The Conspicuity of First-Responder Safety Garments

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A study was conducted on a closed track in both daytime and nighttime conditions to compare the conspicuity of three different types of safety garment for use by first responders; NFPA 1971 turnout gear coats, and ANSI/ISEA 107 and 207 safety vests. Eight participants, balanced for gender and age, drove instrumented vehicles on the closed track indicating the distance at which they could detect pedestrians in a simulated emergency response scene. Pedestrians, wearing one of the safety garments, stood adjacent to the emergency scene, on either the right or the left side, oriented either facing or perpendicular to oncoming traffic. The effect of pedestrian motion on detection was also examined by having pedestrians stationary or walking in place.

The results show that there was no statistically significant difference in the distance at which pedestrians were detected, regardless of which garment was worn. In other words, all three standards of garment provided equal levels of conspicuity under the conditions examined. Time of day was a significant factor, with mean detection distances being longer during the daytime for all garments. Pedestrian orientation was significant, with mean detection distances being longest when facing traffic, but pedestrian motion did not result in significant differences in detection distance. The results suggest that all of the garments studied should be considered equivalent relative to making first responders conspicuous when working in close proximity to traffic.

Conspicuity, first responder, pedestrian, PPE, turnout gear

Unlimited

None

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None