



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

March 6, 2006

400 Seventh St., S.W.
Washington, D.C. 20590

In Reply Refer To:
HSA-10/WZ-226

Mr. Chase Gauger
Vice President
Plasticade Products
7700 Austin Avenue
Skokie, Illinois 60077

Dear Mr. Gauger:

Thank you for your letter of December 7, 2005, requesting the Federal Highway Administration (FHWA) acceptance of the addition of Alpolic signs to your company's Type II Plasticade and Fibercade barricades as crashworthy traffic control devices for use in work zones on the National Highway System (NHS). Accompanying your letter was a testimonial from Korman signs agreeing to the use of their crash test results to validate the performance of the sign/barricade combination. You requested that we find these devices acceptable for use on the NHS under the provisions of National Cooperative Highway Research Program (NCHRP) Report 350 "Recommended Procedures for the Safety Performance Evaluation of Highway Features."

Introduction

The FHWA guidance on crash testing of work zone traffic control devices is contained in two memoranda. The first, dated July 25, 1997, titled "INFORMATION: Identifying Acceptable Highway Safety Features," established four categories of work zone devices: Category I devices are those lightweight devices which are to be self-certified by the vendor, Category II devices are other lightweight devices which need individual crash testing but with reduced instrumentation, Category III devices are barriers and other fixed or heavy devices also needing crash testing with normal instrumentation, and Category IV devices are trailer mounted lighted signs, arrow panels, etc. for which crash testing requirements have not yet been established. The second guidance memorandum was issued on August 28, 1998, and is titled "INFORMATION: Crash Tested Work Zone Traffic Control Devices." This later memorandum lists devices that are acceptable under Categories I, II, and III. Our new acceptance process was outlined in our memorandum "FHWA Hardware Acceptance Procedures – Category 2 Work Zone Devices" dated November 11, 2005.



Testing

Crash testing of your company's Plasticade and Fibercade Type II barricades was conducted by the Texas Transportation Institute in 1998. The two barricade designs were the subject of our acceptance letter WZ-14 dated May 28, 1999. The only windshield damage seen in three tests of the barricades was minor cracking at two contact points of the Plasticade Sign Stand, which was supporting a roll-up sign.

Findings

After reviewing the crash testing conducted on your company's Plasticade and Fibercade barricades, the Type II barricade sign stands of Korman Inc., and the discussion provided by Korman on the use of the Alpolic material on Type II barricades we concur in your request to use 48 x 48 inch Alpolic signs on these barricades. The Alpolic material has been tested in various orientations and, even with direct high-speed impacts on windshields, there is only moderate damage with little or no potential for occupant compartment intrusion.

The Plasticade and Fibercade Type II barricade sign supports described above and detailed in the enclosed drawings are acceptable for use on the NHS under the range of conditions tested, when proposed by a State. The Alpolic signs will be affixed to the top rail of the Plasticade and Fibercade barricades using bolts or pop rivets. Signs on the Plasticade will also be secured by the sign sleeve.

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

- Our acceptance is limited to the crashworthiness characteristics of the devices 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 device will require a new acceptance letter.
- Should the FHWA discover that the qualification testing was flawed, that in-service performance reveals unacceptable safety problems, or that the device being marketed is significantly different from the version that was crash tested, it reserves the right to modify or revoke its acceptance.
- 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 acceptance, and that they will meet the crashworthiness requirements of the FHWA and the NCHRP Report 350.
- To prevent misunderstanding by others, this letter of acceptance, designated as number WZ-226 shall not be reproduced except in full. This letter, and the test documentation upon which this letter is based, is public information. All such letters and documentation may be reviewed at our office upon request.
- The Plasticade and Fibercade barricades, and Alpolic sign substrate material are patented products and considered "proprietary." The use of proprietary work zone traffic control devices in Federal-aid projects is generally of a temporary nature. They are *selected by the contractor* for use as needed and removed upon completion of the project. Under such conditions they can be presumed to meet requirement "a" given below for the use of

