

October 12, 2004

Refer to: HSA-10/WZ-158

Mr. Peter Speer
Bunzl Extrusion Tacoma Incorporated
3110 70th Avenue East
Tacoma, Washington 98424

Dear Mr. Speer:

This is in response to your email request of April 16, 2003, requesting Federal Highway Administration (FHWA) acceptance of your company's T3B Type III Barricades using 14 Gage perforated square steel tube framing material and 12-foot long extruded plastic panels as crashworthy traffic control devices for use in work zones on the National Highway System (NHS). 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" based on testing of other generic Type III barricades.

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 were those lightweight devices which could be self-certified by the vendor, Category II devices were other lightweight devices which needed individual crash testing, Category III devices were barriers and other fixed or massive devices also needing crash testing, and Category IV devices were trailer mounted lighted signs, arrow panels, etc. 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.

The T3B Barricade is a plastic, lightweight, portable Type III barricade. The T3B 25.4mm x 210 mm (1 inch x 8 inch) hollow plastic barricade panels are made from a specially formulated polyolefin plastic, and the vertical uprights are 44.5-mm (2 inch) square thermoplastic tubing extrusions. The support legs are 14 ga, 50.8-mm (2 inch) square perforated galvanized mild steel tubing. One 150-mm (6 inch) tall PSST stub is welded to each support leg, and the vertical uprights are inserted into them. The T3B is acceptable in widths between 1219 mm (4 feet) and 2440 mm (8 feet) and heights between 1524 mm (5 feet) and 1829 mm (6 feet) Testing of your 2438-mm (8 foot) wide version of this barricade is discussed below. The fasteners are 7.94 mm (5/16") or 9.52-mm (3/8") bolts with Nylock nuts and steel washers to attach panels to the uprights.

Your present request is to allow the substitution of perforated square steel tube uprights (44.5 mm/1-¾ inch square, 14 gage, 1524 mm/60 inches long) in lieu of the tested 44.5-mm (2 inch) square thermoplastic tubing extrusions. In all cases the specification and grade of the steel will be ASTM A570 grade 50 steel. In addition, you are requesting acceptance of 12-foot wide barricades.

Component	Composition	Dimensions	Weight
Barricade foot	2-inch 14 ga PSST or Qwik-punch	2 x 2 x 60 inch w/ PSST Stub	12 lb
Upright	1 ¾ inch 12 ga PSST	1 ¾ x 1 ¾ x 60 inch	9 lb
T3B 8-inch panels	Thermoplastic	¾ x 8 ¼ x 96 inch	5.25 lb
Hardware	Steel	Various	2.0 lb

Testing

Full-scale automobile testing was conducted on your company' devices and found acceptable per the NCHRP Report 350. The FHWA acknowledged TB3 barricades in our acceptance letters to you: WZ-39, dated June 29, 2000, and WZ-63, dated January 29, 2001. The use of one or two lightweight warning lights was also found acceptable. Crash testing of other Type III barricades using 1-¾ inch, 14-gage perforated square steel tube frame was conducted by Korman Signs using your company's 12 foot long extruded plastic rail elements. This testing, documented in WZ-100, Amendment #3, showed acceptable performance as long as the rails and uprights remain attached to each other and function as a unit when impacted.

Findings

Because of the successful history of crash testing of your original T3B and the Korman 12 foot wide Type III barricades using perforated square steel tube frame uprights, the Bunzl T3B barricade described in the request above and detailed in the enclosed drawings is acceptable for use on the NHS under the range of conditions that the original T3B was tested, when proposed by a State.

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-158 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 T3B™ Type III Barricade is a proprietary device. 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. These provisions do not apply to exempt non-NHS projects. 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:x61331:10/7/04
File: h://directory folder/nartimovich/WZ158-BunzlFIN
cc: HSA-10 (Reader, HSA-1; Chron File, HSA-10;
N. Artimovich, HSA-10)

