



U.S. Department
of Transportation

**Federal Highway
Administration**

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

In Reply Refer To:
HSA-10/SS-138

Mr. Gary Lamolinara
Special Lite Products Company
1634 Latrobe-Derry Road
Loyalhanna, Pennsylvania 15661

Dear Mr. Lamolinara :

Thank you for your letter of March 28, 2006, requesting the Federal Highway Administration's (FHWA) acceptance of your company's smooth wall aluminum poles as breakaway sign supports for use on the National Highway System (NHS). Based on tests of generic supports by others, you requested that we find smooth 3 inch diameter poles acceptable for use on the NHS under the provisions of the National Cooperative Highway Research Program (NCHRP) Report 350 "Recommended Procedures for the Safety Performance Evaluation of Highway Features."

Introduction

Testing of sign supports follows the guidelines contained in the NCHRP Report 350, Recommended Procedures for the Safety Performance Evaluation of Highway Features. Requirements for breakaway supports are those in the American Association of State Highway and Transportation Officials' (AASHTO) Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals.

Testing

Smooth, thin walled aluminum sign supports have been found acceptable in the following FHWA acceptance letters:

SS-15 dated December 12, 1989, regarding a test on a 3-inch OD 3/16-inch wall using 6061-T6 alloy.

SS-28 dated May 26, 1992, regarding tests on 3-inch OD 3/16-inch wall using 6061-T6 alloy.

SS-76 dated January 9, 1998, regarding tests on 3-inch OD 1/8-inch wall using 6063-T6 alloy.

Findings

Velocity changes on the referenced crash tests were all within acceptable limits.



Two of the test programs used poles extruded from 6061-T6 aluminum and one used 6063-T6 aluminum. Your request was for 3-inch OD poles of 6063-T6 aluminum, which has approximately 22 percent less strength than the 6061-T6 material. In addition, the wall thickness of your poles is less than the tested poles. By extrapolation we can concur in your assertion that your company's 2.950-inch OD poles x 0.095-inch wall described above and shown in the enclosed drawing for reference meet the FHWA breakaway criteria and are acceptable for use as test level 3 devices on the NHS under the range of conditions the other generic poles were tested, when proposed by a State. Neither weakening holes nor soil plates appear to be necessary.

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 SS-138, shall not be reproduced except in full. As this letter and the supporting documentation that support it become public information, it will be available for inspection at our office by interested parties.
- 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

FHWA:HSA-10:NArtimovich:tb:x61331:7/10/06

File: h://directory folder/artimovich/SS138-SpecialLiteFin.doc

cc: HSA-10 (Reader, HSA-1; Chron File, HSA-10;
N.Artimovich, HSA-10)

6005 T5 6063 T5 6063 T6 6463 T5 6061 T6 ADIE VISUAL B VISUAL A VISUAL C

A-13423

SPECIAL LITE

CUSTOMER'S NAME

ALLOY: 6063 T6

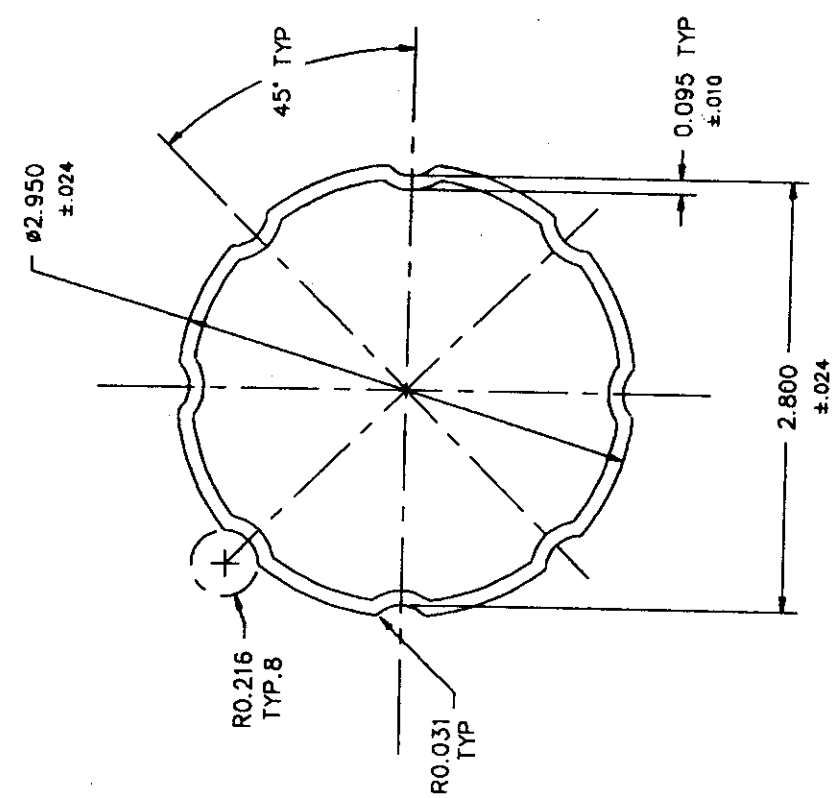
- CRITICAL DIMENSIONS

PAGE 1 OF 1

PRESS ASSIGNMENT

BACKUP PRESS

CUSTOMER NUMBER	EA 0.875 IN 2
WEIGHT	1.033 LBS. FT.
HEIGHT	9.526 IN
WIDTH	8.859 IN
SCALE	1=1
DATE	08/FEB/05
DRAWN BY	ADIE
PROJECT	
MATERIAL	
FINISH	
ANODIZING	
COATING	
MARKING	
TESTING	
INSPECTION	
REVISIONS	
DATE	
BY	
CHK NO	



ALL OUTSIDE VISUAL B

PROPOSAL NO. X14487

TITLE

UNLESS OTHERWISE NOTED ALUMINUM ASSOCIATION TOLERANCES APPLY

ALMAG ALUMINUM INC.

