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CONCRETE REPORT

<u>White Surfaces Reflect Light Better than Darker Surfaces!</u>


Solid fact. Bright white is the best color for maximum light reflectivity anywhere, especially where traffic safety is important. Impervious concrete median barriers made with bright white cement reflect light better – day and night – than any other kind of median barrier. **Common sense alone suggests this, and tests prove it.**

The New Jersey Highway Department has been building concrete median barriers made with both white and conventional gray portland cement for many years. The above photograph offers a visual comparison between two six-year-old reflective surfaces on a typical concrete median barrier in that state. It was taken from an angle at which a motorist would see the barrier. **You're a motorist; draw your own conclusions.**

Bright white "safety shape" concrete median barriers create a safer driving environment. And, because concrete made with white cement has the same timeless capabilities as that made with conventional gray portland cement, highway departments in all climatic areas are assured minimum annual maintenance expense.

Reflectivity tests made on selected gray and white concrete median barriers in New Jersey proved conclusively that white cement concrete can be seen more easily by motorists. **This is an important safety factor.** The tests were conducted along the same stretch of highway using a photoelectric reflection meter, which measures surface reflectivity of from 0 to nearly 100 percent. A comparison between the average readings of both white and gray concrete median barriers shows white to be more than twice as bright. For example:
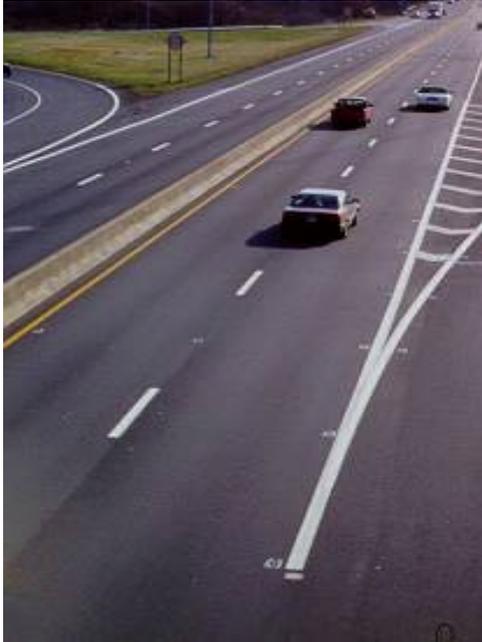
Photos are representative of concrete barriers tested

Gray Concrete Median Barrier
Five separate readings:
25/23.5/22/23.5/24
Average reading: 23.6 percent

White Concrete Median Barrier
Six separate readings:
56/60/57/57/57/57
Average reading: 57.4 percent

Consider This Too. . .

Safety on the roadways depends on being able to see clearly, especially at night. Due to reduced visibility, more accidents occur at night per capita than during daylight hours (Rennilson 2000). Whereas dark objects absorb light, light colored and white objects reflect light to warn motorists. Bright white median barriers are easy to see at all times of the day, protecting motorists better than darker colored surfaces.

White cement concrete median barriers are a proven technology offering numerous advantages over other types of barriers. Being made of concrete and being white, they:

- provide safer driving environments
- are durable in all climates
- are cost effective and virtually maintenance-free
- can be precast, formed in place or slip formed

References

Rennilson, Justin J., "Are Your Roads Safe at Night?" *Standardization News*, Vol. 28/No. 2, American Society for Testing and Materials, West Conshohocken PA, February 2000, pages 26–29.

"What is White Cement?" *Concrete Technology Today*, Vol. 20, No. 1, Portland Cement Association, Skokie, Illinois, April 1999, 4 pages. Available for viewing at http://www.portcement.org/pdf/PL991.pdf.

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