

## MEMORANDUM

Dear Committee Members:

After the circulation of votes, the final ballot results are as follows on the attached ballot matrix:

- 29 Members Eligible to Vote
- 5 Ballots were not received for Technical Merit by the Final Closing Date of November 7, 2017
- 5 Ballots were not received for Emergency Nature by the Final Closing Date of November 7, 2017

### **Technical Merit**

- 7 Affirmative
- 17 Negative
- 0 Abstain

According to Section 5-4 of the Regulations Governing Committee Projects, the final results of the TIA # 001-18 ballot did not achieve the necessary three-fourths majority for affirmative vote (18) on Technical Merit (29 eligible - 5 not returned - 0 abstain =  $24 \times 75\% = 18$ ).

### **Emergency Nature**

- 6 Affirmative
- 18 Negative
- 0 Abstain

According to Section 5-4 of the Regulations Governing Committee Projects, the final results of the TIA # 001-18 ballot did not achieve the necessary three-fourths majority for affirmative vote (18) on Emergency Nature (29 eligible - 5 not returned - 0 abstain =  $24 \times 75\% = 18$ ).

Please feel free to contact me by phone at (909) 230-5535 or by email at [enrique.gonzalez@iapmo.org](mailto:enrique.gonzalez@iapmo.org), if you have questions.

Regards,

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**2018 Uniform Plumbing Code  
TIA # 001-18  
Final Ballot Results**

<b>Ballot Name:</b>	TECHNICAL MERIT UPC TIA # 001-18
<b>Ballot Status:</b>	Ballot has closed.
<b>Members Eligible to Vote:</b>	29
<b>Vote Summary</b>	
<b>Option</b>	<b>Count</b>
<b>Affirmative</b>	7
<b>Negative</b>	17
<b>Abstain</b>	0
<b>Did not vote</b>	5
<b>Voter Name</b>	<b>Vote</b>
Ballanco, Julius	Affirmative
Campbell, Philip	Affirmative
Carroll, Marguerite	Affirmative
Cudahy, Michael	Affirmative
Scarano, Anthony	Affirmative
Sigler, Matt	Affirmative
Trafton, April	Affirmative
Adler, Bob	Negative w/ comment
Aguilar, Sarah	Negative w/ comment
Berger, Donald	Negative w/ comment
Brown, Jeremy	Negative w/ comment
Feehan, Pennie	Negative w/ comment
Fischer, John	Negative w/ comment
LeVan, William	Negative w/ comment
Mann, David	Negative w/ comment
Marian, Douglas	Negative w/ comment
Nielsen, John	Negative w/ comment
Pape, Thomas	Negative w/ comment
Ribbs, Phil	Negative w/ comment
Rodio, Arnold	Negative w/ comment
Salberg, Martin	Negative w/ comment
Soskin, Laurence	Negative w/ comment
Stack, Jim	Negative w/ comment
Surrena, Donald	Negative w/ comment
Bloice, Sylvanus	Did not vote
Chang, Ian	Did not vote
Daniels, Dan	Did not vote
Salah-Eddine, Adel	Did not vote
Tabakh, Amir	Did not vote

<b>Ballot Name:</b>	EMERGENCY NATURE UPC TIA # 001-18
<b>Ballot Status:</b>	Ballot has closed.
<b>Members Eligible to Vote:</b>	29
<b>Vote Summary</b>	
<b>Option</b>	<b>Count</b>
<b>Affirmative</b>	6
<b>Negative</b>	18
<b>Abstain</b>	0
<b>Did not vote</b>	5
<b>Voter Name</b>	<b>Vote</b>
Ballanco, Julius	Affirmative
Campbell, Philip	Affirmative
Cudahy, Michael	Affirmative
Scarano, Anthony	Affirmative
Sigler, Matt	Affirmative
Trafton, April	Affirmative
Adler, Bob	Negative w/ comment
Aguilar, Sarah	Negative w/ comment
Berger, Donald	Negative w/ comment
Brown, Jeremy	Negative w/ comment
Carroll, Marguerite	Negative w/ comment
Feehan, Pennie	Negative w/ comment
Fischer, John	Negative w/ comment
LeVan, William	Negative w/ comment
Mann, David	Negative w/ comment
Marian, Douglas	Negative w/ comment
Nielsen, John	Negative w/ comment
Pape, Thomas	Negative w/ comment
Ribbs, Phil	Negative w/ comment
Rodio, Arnold	Negative w/ comment
Salberg, Martin	Negative w/ comment
Soskin, Laurence	Negative w/ comment
Stack, Jim	Negative w/ comment
Surrena, Donald	Negative w/ comment
Bloice, Sylvanus	Did not vote
Chang, Ian	Did not vote
Daniels, Dan	Did not vote
Salah-Eddine, Adel	Did not vote
Tabakh, Amir	Did not vote

