

Tip of the Week

October 11, 2004

Adding Extra Rows to the Isokinetic Field Data Sheets

Occasionally, you may find that we conduct sampling runs where there are more data points than fit in our basic isokinetic data entry sheet. The current sheet, as posted on the Source Intranet Site (Isokinetic-1_v10-2004a.xls), has space for 52 data points in rows 18 through 69. This is likely enough room for most testing scenarios; however, there are always exceptions. (e.g., Project 9571, Hydro Aluminum North America, where several sources had test runs requiring 11 pages of data sheets, 260 minute runs with data recorded at 2 minute intervals.)

Simply inserting rows and copying cells into the newly inserted rows will cause several errors in the calculated cells. To avoid this, follow a few simple steps before beginning data entry:

1. Be sure to use the most recent version of the data entry sheet, currently Isokinetic-1_v10-2004a.xls.
2. Determined how many rows you need to add; click on the Run 1 sheet and scroll down to row 18.
3. Move the cursor to the left side of the sheet over the row numbers. You will see that it turns into a right-pointing arrow. Click and hold as you move down the sheet until you have highlighted the number of rows you want to add. i.e. If you need ten additional rows, highlight rows 18 through 27 (a counter next to the cursor will tell you how many rows you have selected).
4. With the rows highlighted, select copy. (You can go to the main menu and select Edit then drop down to Copy; you can use Ctrl+C; you can right click and select Copy, or you can click the Copy icon.)
5. Scroll down to the little, short row at the bottom of the data entry area. On the most recent sheet, it is row 70. It is very short, you almost don't see it.
6. Again, move the cursor to the left side of the sheet over the row number and click to highlight row 70.
7. Right click and select 'Insert Copied Cells'. Viola, you now have 62 data entry rows, all with the correct formulae in them.

Hint No. 1: If you know that all three or four runs need extra data entry rows, you can use the group edit function to change all data entry sheets at the same time.

- 1-1. Click on the Run 1 tab.
- 1-2. While holding down the shift key, click on the Run 4 tab. (all four run sheets will be highlighted.)
- 1-3. Follow the steps outlined above. Remember, any and all changes you make on the current sheet will be made on all highlighted sheets.
- 1-4. When you are through adding rows, remember to undo the group edit. (Click on any un-highlighted sheet.)

Hint No. 2: It doesn't matter what rows you copy. If you need to add 15 rows, highlight and copy any group of 15 consecutive rows between rows 18 and 69. You must, however, insert the rows in that last, short row. (If you have already added 10 rows, that row will be row 80.)

Step 1

Address  http://www.cleanair.net/source/index.htm

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Name	Last modified	Size	Description
 Parent Directory	06-Oct-2004 10:45	-	
 Isokinetic-1_v10-200...>	11-Oct-2004 09:34	1.2M	
 Methodx_v10-2003a.xls	16-Oct-2003 14:51	273k	
 Moisture-1_v10-2004a...>	11-Oct-2004 09:34	873k	

Apache/1.3.29 Server at www.cleanair.net Port 80



Step 2

	A	B	C	D	E	F	G	H	I	J	K	L
1	Field Data Printout											
2												
3		Location:	0							Test Method:	USEPA Method 5	
4		Test Run:	1							Analyte:	Particulate	
5		Client:	0			Bar. Press. (in. Hg):				Nozzle ID No:		
6		Project No.:	0			Static P:				Nozzle Diameter (D _n):		
7		Source Area (ft ²):				O ₂ (dry volume %):	#DIV/0!			Probe ID No:		
8						CO ₂ (dry volume %):	#DIV/0!			Pitot C _p :	0.84	
9		Test Date:				N ₂ +CO (dry volume %):	#DIV/0!			Pitot Leak Check:	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail	
10		Start Time:				H ₂ O (condensate, ml or gm):				Meter Box ID. No.:		
11		Stop Time:				H ₂ O (silica, g):				Meter ΔH@:		
12		Leak Rate Before:				#/VALUE!	#/VALUE!			Meter Y _d :		
13		Leak Rate After:										
14												
15		Traverse Point	Run Time 5.0 min/read	Pitot ΔP _s (in. H ₂ O)	Sample ΔH (in. H ₂ O)	Metered (dcf)	Stack T _s (°F)	Dry Gas Meter T _{m-in} (°F) T _{m-out} (°F)		√ΔP _s (calculated) (√in. H ₂ O)	Volume (calculated) (ft ³)	Isokinetics (calculated) (%)
16			0.0									
17												
18												
19												
20												
21												
22												
23												
24												
25												
26												
27												

