

LineSTIL® STRUCTURED (COLD / 2K / MMA BASED)

Product Description

LineSTIL® Structured Road Marking Paint is a two-component, reactive methyl methacrylate based (MMA) road marking paint applied by mixing active benzoyl peroxide (BPO) chemical. It has been specially formulated to be applied with the Perfusion method. LineSTIL® Structured Two Component paint is a product with very high physical and chemical resistance which hardens with the reaction formed as a result of mixing its components in 98: 2 ratios and adheres to the surface on which it is applied. The reflectivity power of glass beads dropped on hundreds of particles produced by the Perfusion method is much stronger than the smooth surfaces. In addition, in rainy weather the resulting gaps in the Perfusion method create a canal for rainwater so that providing a better visibility for the drivers. LineSTIL® Structured Road Marking Paint is suitable for using at Pedestrian crossings, Speed Breaker, Offset scanning, Signalized Intersections, Open car parks and other places where durability is critical. Although the initial cost of LineSTIL® Structured Road Marking Paint, which does not contain volatile organic components, is higher than the traditionally used solvent-based road marking paints (Acrylic Road Marking Paint, Alkyd Road Marking Paint and Chlorine Rubber Road Marking Paint) and Thermoplastic road marking paints that require heat application, its UV resistance, physical and chemical resistance are extremely high. In addition to having a longer service life, it is an excellent road marking paint with reflective power.

LineSTIL® Structured Road Marking Paint is formulated to meet the requirements of the Technical Specifications of the General Directorate of Highways of the Republic of Türkiye, TS EN 1871 and TS EN 1436 standards.

LINESTIL® STRUCTURED ROAD MARKING PAINT



Characteristics

*Excellent adhesion.*High mechanical and chemical resistance.*Resistant to harsh weather conditions and abrasion. *High UV resistance *Provides fast drying, better durability, better color retention and gloss. *High covering and reflecting power. *Thanks to its high strength, it preserves its reflective power, color and film thickness for a long time under heavy traffic. *Hydrophobic surface with self-cleaning feature. *Extremely weather resistant and has a longer service life *Excellent wear resistance and low dirt retention *High reflectivity/gloss factor when glass beads are added *Excellent adhesion to asphalt (some concrete surfaces need to be primed) *Excellent slip resistance on asphalt and bituminous surfaces *Excellent glass bead retention properties, Day and night visibility *The road can be opened to traffic in 30- 45 minutes after the application. *Provides a better visibility in rainy weather.

Application Equipment

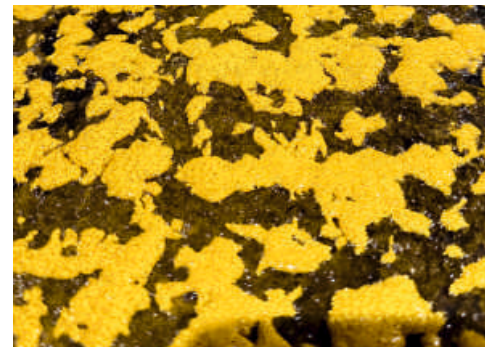
It is recommended to apply using professional hand application teams and marking machine. By using the application feature of the machine, the desired perfusion intervals and film thicknesses can be created.



Handpushing

Surface Preparation Information

LineSTIL® Structured Road Marking Paint performance varies depending on the preparation level of the surface to be applied. The application surface must be clean, dry, dust-free, free from oil and other surface residues and loose materials by means of compressed air, broom, vacuum cleaner, water jet, etc. All auxiliary equipment for surface cleaning should be available before application. The surface to be applied must not be wet. LineSTIL® Structured Road Marking Paint is recommended for maximum performance in the renewal of paints with the same properties (old paint coating residue should be less than 25%) or in newly applied asphalt and bitumen mixtures. It should never be applied on water-based, solvent-based or thermoplastic paints. Other surface conditions, such as areas with heavy engine oil contamination or existing epoxy coatings, require a flushing procedure or abrading the surface prior to application of paint. The temperature of the paint should be 5 °C higher than the road surface to be applied.