A-

PRINT APPROVAL

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Special-Lite Prod. Co. Inc.
1634 Latrobe-Derry Road
Latrobe, PA 15661

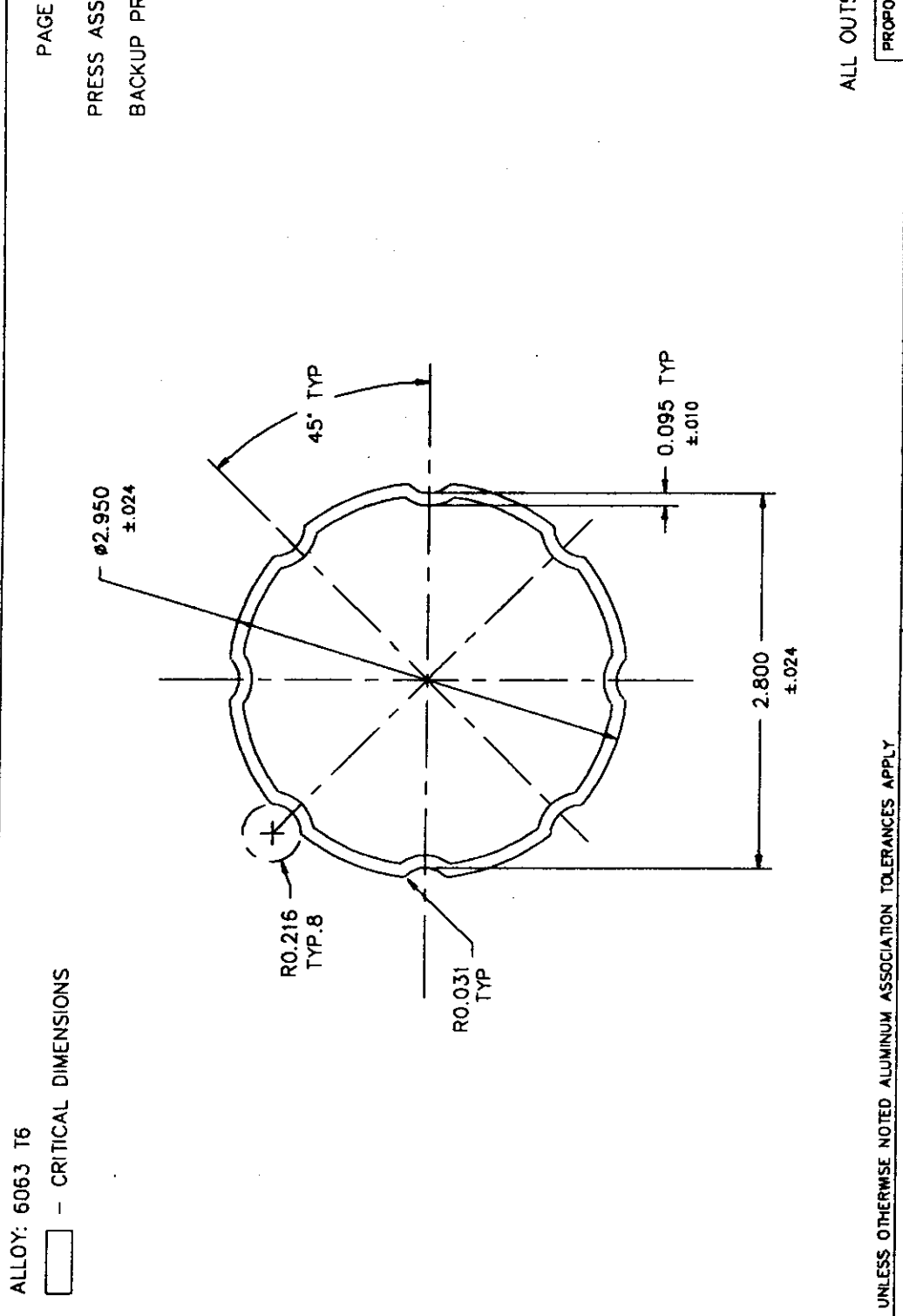
6005 T5 6063 T5 6063 T6 6463 T5 6061 T6 ADIE VISUAL B VISUAL A VISUAL C VISUAL C

A-13423

SPECIAL LITE
CUSTOMER'S NAME

ALLOY: 6063 T6	PAGE 1 OF 1	ALMAG NUMBER
<input type="checkbox"/> - CRITICAL DIMENSIONS	PRESS ASSIGNMENT <input type="checkbox"/>	
	BACKUP PRESS <input type="checkbox"/>	

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TITLE	A-



ALLOY: 6063 T6	UNLESS OTHERWISE NOTED ALUMINUM ASSOCIATION TOLERANCES APPLY
<input type="checkbox"/> - CRITICAL DIMENSIONS	PROPOSAL NO. X14487
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