



SWARCO LIMBURGER LACKFABRIK GmbH

Road Marking Systems



## LIMBOROUTE 2-Component K809 Y1/Y2

TECHNICAL INFORMATION

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**LIMBOROUTE 2-Component K809 Y1/Y2**    **SWARCO LIMBURGER LACKFABRIK GmbH**  
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# LIMBOROUTE 2-Component K809 Y1/Y2

Art. No. 210Y1/Y2

**Road marking – construction zone marking (2-component paint)**

Version: 2014-09-16

## CONTENTS

<b>1</b>	<b>Main characteristics / Fields of application .....</b>	<b>3</b>
<b>2</b>	<b>Technical Data .....</b>	<b>3</b>
<b>3</b>	<b>Processing instructions.....</b>	<b>4</b>
3.1	Preparation of material and application technique .....	4
3.2	Optimizing application properties .....	4
<b>4</b>	<b>Surfaces / pretreatment .....</b>	<b>4</b>
4.1	General information .....	4
4.2	Concrete and cement-bound surfaces .....	4
4.3	Bituminous surfaces .....	5
4.4	Cobbled surfaces.....	5
4.5	Floor coatings .....	5
<b>5</b>	<b>Application techniques .....</b>	<b>5</b>
<b>6</b>	<b>Test report by BASt (German Road Institute).....</b>	<b>5</b>

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Road Marking Systems

# 1 Main characteristics / Fields of application

## LIMBOROUTE 2-component K809 Y1/Y2...

- is a high quality, low-solvent 2-component high solid paint free from aromatic compounds based on modified epoxy and polyaminoamide hardeners for construction zones
- is a tried and tested, thin-layer marking material with excellent technical properties when applied onto humid surfaces (e.g. fresh concrete and/or residual humidity > 4%, alleys, forest roads)
- has been tested on the turntable simulator of the German Road Institute (BASt) and is approved as TYPE II marking and represents an economical alternative to other temporary construction zone markings
- has been tested at the Institute for Paints and Varnish (ILF) for compliance with Y1 / Y2 chromaticity range in line with DIN 1436 and TL-temporary markings 97
- is suitable for both bituminous surfaces (mastic asphalt, asphalt concrete) and concrete and cement-bound surfaces
- can be applied with airless and airspray (atomizing) techniques
- is generally delivered in airless quality only
- is distinguished from conventional one-component paints for construction zones by its chemical reaction resulting in extended durability, resistance against chemicals and abrasion. Chemical reaction occurs besides physical drying through evaporation of the solvent

# 2 Technical Data

<b>Color</b>	yellow Y1/Y2 (for construction zones)
<b>Density</b>	approx. 1.43 kg/l +/- 0.1 (with hardener)
<b>Mixing ratio</b>	Base component 2-K K809 Y1/Y2 : Hardener (8623) = 20 : 1
<b>Pot life</b>	Approx. 3 days
<b>Solid content</b>	Min. 75%
<b>Volume solid content</b>	Approx. 54.24%
<b>Solvent content</b>	max. 25%
<b>Thinner</b>	When needed add 2% Thinner for 2-comp. EP, Art. No.: 3130 for viscosity adjustment and for cleaning of machine and tools
<b>Storage stability</b>	6 months in unmixed, sealed original packaging and sheltered from frost and direct sun exposure
<b>Drying time / Trafficability</b>	The drying time stated in the BASt test report are laboratory values that may differ from field conditions depending on climate (temperature, humidity, wind) material, layer thickness and road surface. In general the marking's trafficability must be checked before exposing it to traffic impact
<b>Standard packaging</b>	<b>2-comp. K809 Y1/Y2:</b> tin foil container of 35 kg filling weight <b>Hardener 8623:</b> cans of 1.75 kg filling weight (corresponds with mixing ratio) <b>Drop-on material:</b> paper bags with PE-inlay – 25 kg filling weight
<b>Identification</b>	The regulations and instructions concerning appropriate transport, handling, storage, first aid measures, toxicology and ecology are stated in our material safety data sheets! The instructions stated on the product label and in the MSDS must be followed.
<b>Processing temperature</b>	min. +5°C
<b>Surface temperature</b>	+ 5°C to + 45°C

## LIMBOROUTE 2-Component K809 Y1/Y2 SWARCO LIMBURGER LACKFABRIK GmbH

Road Marking Systems

	Wet film thickness	=	Dry film thickness	=	Theoretical consumption
Layer thickness /	300 µm	=	163 µm	=	approx. 0.429 kg/m <sup>2</sup> (0.3 l/m <sup>2</sup> )
Theoretical consumption	400 µm	=	217 µm	=	approx.. 0.572 kg/m <sup>2</sup> (0.4 l/m <sup>2</sup> )
	600 µm	=	325 µm	=	approx. 0.858 kg/m <sup>2</sup> (0.6 l/m <sup>2</sup> )

### 3 Processing instructions

#### 3.1 Preparation of material and application technique

Before processing LIMBOROUTE 2-component K809 Y1/Y2 must be homogenously stirred in its original container. Then the hardener must be added und stirred uniformly into the base component at the stated mixing ratio. The exact machine adjustments depend on the application conditions, type of machine, requested wet film thickness, type and quantity of drop-on material and need to be made according to the machine manufacturer's instructions. The uniform distribution of marking material and drop-on material over the entire application surface must be observed. Losses of drop-on material must be regarded when adjusting bead pistol or bead dispenser.