Instructions and Specifications for T3B[™] Barricade

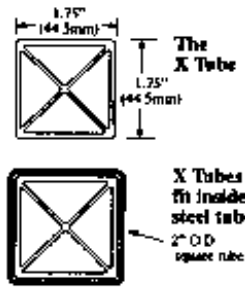
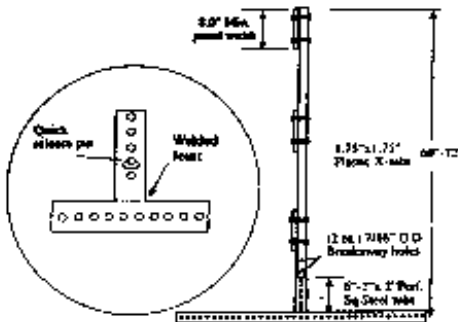
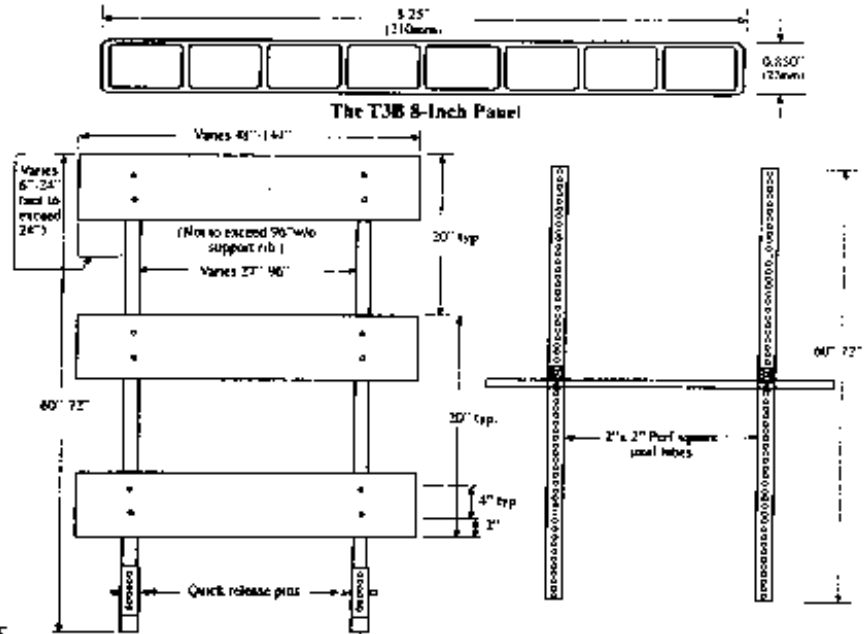
Plastic Type III Barricade Products



Complete System

A complete T3B Type III Plastic Barricade system includes the following materials:

- 3 each T3B polycomb panels, available in 4, 6, 8, 10 or 12-foot lengths;
- 2 each X-tube 1.75" square plastic uprights, available in 5, or 6-foot lengths;
- 2 each 2" 14 ga. PSST barricade feet with 6" welded upright;
- 12 each bolts and nylock nuts (to attach panels to the X-tube uprights);
- 2 each Quick-release pins (to attach X-tubes to the barricade feet);



Important Notice To Purchaser

The following is made in lieu of all warranties, expressed or implied, including the implied warranties of merchantability and fitness for purpose. Seller's and manufacturer's only obligation shall be to replace such quantity of the product proved to be defective. Before using, user shall determine the suitability of the product for its intended use, and user assumes all risk and liability whatsoever in connection therewith. Neither manufacturer nor seller shall be liable either in tort or in contract for any loss or damage, direct, incidental, or consequential, arising out of the use of or the inability to use the product.



All T3B products are both Recycled and Recyclable



"new name, same great company"

3110 70th Avenue East / Tacoma, WA 98424 / (425) 251 8140 Fax (425) 251 8303
e-mail: hwysales@davidsonplastics.com / web address: www.davidsonplastics.net

Authorized Dealer

Sec. 635.411 Material or product selection.

- (a) Federal funds shall not participate, directly or indirectly, in payment for any premium or royalty on any patented or proprietary material, specification, or process specifically set forth in the plans and specifications for a project, unless:
- (1) Such patented or proprietary item is purchased or obtained through competitive bidding with equally suitable unpatented items; or
 - (2) The State highway agency certifies either that such patented or proprietary item is essential for synchronization with existing highway facilities, or that no equally suitable alternate exists, or
 - (3) Such patented or proprietary item is used for research or for a distinctive type of construction on relatively short sections of road for experimental purposes.
- (b) When there is available for purchase more than one nonpatented, nonproprietary material, semifinished or finished article or product that will fulfill the requirements for an item of work of a project and these available materials or products are judged to be of satisfactory quality and equally acceptable on the basis of engineering analysis and the anticipated prices for the related item(s) of work are estimated to be approximately the same, the PS&E for the project shall either contain or include by reference the specifications for each such material or product that is considered acceptable for incorporation in the work. If the State highway agency wishes to substitute some other acceptable material or product for the material or product designated by the successful bidder or bid as the lowest alternate, and such substitution results in an increase in costs, there will not be Federal-aid participation in any increase in costs.
- (c) A State highway agency may require a specific material or product when there are other acceptable materials and products, when such specific choice is approved by the Division Administrator as being in the public interest. When the Division Administrator's approval is not obtained, the item will be nonparticipating unless bidding procedures are used that establish the unit price of each acceptable alternative. In this case Federal-aid participation will be based on the lowest price so established.
- (d) Appendix A sets forth the FHWA requirements regarding (1) the specification of alternative types of culvert pipes, and (2) the number and types of such alternatives which must be set forth in the specifications for various types of drainage installations.
- (e) Reference in specifications and on plans to single trade name materials will not be approved on Federal-aid contracts.