



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

March 8, 2007

400 Seventh St., S.W.
Washington, DC 20590

In Reply Refer To:
HSSD/B-155

Mr. Ing. M.E. Hernando Salas J.
Corpacero
Gerente Division Armco
Carrera 68 # 23 – 52
Bogota, Colombia

Dear Mr. Salas:

In your November 15, 2006, letter to Mr. Nicholas Artimovich of my staff, you sent him a copy of a test report prepared by the Texas Transportation Institute, dated November 10, 2006, and entitled “Pendulum Testing of the Corpacero Spacer Block” and a CD showing the tests that were conducted with your product. You requested acceptance of your product for use with strong steel-post W-beam guardrail on the National Highway System (NHS).

The Corpacero HDPE spacer blocks were 350 mm (13.8 inches) tall, 187 mm (7.4 inches) deep, and 100 mm (3.9 inches) wide. The chemical composition of the spacer blocks was 55.0 percent recycled HDPE, 43.5 percent recycled rubber, 1.0 percent Black Master Batch, and 0.5 percent anti-oxidizing agent, produced by Mater Andina S.A. ref. M010051093. The spacer block used in the first pendulum test weighed 3.7kg (8.2 pounds) and the block used in the second pendulum test weighed 3.5 kg (7.8 pounds). The Corpacero HDPE spacer blocks were mounted on W6 x 9 steel posts, which were mounted on a steel reaction plate. A W-beam backup plate was mounted on the front of the spacer block to simulate a W-beam guardrail. A drawing of the Corpacero HDPE spacer block is enclosed for reference.

In both tests the posts rotated approximately 130 degrees and the W-beam backup plate separated from the spacer block. The blocks themselves remained on the post in one piece with only a slight tear on the right side lip and the face was indented.

Based on the results of the pendulum tests using the Corpacero offset block, your product may be considered acceptable for use when requested by a highway agency on the NHS with a strong-post W-beam guardrail when it conforms to the dimensions noted above and the enclosed drawings, is composed of the same materials as the tested blocks, and is installed flush with the top of the post. As with all other alternative material offset blocks accepted for use on the NHS, this acceptance is based solely on the reported impact performance of the Corpacero block and is not intended to address the long-term performance or durability of the product. Field installations should be carefully monitored to verify expected performance and service life.



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.
- 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 B-155, shall not be reproduced except in full. As this letter and the supporting documentation which support it become public information, it will be available for inspection at our office by interested parties.
- If the Corpacero HDPE spacer block is or becomes patented, it is considered "proprietary". When proprietary devices are *specified by a highway agency* for use on Federal-aid projects: (a) they 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; (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,



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

Enclosures

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.