The theoretical consumption of paint and drop-on materials is listed in the BAST test report and in the table "Theoretical consumption of material and drop-on materials" on our website (in kg/m<sup>2</sup>).

The cleaning of machines (paint tank and hoses) and tools must be done before the curing is complete – with Thinner for 2-comp. EP (Art. No. 3130) exclusively. Before longer marking interruptions remove any paint already mixed with hardener.

#### 3.2 Optimizing application properties

The paint is ready for processing upon delivery. In general it is not necessary to add thinner but for optimizing the material's spray properties add approx. 2% Thinner for 2-comp. EP (Art. No. 3130). Remaining LIMBOROUTE 2-component K809 Y1/Y2 (from the day before) must be applied completely before new paint is filled into the machine's paint tank.

### 4 Surfaces / pretreatment

#### 4.1 General information

The surface must be dry, clean free from grease, oil and loose gravel and other contaminations. The surface and potentially existing old markings must be checked for their carrying capacity and compatibility with the material to be applied. In case of doubt, test applications and adhesion tests are recommended. Before applying LIMBOROUTE 2-comp. K809 Y1/Y2 on new bituminous or concrete surfaces it must be verified that the durable 2 comp. paint is the best solution for the situation at hand. Otherwise a more easily removable marking system should be used.

**Attention:** LIMBOROUTE 2-comp. K809 Y1/Y2 is not suitable for large scale asphalt markings.

#### 4.2 Concrete and cement-bound surfaces

Pavement components that prevent good bonding, especially on new concrete, including fine mortar layers, concrete slurries, concrete after-treatments as setting retarders, paraffin, impregnations on silicate basis etc. must be appropriately removed (e.g. with high pressure waterjet, fine mill-cut or similar). We recommend conducting test applications. In case of doubt communicate your concerns in written form.

## LIMBOROUTE 2-Component K809 Y1/Y2 SWARCO LIMBURGER LACKFABRIK GmbH

Road Marking Systems

When applying the paint on concrete or cement-bound surfaces, the formation of bubbles is likely to occur. In order to prevent bubble formation the concrete should be pretreated with LIMBOROUTE 2-comp. K809 Y1 /Y2 blended 1 : 1 with Thinner for 2-comp. EP (Art.-No.: 3130), with a wet film thickness of approx. 200µm. Once dried, a second, undiluted layer can be applied.

### 4.3 Bituminous surfaces

Any loose components such as chippings must be removed. On new asphalt surfaces additives (flux oils, adherents etc.) are detrimental to good bonding of markings and can cause discolorations on marking paints. Before application test markings / bonding checks are necessary (compare point 4.1).

### 4.4 Cobbled surfaces

Natural, artificial and compound stone pavements are non-static surfaces. In general, they are not suitable for the application of LIMBOROUTE 2-comp. K809 Y1 /Y2. No guarantee is given in case of crack formation, chippings caused by the movement of pavement parts, poor marking bonding (e.g. natural or artificial stones), penetration of moisture, wear of marking.

### 4.5 Floor coatings

For markings on floor coatings our indoor marking products should be used.

## 5 Application techniques

With conventional marking machines (airless or atomizing technique), manually with brush or roller.

Attention: when applying with brush, roller or spray gun (e.g. jobs with stencils) consider the paint's fast drying time.

An immediate broadcasting of drop-on materials is absolutely necessary. Otherwise the drop-on material will not be embedded properly, which leads to poor traffic technological properties. Two layer applications are an option (first layer + drop-on material, second layer + drop-on material). Well embedded drop-on beads from the first layer become visible when the second layer is worn.

## 6 Test report by BASt (German Road Institute)

Test report – No.	Thick- ness	Consumption		Drop-on material (DOM)	Traffic technological properties	
	mm	Material	Drop- on	Identification (divergent identification possible - see relevant test report)	New condition	Used condition
		kg/m²	kg/m²			
Type II marking						
2005 1VS 05.13	0.6	0.858	0.60	Megalux 0.6-1.5 KT14 3 :1	P6,S2,R5,RW6,Q3,T3	P6,S1,R4,RW5,Q3,Y2

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