



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

AUG 1 1994

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

Refer to: HNG-14

Mr. L. W. Umstadter
Project Consultant
Collins & Aikman Corporation
Floor Coverings Division
311 Smith Industrial Boulevard
P.O. Box 1447
Dalton, Georgia 30722-1447

Dear Mr. Umstadter:

Thank you for your June 22 letter to Mr. William A. Weseman requesting Federal Highway Administration's (FHWA) acceptance of your company's recycled plastic guardrail blockout. Your submission included a Southwest Research Institute report Full-Scale Crash Test Evaluation of a G4-2W Guardrail System with 152 mm by 229 mm Blockouts Made From Resource dated June 1994, and 16-mm films and video of the testing. An edited copy of the design and specification page is enclosed. We noted that the test report indicated in its title and on Figure 2 in report Appendix A that a 152 mm by 229 mm blockout was tested, but Paragraph 3.0 on Page 2 of the report indicates the tested size to be 152 mm by 203 mm. Based on the dimensions shown on your specification sheet, we assume the smaller blockout was in fact tested and is the one for which you requested FHWA acceptance. This assumption was confirmed by a telephone call on July 29 from Mr. Joseph B. Mayer, Jr., with the Southwest Research Institute to Mr. Richard D. Powers of my staff.

Full-scale crash testing was conducted to assess the performance of wood-post w-beam guardrail using your company's blockout, which is slightly smaller than the standard wood blockout. Guidelines established in the National Cooperative Highway Research Program (NCHRP) Report 350 Recommended Procedures for the Safety Performance Evaluation of Highway Features were used to conduct and analyze results of the test which is summarized below:

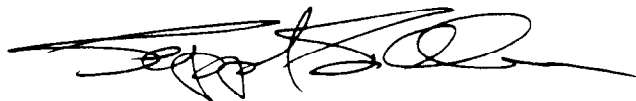
Test Number	C&A 1	(NCHRP 350 guideline)
Vehicle Mass, kg	2050	2000
Impact Speed, km/h	98.3	100.0
Impact Angle, degrees	25	25
Soil Type	Standard ("strong")	Standard ("strong")
Vehicle Velocity Change, m/s	4.78	(not required)
Occupant Impact Speed, m/s	3.63	12.0
Redirection Angle, degrees	0 (parallel)	15.0

The test vehicle was smoothly redirected parallel to the barrier. These results meet the requirements of the NCHRP Report 350 for test 3-11, the basic level barrier strength test. Because the performance of the blockout on an otherwise standard guardrail installation was acceptable, it is not necessary to conduct the occupant severity test. Therefore, your company's recycled plastic blockout is acceptable for use on projects on the National Highway Systems, within the range of conditions tested, if proposed by a State.

We assume that your company's recycled blockout is proprietary. To be used in Federal-aid projects on the National Highway System proprietary devices: (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 alternate 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.

By a copy of this letter we are informing our field offices of our finding.

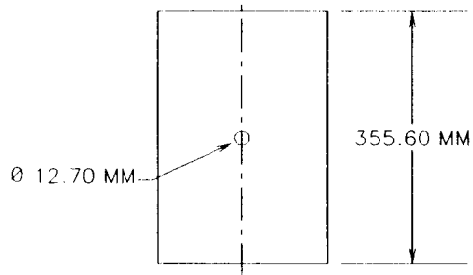
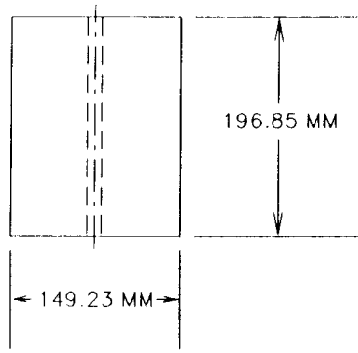
Sincerely yours,

A handwritten signature in black ink, appearing to read 'Seppo I. Sillan', with a long horizontal flourish extending to the right.