Application Surfaces

It is suitable for asphalt and bituminous surfaces. When used on concrete road surfaces, LineStil Acrylic impregnated primer is required to be applied to the concrete surface prior to application by milling, sandblasting or to close the porous capillaries on the concrete surface and increase adhesion

Weather Condition

Air temperature, surface temperature, humidity and weather conditions following the application are very important for a correct application. Always check the weather forecast. Do not start the application if heavy rain is expected within 2 hours. Drying time may be extended at high relative humidity and low temperatures. Application air temperature should be between 5 °C and 40 °C. Depending on the air temperature, the active benzoyl peroxide (BPO) component of the percentage given in the table is mixed with the paint. The main parameters that will affect the drying time are low temperature and ground temperatures, high relative humidity, dew and rain. The application area can be opened to traffic by taking into account the drying times according to the air temperatures and relative humidity 50% in TABLE 1 below

Amount of Hardener to be used according to Changing Air Temperatures, Curing and Hardening Time			
Temperature	Hardener % pbw	Curing time (temperature of material) approx. Min.	Hardening Time (of Substrate) approx. min.
0 °C	2	14-18	50
5 °C	2	12-15	40
10 °C	1,5	12-15	35
15 °C	1,5	10-12	30
20 °C	1	10-12	30
25 °C	0,5	10-12	25
30 °C	0,4	9-11	25
35 °C	0,3	8-10	20

Table 1

Paint Selection and Safety

It is important to use only the recommended or specified paint for each application. Paints based on methyl-methacrylates emit high amounts of heat during the reaction. Due to the exothermic reaction, it is not recommended to mix more than 1 tin (25kg - 33kg) of product at a time with benzoyl peroxide (BPO) before application. Avoid keeping and storing indoors and outdoors for long periods as much as possible. To avoid spills, risk of fire and evaporation of volatile organic compounds, ensure that the lids are tightly closed when transporting containers or storing products. Keep paints away from heat and flame. Please use suitable protective equipment, gloves and mask. Consult MSDS and/or product labels for further safety procedures.



Excellent Adhesion



Excellent Durability



High UV Resistance



High Abrasion Resistance



High Weather Resistance

Paint Preparation

It is a two-component, Structured paint applied by mixing active benzoyl peroxide (BPO) hardener at a ratio of 98:2 to reactive LineSTIL® Structured Road Marking Paint. Drying of the paint is initiated by adding a catalyst, also called a hardener, creating a fast-drying chemical reaction (polymerization). The 50% benzoyl peroxide (BPO) hardener is particularly suitable for this task. In order to provide high performance of Structured Paint prepared, it should be applied by mixing thoroughly to be homogenous with an electric drill minimum 1 minute after the addition of benzoyl peroxide (BPO). The amount of hardener to be used according to the changing of air temperatures is added into the paint in the amounts specified in TABLE 1. Once the hardener has been added the polymerization (hardening) process cannot be stopped. It is recommended to apply by a professional team.

Glass Beads Usage Amounts

Glass beads of different sizes specified in the specifications of the administrations are sprinkled on the paint film immediately after the application.

Wet Film Thickness [mm]	Consumption [kg/m ²]
1,5	2910
2	3880
3	5820

Note: The values given in the table are theoretical. Consumption amounts may vary depending on the surface to which the paint will be applied and ambient conditions.