proprietary products on Federal-aid projects. On the other hand, if proprietary devices are *specified by a highway agency* for use on Federal-aid projects they: (a) must be supplied through competitive bidding with equally suitable unpatented items; (b) the highway agency must certify that they are essential for synchronization with existing highway facilities or that no equally suitable alternative exists or; (c) they must be used for research or for a distinctive type of construction on relatively short sections of road for experimental purposes. Our regulations concerning proprietary products are contained in Title 23, Code of Federal Regulations, Section 635.411, a copy of which is enclosed.

- This acceptance letter shall not be construed as authorization or consent by the FHWA to use, manufacture, or sell any patented device for which the applicant is not the patent holder. The acceptance letter is limited to the crashworthiness characteristics of the candidate device, 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,

/original signed by/

John R. Baxter, P.E.
Director, Office of Safety Design
Office of Safety

Enclosures

FHWA:HSA-10:NArtimovich:tb:x61331:3/1/06
File: h://directory folder/artimovich/WZ226-PlasticadeFIN.doc
cc: HSA-10 (Reader, HSA-1; Chron File, HSA-10;
N.Artimovich, HSA-10)

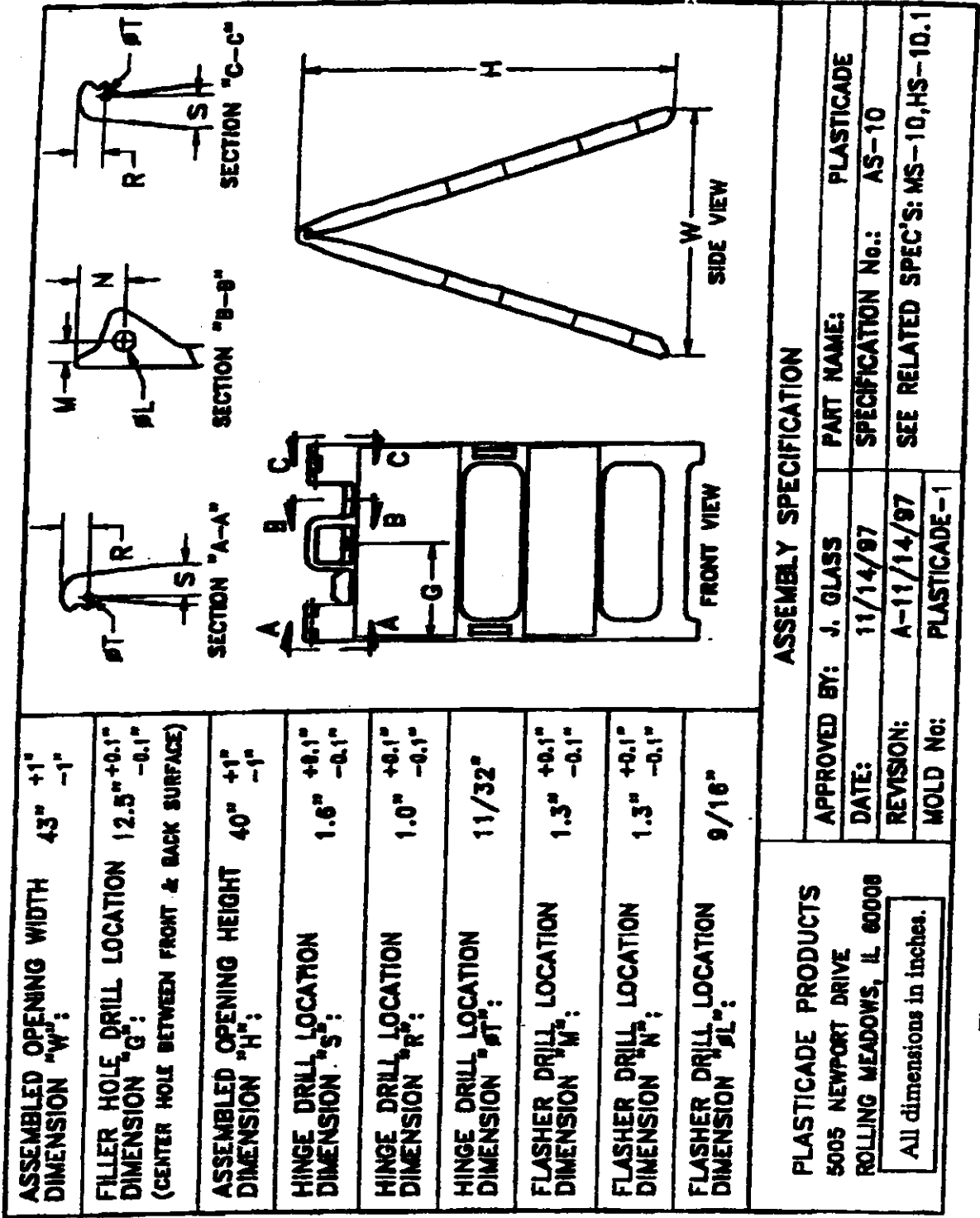


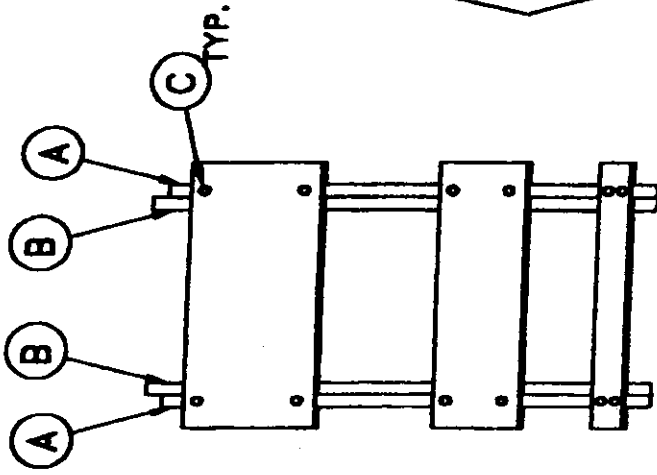
Figure 36. Details of the Plasticade Products Plasticade Type II A-Frame barricade.

COMPONENT "A"
CARRIAGE BOLT
3/8"-16 UNC BY 2" LONG.

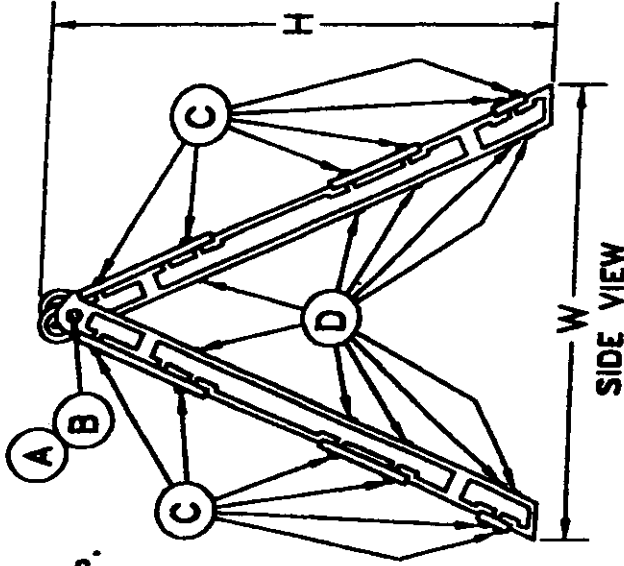
COMPONENT "B"
NYLON INSERT LOCKNUT
3/8"-16 UNC

COMPONENT "C"
CARRIAGE BOLT
1/4"-20 UNC BY 3" LONG.