UNIFORM PLUMBING CODE TIA FORM <sup>TM</sup>- 2018

Reference Code Section: **M 102.8**

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**Proposed language for TIA:**

Revise **M 102.8** to read as follows:

Sections **M 101.0** through **M 102.7.1** remain the same.

**M 102.8 Examples Illustrating Use of Water Demand Calculator with Appendix A.**

**Example 1: Indoor Water Use Only** - Use the information given below to find the pipe size for the building supply to a residential building with six indoor fixtures as shown in Figure 1 [Pipe Section 4].

**Given Information:**

Type of construction:	Residential, one-bathroom	Friction loss per 100 ft: 15 psi
Type of pipe material:	L-copper	Maximum velocity: <del>40</del> <u>8</u> ft/s
Fixture number/type:	1 combination bath/shower	1 kitchen faucet
	1 lavatory faucet	1 dishwasher
	1 WC	1 clothes washer

**Figure 1** and **Figure 2** remain the same.

**Solution: Step 1 of 2** remain the same.

**Solution: Step 2 of 2 – Determine the Pipe Size of the Building Supply**

Chart A 105.1(1) for copper piping systems (from Appendix A of the UPC, shown in Figure 3) is used to determine the pipe size, based on given friction loss, given maximum allowable pipe velocity, given pipe material and the demand load computed in Step 1. In Figure 3, the intersection of the given friction loss (15 psi) and the maximum allowable pipe velocity (~~40~~ 8 ft/s) is labeled point A. The vertical line that descends from point A to the base of the chart intersects four nominal sizes for L-copper pipe. These intersection points are labeled B, C, D, E and correspond to pipe sizes of 1 inch, <sup>3</sup>/<sub>4</sub> inch, <sup>1</sup>/<sub>2</sub> inch and <sup>3</sup>/<sub>8</sub> inch, respectively. A horizontal line from points B, C, D, E to the right-hand side of the chart gives maximum flow rates of ~~24~~ 20 gpm, 12 gpm, 4.5 gpm, and 2.3 gpm, respectively. These results are summarized in Table 1 which shows that a <sup>3</sup>/<sub>4</sub>-inch L-copper line is the minimum size that can convey the peak water demand of 8.5 gpm.

**TABLE 1  
 PIPE SIZE OPTIONS FOR BUILDING SUPPLY**

POINT IN FIGURE 3	PIPE DIAMETER (INCH)	MAXIMUM FLOW (GPM)	OK FOR BUILDING SUPPLY <sup>1</sup>
<b>E</b>	3/8	2.3	No
<b>D</b>	1/2	4.5	No
<b>C</b>	3/4	12	Yes
<b>B</b>	1	<del>24</del> <u>20</u>	Yes

<sup>1</sup> For Building in Examples 1, 2, 3, and 4.





CHART A 105.1(1)