Seppo I. Sillan
Acting Chief, Federal-Aid and Design Division

2 Enclosures

Geometric and Roadside Design Acceptance Letter No. B-27



SPECIFICATIONS

Blocks shall be made from VistaTM Pending by Collins & Aikman Company. Minimum specific gravity shall be .960. Minimum compressive strength in the lateral dimension shall be 3,000 PSI. The size tolerance in the direction of the bolt hole shall not be more than ± 6.35 MM.

INTENDED USE

blockout
 This ~~beam~~ is used in standard "W" beam guardrail, "W" beam medium barrier, ~~the beam, "W" beam terminal end.~~
^{*and*}
~~Pending EHA approval for this application.~~

COLLINS & AIKMAN CORP.
 FLOOR COVERINGS DIVISION
 311 SMITH INDUSTRIAL BLVD.
 DALTON GA, 30722

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 GUARDRAIL OFFSET BLOCKOUT FOR USE WITH WOOD POST

be set forth in the specifications for various types of drainage installations. (e) Reference in specifications and plans to single trade name materials will not be approved on Federal-aid contracts.

§ 635.413. **Guaranty and warranty clauses.** (a) Except as provided in paragraph (b) of this section, clauses that require the contractor to guarantee or warrant materials and workmanship or to otherwise maintain the work for a specified period after its satisfactory completion by the contractor and its final acceptance by the State, will not be approved for use in Federal-aid contracts. Work performed and materials replaced under such guaranty or warranty clauses after final acceptance of work are not eligible for Federal participation.

(b) Contracts which involve furnishing and/or installing electrical or mechanical equipment should generally include contract clauses that require:

(1) Manufacturer's warranties or guarantees on all electrical and mechanical equipment consistent with those provided as customary trade practice; or

(2) Contractors' warranties or guarantees providing for satisfactory installation or product for the material or substitute some other acceptable material or product for the 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 cost, there will not be Federal-aid participation in any increase in costs.

(c) A State highway agency may require a specific material or product for use in Federal-aid highway construction projects if such materials have been:

(1) Produced by convicts who are on parole, supervised release, or probation from a prison or

(2) Produced in a qualified prison facility and the cumulative annual production amount of such materials for use in Federal-aid highway construction does not exceed the amount of such materials produced in such facility for use in Federal-aid highway construction during the 12-month period ending July 1, 1987.

(b) *Qualified prison facility* means any prison facility in which convicts, types of such alternatives which must be set forth in the specifications for competitive bidding with equally suitable unpented 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 alternative 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, semipatented, 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 cost, there will not be Federal-aid participation in any increase in costs.

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(3) Requests for waivers may be made for specific projects, or for certain materials or products in specific geographic areas, or for combinations of both, depending on the circumstances.

(4) The denial of the request by the RFWA may be appealed by the State to the Federal Highway Administrator (Administrator), whose action on the request shall be considered administratively final.

(5) A request for a waiver which involves nationwide public interest or availability issues or more than one RFWA region may be submitted by the RFWA to the Administrator for action.

(6) A request for waiver and an appeal from a denial of a request must include facts and justification to support the granting of the waiver. The RFWA response to a request or appeal will be in writing and made available to the public upon request. Any request for a nationwide waiver and RFWA's action on such a request may be published in the FEDERAL REGISTER for public comment.

(7) In determining whether the waiver described in paragraph (c)(1) of this section will be granted, the RFWA will consider all appropriate factors including, but not limited to, cost, administrative burden, and delay that would be imposed if the provision were not waived.

(d) Standard State and Federal-aid contract procedures may be used to assure compliance with the requirements of this section.

(23 U.S.C. 315, sec. 10 of Pub. L. 98-229, 98 Stat. 53, sec. 165 of Pub. L. 97-424, 96 Stat. 2136 and 49 CFR 1.48(b))

(48 FR 63104, Nov. 25, 1983, as amended at 49 FR 19821, May 3, 1984)

(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

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