



U.S. Department
of Transportation
**Federal Highway
Administration**

1200 New Jersey Ave., SE
Washington, D.C. 20590

December 23, 2011

In Reply Refer To:
HSST/ WZ-54A

Henry Ross
Director of Government Relations
Plasticade
7700N. Austin Avenue
Skokie, Illinois 60077

Dear Mr. Ross:

This letter is in response to your request for the Federal Highway Administration (FHWA) to review a roadside safety system for eligibility for reimbursement under the Federal-aid highway program.

Name of system:	Lightweight plastic drums with warning lights
Type of system:	Work Zone Channelizing Traffic Control Device
Test Level:	NCHRP Report 350 Test Level 3
Testing conducted by:	N/A
Date of request:	March 7, 2011
Date initially acknowledged:	March 7, 2011
Date of completed package:	October 5, 2011

Decision:

The following device is eligible, with details provided below:

- Lightweight plastic drums with warning lights

Based on a review of the analysis submitted by the manufacturer certifying the device described herein meets the crashworthiness criteria of the National Cooperative Highway Research Program (NCHRP) Report 350, and input from the Texas Transportation Institute, the device is eligible for reimbursement under the Federal-aid highway program. Eligibility for reimbursement under the Federal-aid highway program does not establish approval or endorsement by the FHWA for any particular purpose or use.

The FHWA, the Department of Transportation, and the United States Government do not endorse products or services and the issuance of a reimbursement eligibility letter is not an endorsement of any product or service.

Requirements

Roadside safety devices should meet the guidelines contained in the National Cooperative Highway Research Program (NCHRP) Report 350 or the American Association of State

FHWA: HSST: NArtimovicht: sf: x68568:12/21/11

File: s://directory folder/HSST/Artimovich/ WZ54A_Ross_Lightweightdrum.docx

HSST: cc: NickArtimovicht Will Longstreet

Highway and Transportation Officials' Manual for Assessing Safety Hardware. The FHWA Memorandum "Identifying Acceptable Highway Safety Features" of July 25, 1997 provides further guidance on crash testing.

Description

FHWA Letter WZ-54, dated September 15, 2000, included plastic drums with warning lights as Category I devices. In Section C, Drums with Warning Lights, there is a table that describes design features of drums in common use at the time this memo was issued. Features included dimensions, materials, weights, etc. The weight range for drums is 4.5 kg to 7.3 kg. Some states and government agencies are interpreting this table as specifying minimums and maximums for these devices. Since 2000, several drum manufacturers have decreased the wall thickness at the lower portion of their drums in order to facilitate easier stacking, without compromising the thickness of the handle or the effective light mounting capability of the drum. In addition, crash testing under MASH criteria on lighter weight devices with lights has shown successful results. The critical issue is the attachment of the light to the device. As long as this attachment remains consistent and viable, the weight of the device holding it can vary outside of the weight ranges originally contained in the table.

You requested that drums lighter than 4.5 kg be considered eligible for reimbursement. We contacted Dr. Roger Bligh of the Texas Transportation Institute regarding this issue as TTI conducted the early crash testing of drums with warning lights attached. Dr. Bligh concurred that reduction in the mass of the drums below 4.5 kg would not have an adverse affect on the crashworthiness of drums, provided that the strength of the part of the drum where lights are connected was not changed.

Findings

We concur that plastic drums conforming to the MUTCD Section 6F.67 weighing up to 7.3 kg are eligible for reimbursement and should be installed under the range of conditions tested, when such use is acceptable to a highway agency. Drums with Type A or C warning lights firmly affixed to adequately strengthened mounts using vandal resistant hardware may be self-certified as crashworthy by the vendor.

Please note the following standard provisions that apply to FHWA eligibility letters:

- This finding of eligibility is limited to the crashworthiness characteristics of the systems and does not cover their structural features, nor conformity with the Manual on Uniform Traffic Control Devices.
- Any changes that may adversely influence the crashworthiness of the system will require a new letter.
- Should the FHWA discover that the qualification testing was flawed, that in-service performance reveals unacceptable safety problems, or that the system being marketed is significantly different from the version that was crash tested, we reserve the right to modify or revoke this letter.
- You will be expected to supply potential users with sufficient information on design and installation requirements to ensure proper performance.
- You will be expected to certify to potential users that the hardware furnished has essentially the same chemistry, mechanical properties, and geometry as that submitted for

review, and that it will meet the crashworthiness requirements of the FHWA and the NCHRP Report 350.

- To prevent misunderstanding by others, this letter of eligibility is designated as number WZ-54A and shall not be reproduced except in full. This letter and the test documentation upon which it is based are public information. All such letters and documentation may be reviewed at our office upon request.
- This letter shall not be construed as authorization or consent by the FHWA to use, manufacture, or sell any patented system for which the applicant is not the patent holder. The finding of eligibility is limited to the crashworthiness characteristics of the candidate system, and the FHWA is neither prepared nor required to become involved in issues concerning patent law. Patent issues, if any, are to be resolved by the applicant.

Sincerely yours,

Michael S. Griffith
Director, Office of Safety Technologies
Office of Safety



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Requirements

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Findings

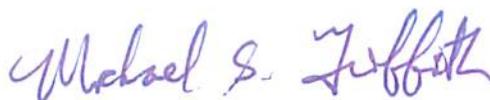
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