Intro / Run X / C / Cover / M3 / M4 / **Run 1** / Run 2 / Run 3 / Run 4 / Test Log / V&MParams / QAQ

Step 4

Microsoft Excel - Isokinetic-1_v10-2004a.xls

File Edit View Insert Format Tools Data Window Help Adobe PDF

Can't Undo Ctrl+Z
Can't Repeat Ctrl+Y
Cut Ctrl+X
Copy Ctrl+C
Office Clipboard...
Paste Ctrl+V
Paste Special...
Paste as Hyperlink
Fill
Clear
Delete
Delete Sheet
Move or Copy Sheet...
Find... Ctrl+F
Replace... Ctrl+H
Go To... Ctrl+G
Links...
Object

Field Data Printout

Test Method: USEPA Method 5
Analyte: Particulate

Bar. Press. (in. Hg):
Static P:
O₂ (dry volume %): #DIV/0!
CO₂ (dry volume %): #DIV/0!
N₂+CO (dry volume %): #DIV/0!

Nozzle ID No:
Nozzle Diameter (D_n):
Probe ID No:
Pitot C_p: 0.84
Pitot Leak Check: Pass Fail

H₂O (condensate, ml or gm):
H₂O (silica, g): #VALUE! #VALUE!

Meter Box ID. No:
Meter ΔH@:
Meter Y_d:

Pitot Point	Sample	Metered	Stack	Dry Gas Meter	√ΔP _s	Volume	Isokinetics	
5.0 min/read	ΔP _s	ΔH	T _s	T _{m-in}	T _{m-out}	(calculated)	(calculated)	
(in. H ₂ O)	(in. H ₂ O)	(dcf)	(°F)	(°F)	(°F)	(√in. H ₂ O)	(ft ³)	(%)
0.0								

Intro / Run X / C / Cover / M3 / M4 / Run 1 / Run 2 / Run 3 / Run 4 / Test Log / V&MParams / QAQ

Draw AutoShapes

Step 5

The screenshot shows a Microsoft Excel spreadsheet titled "Microsoft Excel - Isokinetic_1_v10-2004a.xls". The spreadsheet has columns A through L and rows 45 through 76. A red arrow points to cell A69. The data in row 71 is as follows:

Row	A	B	C	D	E	F	G	H	I	J	K	L
45												
46												
47												
48												
49												
50												
51												
52												
53												
54												
55												
56												
57												
58												
59												
60												
61												
62												
63												
64												
65												
66												
67												
68												
69												
70												
71		Final	0.0		#DIV/0!	#DIV/0!	N/A		#DIV/0!	#DIV/0!	#DIV/0!	
72		0 points sampled		Sq Rt ΔP		#DIV/0!						
73		QC-Check: Field Averages										
74												
75												
76												

Below the spreadsheet, there are five checkboxes labeled "Avg. OK":

Avg. OK Avg. OK Avg. OK Avg. OK Avg. OK

The bottom status bar shows the following navigation path: Intro / Run X / C / Cover / M3 / M4 / Run 1 / Run 2 / Run 3 / Run 4 / Test Log / V8MParams / QAQ

Step 7

The screenshot shows the Microsoft Excel interface with a right-click context menu open over a blank cell. The menu items are: Cut, Copy, Paste, Paste Special..., **Insert Copied Cells**, Delete, Clear Contents, Format Cells..., Row Height..., Hide, and Unhide. A red box highlights the 'Insert Copied Cells' option, and a red arrow points to it from a text box that says 'Right-click and select'. The spreadsheet below the menu shows columns A through L and rows 45 through 76. Row 71 contains data: Final, 0.0, #DIV/0!, #DIV/0!, N/A, #DIV/0!, #DIV/0!, #DIV/0!. Row 72 contains: 0 points sampled, Sq.Rt.ΔP, #DIV/0!. Row 73 is labeled 'QC-Check: Field Averages' and has five empty checkboxes labeled 'Avg. OK'. The status bar at the bottom shows the file path: Intro / Run X / C / Cover / M3 / M4 / Run 1 / Run 2 / Run 3 / Run 4 / Test Log / V&MParams / QAQ.

