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The Effect of Color Contrast on Daytime and Nighttime Conspicuity of Roadworker Vests	September 2000
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16. Abstract

A static field study was conducted, both during the day and at night, to examine the effect that color contrast within a safety vest has on noticeability. Fluorescent orange and yellow fabrics were matched with orange, yellow, silver, or white retroreflective trim to appear similar to a safety vest. The method of paired comparisons was used to develop a linear scale of how noticeable the various color combinations appeared under cluttered and uncluttered viewing conditions.

The results indicate that color contrast within the safety vest, as well as relative to the environmental surround, affects judgments of noticeability. However, in the nighttime condition color contrast was not an identifiable attribute, as all the retroreflective materials used appeared white when illuminated. In the nighttime condition, the luminance of the retroreflective trim accounted for almost all of the variance in the noticeability judgments.

The results of this study suggest that a design for safety apparel that includes a combination of fluorescent yellow and fluorescent orange fabrics (providing color contrast for the daytime) with silver/white micro-prismatic retroreflective trim (proving high luminance for nighttime) is likely to be the most noticeable combination in both daytime and nighttime conditions.

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