

TO:

**SUPERSEDED BY EI 95-051
EFFECTIVE 3/21/96**

ENGINEERING INSTRUCTION

NEW YORK STATE DEPARTMENT OF TRANSPORTATION

SUBJECT: ALUMINUM END SECTIONS

Subject Code: 7.27-1-603: 7.27-2-603

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APPROVED:

M. TEGZA, Civil Engineer V, Final Plan Review Bureau

Supersedes:

We have modified subsection 707-13 of the Standard Specifications to alleviate a problem arising from confusion with this subsection. The specification states "Corrugated aluminum pipe, pipe arches, and end sections shall conform to the requirements of AASHTO M196 except as modified and supplemented herein." However, AASHTO M196 does not include specifications for end sections, so the manufacturers of aluminum end sections have used an alloy they felt adequate.

The main office will insert two special notes into the proposal of all projects with aluminum end sections beginning with the letting of October 29, 1987 (PS&E 8/6/87).

The first note modifies subsection 707-13 to include a material specification for aluminum end sections, and the second note specifies metal thickness and references Standard Sheet 603-3R1 for the dimensions and details of aluminum end sections. Therefore, the designer should add Standard Sheet 603-3R1 to the list of standard sheets in the plans every time aluminum end sections are used.

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Aluminum End Sections

Aluminum end sections shall conform to the details and dimensions of galvanized metal end sections for round and pipe arch corrugated pipe shown on Standard Sheet 603-3R1 except the metal thickness for the aluminum shall be as follows:

End Sections for Round Corrugated Aluminum Pipe

<u>Pipe Dia.</u>	<u>Metal Thickness</u>
12"	0.060"
15"	0.060"
18"	0.060"
21"	0.060"
24"	0.075"
30"	0.075"
36"	0.105"
42"	0.105"
48"	0.105"
54"	0.105"
60"	0.105"
66"	0.105"
72"	0.105"
78"	0.105"
84"	0.105"

End Sections for Corrugated Aluminum Pipe - Arch

<u>Pipe Dimensions</u>		<u>Metal Thickness</u>
3 x 1 Span/Rise	2-2/3 x 1/2 Span Rise	
	17" x 13"	0.060"
	21" x 15"	0.060"
	24" x 18"	0.060"
	28" x 20"	0.060"
	35" x 24"	0.075"
40" x 31"	42" x 29"	0.075"
46" x 36"	49" x 33"	0.105"
53" x 41"	57" x 38"	0.105"
60" x 46"	64" x 43"	0.105"
66" x 51"	71" x 47"	0.105"
73" x 55"	77" x 52"	0.105"
81" x 59"	83" x 57"	0.105"

Aluminum Toe Plate Extensions

The metal thickness for aluminum toe plate extension shall be as follows:

<u>Gal. Metal Ga.</u>	<u>Aluminum Pipe Thickness</u>
16	0.060
14	0.075
12	0.105

Aluminum End Sections

Make the following changes to the Standard Specifications of January 2, 1985.

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Under §707-13 MATERIAL REQUIREMENTS, change the first sentence of the first paragraph to read: "Corrugated aluminum pipe and pipe arches shall conform to the requirements of AASHTO M196 except as modified and supplemented herein."

Also, add the following as the second sentence of the first paragraph of this subsection: "End sections shall be manufactured from aluminum alloy sheet consisting of Alcad 3004-H34 or Alcad 3004-H32."