

June 18, 2001

**Subject:** Carlton's 2" Conduit Bodies and Wire-Fill Capacity

The following is the method of how to determine the number of conductors, larger than a No. 6, allowed in a conduit body per Underwriters Laboratories Inc and the National Electrical Code. Each conduit body is marked with the maximum size of the conductor allowed for three conductors. In the case of Carlton's 2" LB (Part Number E986J) the maximum allowable size for 3 conductors would be a 3/0 XHHW. An XHHW is selected per UL514C and is consistent for all conduit bodies.

A 3/0 XHHW has a cross sectional area of 0.2642 in<sup>2</sup> (Chapter 9, Table 5, NEC). Three conductors would have the total cross sectional area of 0.7926 in<sup>2</sup>.

The total cross sectional area of the conductors always has to be less than the cross sectional area of the maximum size of conductors allowed for 3 conductors.

To determine the number of 4/0 Compact Aluminum Building Wire THHW, divide the total cross sectional area of the 3/0 by the cross sectional area of the 4/0. In this case the cross sectional area of the 4/0 would be 0.3267 in<sup>2</sup> (Chapter 9, Table 5A, NEC) Therefore 0.7926/0.3267 would equal 2.42 conductors.

Only two 4/0 Compact Aluminum Building Wire THHW conductors would be allowed in our 2" LB.

I hope this clarifies on how to determine the number of conductors in a conduit body. If you require any additional information or have any questions please do not hesitate to contact me.

Sincerely,



David H. Kendall  
Director - Industry Affairs



September 15, 2000

Lamson & Sessions Co.  
 Attn: Mr. David Kendall  
 25701 Science Park Dr.  
 Cleveland, OH 44122

Our Reference: E42728

Your Reference: 110.126

Subject: Maximum Amount of Conductors and Their Sizes (MCM) for  
 LB Conduit Bodies, Cat. Nos. E986K, E986L, E986M and E986N.

Dear Mr. Kendall:

This is in response to your conversation to our engineer Mr. George Walbrecht of September 15, 2000.  
 In the table below you will find the most updated information you requested.

In the Table below you will find all the information you requested:

Conduit Bodies Cat. Nos.	Trade Size	Maximum Nos. of Conductors XHHW/XHH	Size of Conductors (MCM) *
E986K	2-1/2	3	300 *
E986L	3	3	400 *
E986M	3-1/2	3	500 *
E986N	4	3	500 *
E986K	2-1/2	4	4/0 **
E986L	3	4	250 **
E986M	3-1/2	4	350 **
E986N	4	4	350 **
E986K	2-1/2	5	3/0 **
E986L	3	5	4/0 **
E986M	3-1/2	5	250 **
E986N	4	5	250 **

\* These represent the maximum conductor size of three conductors that can be pulled into a conduit body. If larger conductor size is desired, an investigation including a wire Pull Test per the Standard for Cable and Conduit Fittings, UL 514B, Sections 15 and 37, needs to be conducted.

\*\* The total area (square inches) of the entire 4 or 5 bundle of conductors does not exceed the total area (square inches) of the three conductor bundle.

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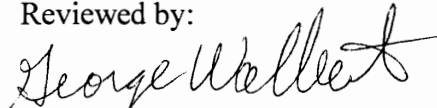
Your business is very important to us and if there is any additional information that we may provide to you about the investigation or UL's other services, please do not hesitate to contact us. For your convenience we could be reached at the extensions indicated below or at our fax number (847) 509-6314.

Sincerely,



Daniel Haiducu (Ext. 41557)  
Associate Project Engineer  
Conformity Assessment Services 3013JNBK

Reviewed by:



George Walbrecht (Ext. 43126)  
Staff Engineer  
Conformity Assessment Services 3013JNBK