

High-Visibility Clothing for Daytime Use in Work Zones

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Abstract

High-visibility safety clothing serves an important role in protection of personnel in highway construction. A total of 236 fatalities in highway and street construction were reported for 1992—1993 by the Laborers' Health and Safety Fund of North America, which puts the fatality rate of private-industry highway construction at twice that of other private-industry construction. A field study was conducted to determine the most conspicuous color of safety clothing for daytime use in the work zone. The 11 colors studied included 8 fluorescent (F1) colors (green, yellow-green, yellow, yellow-orange, red-orange, a combination of red-orange with yellow-green, red mesh over white back ground, and pink), two non-fluorescent colors (yellow and orange), and one semifluorescent color (yellow). Subjects were required to look through a shutter, which opened for 300 msec at 30.5-m intervals, as the researcher drove 32 km/hr toward a work zone. Subjects were instructed to indicate the point at which they first identified safety clothing in the scene. These detection distances were recorded for each color in each of four work zones. F1 red-orange was found to have the highest mean detection distance, and it was significantly different from every color except the F1 red mesh, F1 yellow-green, and F1 red-orange/F1 yellow-green combination. Each of these colors is recommended for use in safety garments with the exception of F1 red mesh, because the mesh may not perform well if worn over darker clothing.