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Inspired from its creator…Vehicle aspherical head lamps,
Optical Curb Markers reflect the next generation of street markings

Over 100 years ago, a new industry of glass production was born. This industry would create flat glass and soon offer new ways in projecting and modifying light beams as it passes through preformed glass.

Andre Blondel, the founder of Glass Works in France pioneered and revolutionized the glass industry by exploiting its patents in the field of lighting.

1925, the automobile industry was developed replacing flat glass with prismatic lenses. Due to the demand and growth of the auto industry, the manufacturing of glass head lamps began.

In 1965, the first head lamp lenses were produced utilizing an automatic pressing system. 30 years later the glass lens industry would soon be jeopardized by new age plastics producing plastic headlight protective lenses in place of glass. This unforeseen change caused glass manufactures around the world to close their doors. In fact, one of the founding glass works in France would soon face the same unpredictable consequences of industry change.

Technology has unveiled its capabilities of producing products that are compact, lightweight, efficient and cost effective such as the computer industry. Technology has also had its impact in the glass industry by providing new grounds for development.

This development is the new aspherical lenses and modules that will illuminate the new century with ultra performing light projection systems that will ultimately change the way we see the road ahead.

Discrete, compact, lightweight, high-tech aspherical lenses are a true breakthrough for the automotive industry. The new design is capable of reducing the cost of front-end lighting systems by 20% while providing headlights with the ability to project light similar to clarity of daylight.

Aspherical lenses are built with state of the art equipment but have had a tendency to project strict ridged light beams until recently.

The Engineers at the glass works (Holophane France) have learned to change textures within the glass manufacturing process. This process in conjunction with 100 years of glass production now allows vehicle headlight lenses to project a smooth gradient white light for improved nighttime visibility. This light is produced by a gas discharge system called Xenon. Xenon lamps in conjunction with the aspherical projection lens provides amazing characteristics allowing vehicle headlights to produce light so bright and clear it is almost equal to daylight.

How does this effect roadside delineation?
The optical light beams projected from its aspherical lens provides a superior ground driving light that is much more comfortable and less irritating on the eyes. If compared to traditional automotive headlights, aspherical lenses meet the exact demands of SAE specifications were as traditional light systems have a more "scattered" light projection that appears to provide more overhead light but in no way can compete with the quality of an aspherical head lamp.

During the next year, we will be investigating the possibilities of altering low beam overhead light projection to enhance the visibility of roadside and overhead signalization better then ever. This can now be achieved through the advanced engineering of the aspherical lenses and modules in a matter of days when compared to the complex light reflex patterns of traditional reflective lenses.
Optical curb and pavement marker technology with TOTAL LIGHT FUNCTIONING

The altering of glass and textures has provided new grounds of development, this development has gone beyond aspherical light projection and modernized itself into a Total Light Functioning system with 360 degree visibility that requires no electricity.

Optical markers illuminate rotaries, curbs, winding roadways, intersections and many other applications were only an electric powered light would or could take its place. Optical Curb Markers provide a distinct crisp optical light signal that will follow a vehicles approach and passing as the eyes of the Mona Lisa follows its admiring onlookers.

360 Degree Curb and pavement markers provide a sustained light reflection during the passing of a vehicle. Sustained light allows drivers will never fail out of its visible entrance angle as long as the marker is receiving light. This compact 2” x 2” marker will define and outline roadside curbs, medians, bull noses while eliminating shadowing from urban lighting. Roadways equipped with curb markers provide safer driving environments for all motorists especially during dark rainy conditions.

As history has Portrayed, great achievements sometimes happen by accident, in this particular case, the founder of the curb marker Daniel Bemer, had his accident while driving home. Daniel, formerly director of production at the glass works in France was driving home on a dark rainy night. During his trip home, he came upon a truck traveling in the same direction. As in most situations, Daniel turned on his left signal and passed the truck. As he was passing the truck, his vehicle received a massive impact from underneath almost loosing control, the truck driver saw that Daniel had hit a median centered in the road and began to slow down allowing Daniel to merge right eliminating a fatal crash into an upcoming median wall.

A life changing experience, Daniel set out to find a way curbs could be illuminated.

At this time, Holophane France was benefitting its climb back into the headlight industry with its new aspherical lens. Sales and growth allowed Daniel to step away from production and create a new division in traffic signalization at the glass works. His goal was to find a safe and efficient way of marking curbs. Before the curb marker was conceived, the idea of creating a reflective curb stone made entirely of reflective hardened glass was on the drawing board. The weak bonding of pavement / concrete to glass would not assure the glass curbs fixed position, especially if run over by trucks or heavy equipment which would eventually shift the curbs fixed position.

Although manageable and functional in its own way, the glass curb was not the solution for the traffic industry. Daniel continued to research optics from as far back as early 1920’s hoping to find a way to build his vision. He came across a patent that ultimately sparked an alternative approach to achieving the conception of the Curb Marker.

With no time to waste, Daniel installed a computer at home with specialized software to calculate optics. After several days and numerous calculations, he finally achieved what seemed to be the optical structure of the to be curb marker. With a solid mathematical plan of construction, Holophane glass works produced a prototype for testing. Daniel’s design would allow the curb marker to function between 0 to 20 degree if positioned on a slanted curb. After laboratory testing, the optical engineers contacted Daniel and told him his marker did not work 0 to 20 degrees but 0 to 40 degrees! The Opti-curb marker was a success!

Soon the marker was refined and fitted with a rubber grommet to protect and support the marker while seated in the curb. This method of application would eliminate the use of adhesives. 1 year later new age 360 and 180 degree pavement markers were developed and added to the line.

Opti-CURB’s smooth surface allows it to be self-cleaning. Mechanical properties provide outstanding strength, durability and wear resistance when compared to plastic marker systems.

### Installation

Utilizing a diamond drilling core designed specifically for curb markers and built by HILTI enables Opti-curb studs to be installed in under 2 minutes or 250 studs per day with two men.

### Optical studs

**Maintenance free**

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January / February 03