

LaneAlert 2x™ Series 1 PFT Pavement Marking

FREQUENTLY ASKED QUESTIONS

Durability

How durable is the LaneAlert 2x?

Pavement marking durability is affected by material type and quality, application practices and environmental conditions. We have developed LaneAlert 2x with the most important durability elements in mind: color, wear, cracking, marring, cohesion and adhesion, each of these elements are addressed in the following questions below.

Does the LaneAlert 2x discolor?

Discoloration of pavement markings is most often caused by UV degradation of the marking pigments, delamination of its coatings or tracking of foreign bodies onto the material surface.

The LaneAlert 2x is packed with durable UV resistant material and pigment in both the substrate, and coatings, to resist fading and cracking. The proprietary coatings contain high-performance properties, designed specifically to maintain tenacious adhesion to the substrate, even after repeated thermal cycling. These coatings provide superior protection against corrosive environments and thermal shock.

How well does the LaneAlert 2x wear?

Wear of pavement markings is directly related to the quality and type of materials and the amount of traffic the marking receives.

The LaneAlert 2x is made of a specialized thermoplastic composite. This material is substantially harder and stronger than the conventional preformed thermoplastic currently on the market. In addition, its

profile is designed so that the message remains legible throughout its lifecycle.

Does the LaneAlert 2x crack?

Cracking of pavement marking materials is most often caused by the aging of its resins, or extreme temperature changes in comparison to the surface on which it is applied.

The LaneAlert 2x composition provides high tensile strength and flexibility, reducing its susceptibility to cracking. Despite its flexibility, LaneAlert 2x should not be installed on pavement seams or cracks. However, if absolutely necessary, we suggest a simple relief cut through both layers along the length of the crack or seam.

Does the LaneAlert 2x gouge or mar?

Marring in general is primarily caused by a foreign body, like gravel, compressing into the material under the force of a motor vehicle's tire. This is not as noticeable with markings of a single color.

The size and spacing of the individual profiles in the LaneAlert 2x design, create a high definition image that helps to minimize the visual disruption caused by marring. In addition, the LaneAlert 2x marking layer (Panel 2) is constructed with a hardening agent that resists much of the marring damage.

How well does the LaneAlert 2x adhere to the pavement?

Adhesive strength of a pavement marking material is greatly dependent on the application surface type and preparation, along with proper installation. Thermoplastic type materials create a strong thermo bond to asphalt cement surfaces,

however newer PCC surfaces or older oxidized pavement surfaces may require primers to aid in adhesion.

The LaneAlert 2x specially formulated adhesive layer (Panel 1) has a tenacious bond to both the pavement surface and the marking layer (Panel 2). This adhesive layer heats up rapidly to application temperature for quick, secure adhesion.

Visibility

How visible is the LaneAlert 2x in night and day conditions?

General visibility of pavement markings can be significantly impacted by the level of contrast caused by lighting, color, materials and texture or profile of the marking and the surrounding pavement surface.

Nighttime: LaneAlert2x provides quality nighttime visibility throughout its life-cycle. To ensure adequate nighttime visibility (retroreflectivity), the LaneAlert 2x has a highly retroreflective 'field' containing embedded glass micro-spheres and a high definition angular profiled message, such as words or symbols, which results in enhanced nighttime contrast of the message on the pavement surface as well as the marking "field" itself.

Daytime: LaneAlert 2x daytime visibility, like that of conventional pavement markings, has significant dependence on the marking contrast with the surrounding pavement. White markings on new PCC or oxidized asphalt cement surfaces have the least contrast and reduced visibility. However, by design, the red LaneAlert 2x wrong-way messaging (red-on-white or red-on-

yellow) provides excellent contrast and visibility in most any environment.

Why not use conventional markings and messages?

There are two primary indicators of wrong-way driving in the use of conventional pavement markings. Both are helpful but limited in their effectiveness for situations requiring an optimal warning. First, here in the United States and a few other countries, we use yellow markings to divide travel in opposite directions. Knowing this, a wrong-way driver might recognize that the yellow markings are on the wrong side of their travel lane. Second, is the orientation of the marking or symbol – for example, an upside-down merge symbol might indicate the driver is traveling the wrong way.

The LaneAlert 2x was specifically designed to provide a more clear, concise message or warning to a wrong-way driver without creating harmful distraction to the right-way driver. It does this through a 2-way angled profile design providing an optimal wrong-way warning.

Each angle of the LaneAlert 2x is constructed for the distinct viewing aspect of the intended driver. For example, the right-way angle is a softer slope that is best viewed in standard 30-meter geometry which replicates normal driving. The wrong-way slope is more upright to provide a clear message at 7-meter geometry which is more effective for impaired drivers that tend to tunnel their focus on the roadway directly in the front of their vehicle.

