

MATERIALS & RESEARCH DIVISION

Reviewed by: 
Robert F. Cauley
Materials & Research



Prepared by: 
Peter C. Winters
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RESEARCH UPDATE

NUMBER U92-3

Recycled Traffic Cones
(Final Report)

REFERENCE: Initial Report U91-17

HISTORY:

Recycled plastic traffic cones made by Utility Plastics Inc. of Brooklyn, NY. were presented to the Materials and Research Division for testing by the Purchasing Division of the Vermont Department of General Services.

In October 1991 preliminary testing was performed and subsequently reported in Research Update Number U91-17. It was found that the recycled cones are softer and can be collapsed with hand pressure while the standard cones cannot. The recycled cones are approximately two pounds lighter than the standard cones. One standard cone and one sample recycled cone were impacted at various speeds with a pickup truck. No significant difference in damage to the two types of cone occurred in this testing. However the standard cones flew farther when struck which could be a danger to workmen in a construction zone.

Based on the testing at that time nothing was found that would prevent the use of the recycled cones. Further cold weather testing was planned.

STATUS:

Cold weather impact testing was conducted on March 2, 1992, using one recycled cone and one standard cone. The cones had been stored outdoors throughout the winter and subjected to freeze thaw action for four months. The air temperature at the test site was 24 deg. F and the temperature of the cones was 28 deg. F.

The first impact was at 25 MPH. Damage was limited to the loss of 10" of plastic from the flange of the base of the standard cone.

The second impact was also at 25 MPH and resulted in both cones being knocked about 30 feet with no damage except minor scuffing.

The third impact was at 32 MPH. The standard cone flew about 45 feet and the recycled cone 40 feet.

The last impact was at 35 MPH and resulted in both cones being dragged under the truck about 300 feet. The recycled cone was collapsed and sustained a small puncture. The standard cone was not collapsed.

Given the marginal conditions of a partially snow covered highway and an icy shoulder, it was decided that a rerun to attempt to collapse the standard cone, and impacts at higher speed were imprudent. With slight hand pressure the collapsed cone was returned to nearly its original shape. There was scuffing and discoloration of both cones but neither cone received damage which would prevent its reuse. When cold, the recycled plastic can be collapsed with minimum hand pressure.

CONCLUSION:

When properly fitted with reflective collars in accordance with The Manual of Uniform Traffic Control Devices, these cones are recommended for use on Vermont Projects.