Hint No. 1, Step 1

	A	B	C	D	E	F	G	H	I	J	K	L
1	Field Data Printout											
2											Test Method: USEPA Method 5	
3	Location: 0										Analyte: Particulate	
4	Test Run: 1											
5	Client: 0											
6	Project No: 0										Bar. Press. (in. Hg):	
7	Source Area (ft ²):										Static P:	
8											O ₂ (dry volume %): #DIV/0!	
9	Test Date:										Nozzle ID No:	
10	Start Time:										Nozzle Diameter (D _n):	
11	Stop Time:										Probe ID No:	
12	Leak Rate Before:										Pitot C _p : 0.84	
13	Leak Rate After:										Pitot Leak Check: <input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail	
14											Meter Box ID. No:	
15											Meter ΔH@:	
16											Meter Y _d :	
17											H ₂ O (condensate, ml or gm):	
18											H ₂ O (silica, g):	
19											#/VALUE! #/VALUE!	
20												
21												
22												
23												
24												
25												
26												
27												

	15	16	17	18	19	20	21	22	23	24	25	26	27
	Traverse	Run Time	Pitot	Sample	Metered	Stack	Dry Gas Meter		√ΔP _s	Volume	Isokinetics		
	Point	5.0 min/read	ΔP _s	ΔH	(dcf)	T _s	T _{m-in}	T _{m-out}	(calculated)	(calculated)	(calculated)		
		0.0	(in. H ₂ O)	(in. H ₂ O)		(°F)	(°F)	(°F)	(√in. H ₂ O)	(ft ³)	(%)		

Intro / Run X / C / Cover / M3 / M / **Run 1** / Run 2 / Run 3 / Run 4 / Test Log / V&MParams / QAQ

Draw / AutoShapes / [Icons]

Hint 1, Step 2

Field Data Printout

Test Method: USEPA Method 5
Analyte: Particulate

Location: 0
 Test Run: 1
 Client: 0
 Project No: 0
 Source Area (ft²):

Bar. Press. (in. Hg):
 Static P:
 O₂ (dry volume %): #DIV/0!
 CO₂ (dry volume %): #DIV/0!
 N₂+CO (dry volume %): #DIV/0!

Nozzle ID No:
 Nozzle Diameter (D_n):
 Probe ID No:
 Pitot C_p: 0.84
 Pitot Leak Check: Pass Fail

Test Date:
 Start Time:
 Stop Time:
 Leak Rate Before:
 Leak Rate After:

H₂O (condensate, ml or gm):
 H₂O (silica, g):
 #/VALUE! #/VALUE!

Meter Box ID. No:
 Meter ΔH@:
 Meter Y_d:

15	16	17	18	19	20	21	22	23	24	25	26	27
15	16	17	18	19	20	21	22	23	24	25	26	27
15	16	17	18	19	20	21	22	23	24	25	26	27
15	16	17	18	19	20	21	22	23	24	25	26	27
15	16	17	18	19	20	21	22	23	24	25	26	27
	0.0	(in. H ₂ O)	(in. H ₂ O)	(dcf)	T _s (°F)	T _{m-in} (°F)	T _{m-out} (°F)	√ΔP _s (calculated) (√in. H ₂ O)	Volume (calculated) (ft ³)	Isokinetics (calculated) (%)		

Hold the shift key down and click Run 4

Intro / Run X / C / Cover / M3 / M / Run 1 / Run 2 / Run 3 / Run 4 / Test Log / V&MParams / QAQ