COMPONENT "D"
NYLON INSERT LOCKNUT
1/4"-20 UNC



FRONT VIEW



SIDE VIEW

PLASTICADE PRODUCTS
7700 AUSTIN AVENUE
SKOKIE, IL 60077

HARDWARE SPECIFICATION

APPROVED BY: B. Pucillo

DATE: 03/29/99

REVISION: A-03/28/99

MOLD No: FIBERCADE-1

PART NAME: FIBERCADE 101-T12-C8-B3

SPECIFICATION No.: HS-70.1

SEE RELATED SPEC'S: AS-70

ASSEMBLED OPENING WIDTH
DIMENSION "W": 43.3" +1"
-1"

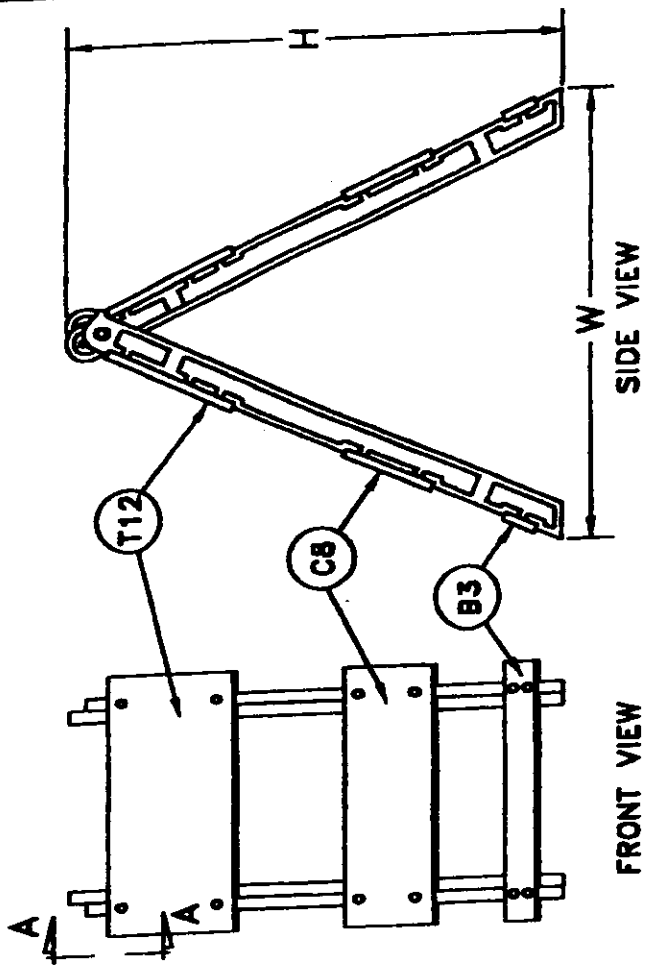
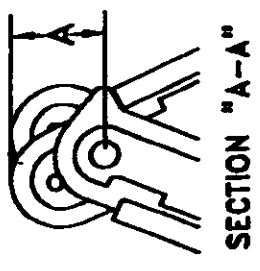
ASSEMBLED OPENING HEIGHT
DIMENSION "H": 41" +1"
-1"

HINGE LOCATION
DIMENSION "A": 3.25" +0.1"
-0.1"

TOP BOARD
DETAIL "T12": 12" HIGH X 24" WIDE

MIDDLE BOARD
DETAIL "C8": 8" HIGH X 24" WIDE

BOTTOM BOARD
DETAIL "B3": 3" HIGH X 24" WIDE



ASSEMBLY SPECIFICATION

APPROVED BY: B. Pucillo	PART NAME: FIBERCADE 101-T12-C8-B3
DATE: 03/29/99	SPECIFICATION No.: AS-70
REVISION: A-03/28/99	SEE RELATED SPEC'S: HS-70.1
MOLD No: FIBERCADE-1	

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