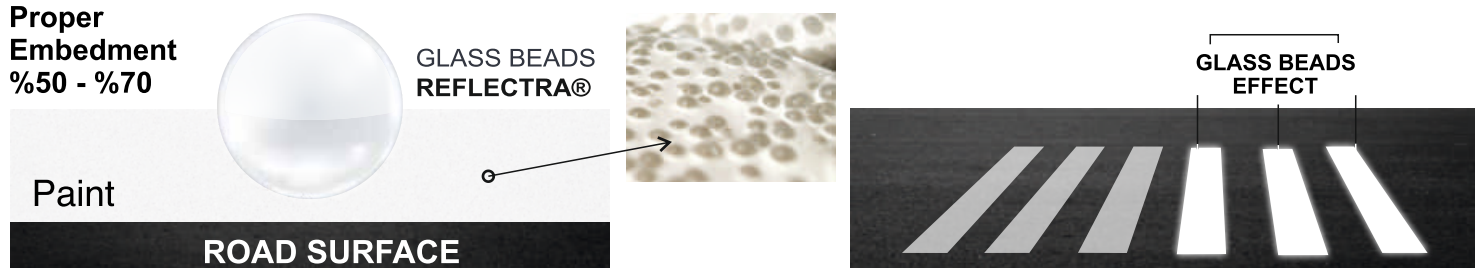
Glass Beads (TS EN 1423)	Need	Consumption
	265 g/m ²	400 g/m ²

Day & Night Visibility

Night Visibility: Thanks to the glass beads', in different sizes on the road marking paints, retro-reflective action at night a vehicle's headlight beam is returned to the driver's eyes which results in a "light-up effect" of the stripe and creates a Night visibility. This is a decisive plus for road safety. Visibility in road marking paint of the glass beads increase according to the embedding degree / size, amount and quality.

Daylight Visibility: The contrast between the coating and the pigmentation of the marking material allows the stripes to be seen clearly in daylight conditions.

Proper Embedment %50 - %70



Physical Properties	COLOR	WHITE	YELLOW
	VISCOSITY (DANIEL)	16 ± 1	16 ± 1
	DENSITY	1.95 g/ml ± 0,05	1.95 g/ml ± 0,05
	LUMINANCE CLASS / FACTOR	LF6 / β ≥ 0,80	LF2 / β ≥ 0,50

Classes of difference in gloss factor after UV aging

COLOR	CLASS	Δβ
WHITE, YELLOW	UV-1	≤0,05

Classes of difference in Luminosity Factor after Bleeding Resistance Test

COLOR	CLASS	Δβ
WHITE, YELLOW	BR-1	≤0,03

Application Areas



Lane Offset



Crosswalks



Speed Breaker

Waste Procedure

All regulations regarding the transport, storage and disposal of all hazardous materials and wastes must be carefully observed. Paint cans and related materials must be isolated in accordance with the required waste regulation. Otherwise, it may result in penalties in the legal legislation. Please comply with all regulations and minimize waste as much as possible.

Storage

Store between 5 °C and 30 °C in closed areas away from direct sunlight. Adequate ventilation of the storage area should be ensured to prevent moisture build-up. Keep away from sources of heat and sparks. The lid should be tightly closed when the paint can is not used. The minimum shelf life of LineSTIL® Structured Road Marking Paint is 1 Year in its original packaging and under appropriate storage conditions.

Important Information

The information given in this data sheet is not intended to be comprehensive and may not be used for any purpose other than that specifically recommended on this sheet without our written approval as to the suitability of the product for its intended use. Otherwise, it is entirely user's own responsibility. As conditions of use, application method and surface suitability during painting are out of our control. The recommendations contained herein do not make any guarantees. The recommendations contained herein do not give any guarantee. Therefore, we accept no responsibility whatsoever for any loss or damage caused by the performance or the use of this product. The information on this data sheet is obliged to make changes from time to time in the light of experience and ongoing product development programs. It is the user's responsibility to ensure that this page is up-to-date before using the product.

Note: These data have been tested under lab conditions in the R&D department of Stil Trafik İşaretleri San. Ve Tic. A.Ş. Our company cannot be held responsible for any direct, indirect, special and consequential losses and damages that may arise from relying on this information and its use

Packaging

LineSTIL® Structured Road Marking Paint is produced in 25 kg metal cans as standard.



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