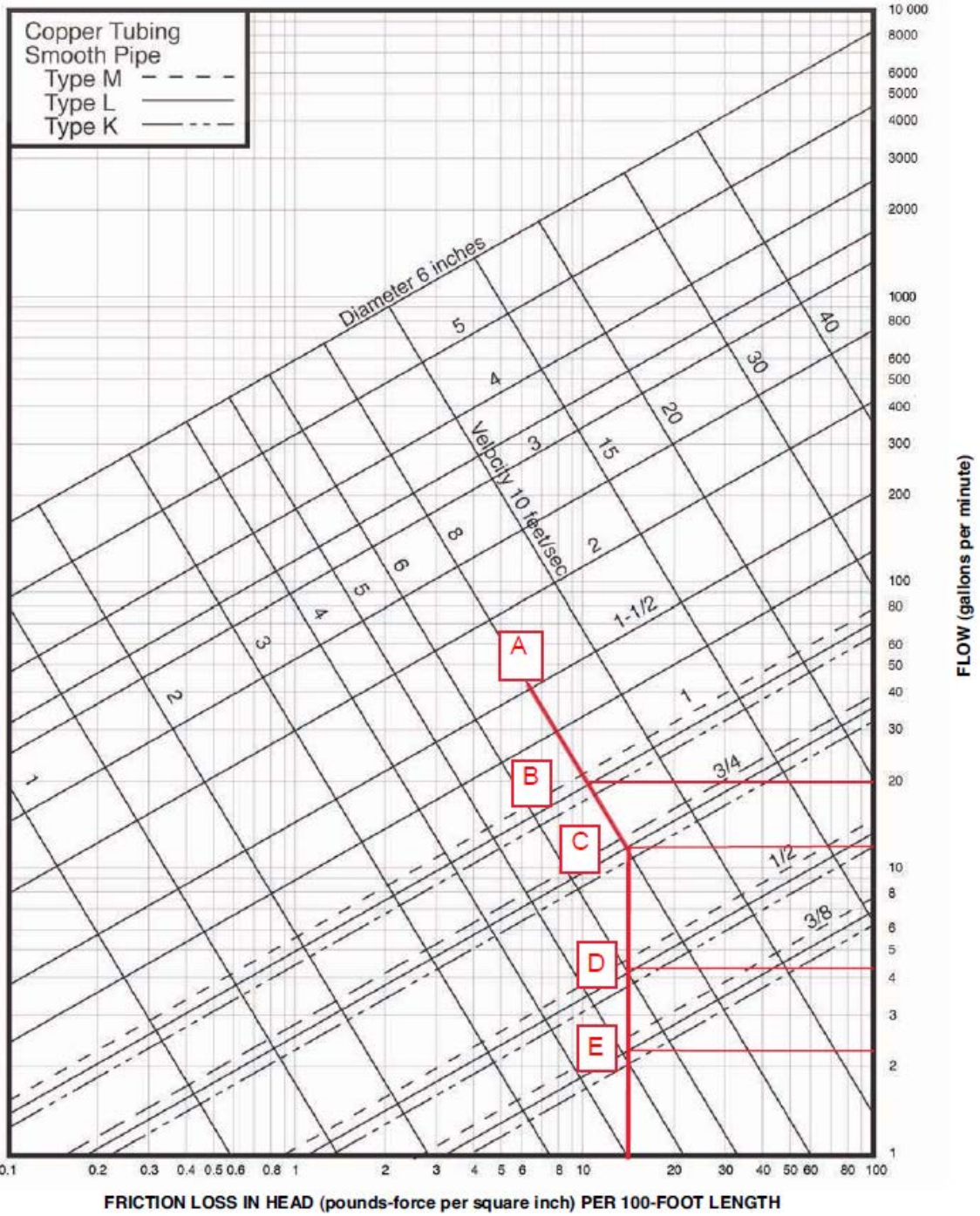


Figure 3. Chart A 105.1(1) for finding pipe size.

Remaining Sections and Figures remain the same.

**Substantiation:  
Technical Merit:**

The proposed revision corrects the example that currently shows the maximum velocity for L type copper as 10 ft/s. Although this is the maximum allowed velocity in Appendix A Section A 107.1, it is not the recommended velocity published by the Copper Development Association (CDA). The correction proposes 8 ft/s which is the published recommended maximum velocity for copper pipe. Figure 3 showing Chart A 105.1 (1) is revised to demonstrate the maximum velocity of 8 ft/s. Consequently, this requires Table 1 to reflect a maximum flow rate of 20gpm for 1-inch pipe instead of 24gpm.

**Emergency nature:**

According to Section 5-2 (a) and (b) of the Regulations Governing Committee Projects to determine the emergency nature of this proposed TIA, the document contains an error that was overlooked during the regular revision process. This error will also conflict with the copper industry standard for maximum velocities in copper pipe and with Section 610.12 of the UPC.

I hereby grant IAPMO all and full rights in copyright, in this proposal, and I understand that I acquire no rights in any publication of IAPMO in which this proposal appears in this or another similar or analogous form.

Submitter signature (required): \_\_\_\_\_ Date: \_\_\_\_\_

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