 75%
- 300 µm 600 µm
- 0,48 kg/sqm– 0,95 kg/sqm (the real paint consumption depends on the thickness of the film, marking type and the quality of the surface).
- 20-40 minutes, according to the climatic conditions(temperature, humidity, wind), thickness of the film, surface type and quality. Markings must be checked for wear resistance before allowing traffic.
- 300-600 g/sqm SWARCOFLEX 100-800 T15/MEGALUX 600-1500 KT14



Application instructions:

1. Road surface/pretreatment

The surface must be dry, clean and free from grease, oil and loose gravel and other contaminations. The surface and potential existing old markings must be checked for their carrying capacity and compatibility with the material to be applied. Test applications and bonding checks are recommended. In case of marking on existing old markings, the drying/curing of LIMBOROUTE LW48 might be delayed. Ideally old markings should be removed with appropriate mechanical means.

- Concrete or cement-bound surfaces

The pavement components in new road surfaces that prevent good bonding (fine mortar layer, concrete slurries) must be appropriately removed (e.g. with high pressure water jet, fine millcut or similar). When applying the material to concrete or cement-bound surfaces (also pavements), the formation of bubbles is likely to occur. In order to prevent the formation of bubbles, the concrete should be pre-treated with corresponding primers.

- Bituminous surfaces

Any loose components such as chippings must be removed. Flux oils of new bituminous surfaces are detrimental to the good bonding of markings and accordingly can lead to discoloring of the marking. As a mechanical removal is hardly possible, the surface or the provisional paint marking should be under traffic for 4-8 weeks before applying the marking.

2. Adhesion: ATTENTION: - when applying on old existing markings (thermoplastic, alkyd or chlorinated rubber) adhesion problems may occur. In this cases the usage of the corresponding primer is recommended.

3. Application Procedure

With conventional marking machines (airless ,air-mix, pneumatic); manually with brush or roller. The marking paint must be homogeneously stirred in the original container before processing! The exact machine adjustments depend on the application conditions and the machine type and should be made according to the machine manufacturer's instructions. The uniform spread of marking material and drop-on material over the entire application surface must be observed. Layer thicknesses and drop-on material quantities must be respected.

4. Thinner: If dilution is needed don't use more than 2% WATER.

5. Cleaning the equipment and machinery:

ATTENTION: All devices and tubes must be totally free from paint residues and solvents before Limboroute LW48 is applied! Before using dispersion paints, we recommend to clean equipment and machinery used earlier for solvent-based paints in the

following three steps:

- rinse thoroughly with solvent

- rinse with industrial alcohol or an alcohol / water mix

- rinse with plenty of water

When it is necessary to apply solvent borne road marking paint after a water borne paint application the above steps should be followed in the reverse order. At every stop of the machine it is recommended to clean the nozzles. After applying, wash thoroughly the machine.

HOMOLOGATIONS

- ROMANIA: - INCERTRANS Technical Certificate ♦ GERMANY:
 - BASt no. 2006 1DW 01.04
 - BASt no. 2013 1DW 07.15
 - BASt no. 96 1W 12.07

REFERENCES

ROMANIA:

- markings on national roads: E574, DN7, DN13, DN14, DN18, DN19, DN74, DN65, DN75 GERMANY:

- field test reports by German Road Marking Society -DSGS, regarding traffic technological properties for markings on A31, A352, B16 highways after 12-22 months in place.



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