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:

<table>
<thead>
<tr>
<th>Test Number</th>
<th>C&amp;A 1</th>
<th>(NCHRP 350 guideline)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vehicle Mass, kg</td>
<td>2050</td>
<td>2000</td>
</tr>
<tr>
<td>Impact Speed, km/h</td>
<td>98.3</td>
<td>100.0</td>
</tr>
<tr>
<td>Impact Angle, degrees</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td>Soil Type</td>
<td>Standard (&quot;strong&quot;)</td>
<td>Standard (&quot;strong&quot;)</td>
</tr>
<tr>
<td>Vehicle Velocity Change, m/s</td>
<td>4.78</td>
<td>(not required)</td>
</tr>
<tr>
<td>Occupant Impact Speed, m/s</td>
<td>3.63</td>
<td>12.0</td>
</tr>
<tr>
<td>Redirection Angle, degrees</td>
<td>0 (parallel)</td>
<td>15.0</td>
</tr>
</tbody>
</table>
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,

[Signature]

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 Vistanex by Collins & Aikman Company. Minimum specific gravity shall be .950. 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**

This **blockout** is used in standard "W" beam guardrail. "W" beam medium barrier. Pending FTA approval for this application.

**GUARDRAIL OFFSET BLOCKOUT FOR USE WITH WOOD POST**

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