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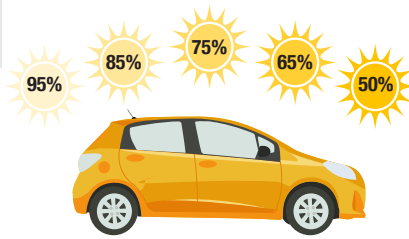
Why not use red/white raised reflective pavement markers?

Use of Red/White raised reflective pavement markers as a wrong-way driving countermeasure is limited in its effectiveness. When applied along lane lines and wrong-way arrows, they communicate to the driver that there is something wrong, however in many cases they alone do not provide optimum clarity of message due to their discontinuous or intermittent layout. This needed clarity is especially crucial to an impaired wrong-way driver.

The LaneAlert 2x provides a clear concise message to the wrong-way driver. It does so by providing continuous, non-intermittent, highly legible symbols and words. The LaneAlert 2x is designed to be a platform countermeasure - A primary countermeasure that can be used effectively and economically across many applications. We do recommend using LaneAlert 2x along with other complementary countermeasures when needed, like that of pavement markers, as no single solution solves all safety problems.

Can the LaneAlert 2x wrong-way message be seen by the right-way driver?

While the wrong-way message is concisely clear to the wrong-way driver, at the same time its visibility is intentionally obscured 50% to 95% in the right-way driving direction to avoid distracting the right-way driver. Obscurity is greatly dependent upon the lighting conditions and angles.



For example!

Sun behind or directly above right-way driver – results in approximately 75 to 95% obscured visibility of wrong-way message for the right-way driver.

Sun low and facing right-way driver – results in approximately 50 to 75% obscured visibility of wrong-way message for the right-way driver.

Note: based on light conditions, we recommend using messages and symbols that read or represent one direction only, like that of words or single direction arrows.

Installation

How Long does it take to install the LaneAlert 2x?

Speed of installation is important but can vary greatly from one marking type to another, especially when considering installation safety for both the road workers and the road users.

Installation of the current LaneAlert 2x two panel thermoplastic design takes approximately one minute to apply a 2 to 4sf section with a two-person crew. For example, this equates to about 10-15 minutes for a single stopbar.

What surface preparation is necessary?

All surfaces must also be clean, dry, absent of loose debris. Be cautious of

existing markings, underlying moisture, high-float asphalt PCC curing compounds.

Existing Markings: For best results, the LaneAlert 2x Adhesive Panel should be adhered directly to the pavement and removal of existing markings is often necessary. Successful adhesion can be carefully obtained on thin mil temporary waterborne markings with minimum glass bead content. Understanding that the existing marking must be of good quality and well adhered to the pavement surface.

New PCC Surfaces: Install the LaneAlert 2x after a minimum of 28-day cure time, ensuring that the PCC is free of curing compounds and moisture. For best adhesion results the Concrete Surface Profile (CPS) should be 4-5.

Open Grade Friction Course Asphalt: OGFC asphalt pavements as well as asphalt-based chip-seal surfaces have extremely coarse aggregate. For proper adhesion and visual effect, additional or thicker Adhesive Panels may be necessary. Contact your representative for more information.

Commercial Sealcoated Surfaces: As with existing markings, the LaneAlert 2x Adhesive Panel should be adhered directly to the pavement and removal of existing sealer is often necessary. Otherwise, it is not recommended to apply the LaneAlert 2x on these surfaces.

Thermoplastic adhesion is greatly affected by material, ambient and surface temperatures during installation. It is recommended to apply the LaneAlert 2x with surface and ambient temperatures of 50f degrees and rising. All surfaces should be preheated to remove moisture and promote adhesion regardless

of the temperatures. Cooler ambient or surface temperatures will slow the installation process as well as increase risk of inadequate adhesion. For proper adhesion it is crucial to quickly and securely apply the Marking Panel (Panel 2) to the Adhesive Panel (Panel 1) during the adhesive's molten state. **DO NOT APPLY HEAT DIRECTLY ON THE PROFILED AREA OF THE MARKING.**

What tools or equipment are needed to install the LaneAlert 2x?

Unlike most pavement marking materials, traditional preformed thermoplastic requires minimum investment in specialty tools and equipment. This is also the case with LaneAlert 2x preformed thermoplastic (PFT). The primary tools needed are the same as traditional preformed thermoplastic and include: personal safety items, layout and basic hand tools, a high-pressure handheld torch with a propane cylinder, and infra-red temperature gun. Refer to the tools list in the installation instructions to insure the project is completed safely and effectively.

Can LaneAlert 2x be used in snow plow regions?

All pavement markings degrade prematurely as a result of regular snow plowing. This is especially true for markings that have a profile, like tapes and thermoplastic.

Like that of conventional markings with a profile, it is recommended that the LaneAlert 2x be applied so that it does not extend above the surface of the pavement. This will prevent the plow blade from impacting the markings edges or its pattern profiles.