Border Calculator Changes for Circle & Border Systems

The folder you downloaded contains PDF files that replace any programs that were previously used or referred to in manuals or the website. The PDF files are named for the trapezoid rings shown below. Each file has charts with the information used to size the trapezoids needed for border projects. The PDF named "Project Planning" will be helpful if you are new to the concept of the circle & border system.

If you are comfortable with spreadsheet programs it is a good option for calculating trapezoid information. The Excel and Numbers spreadsheets contain tables for the 6, 8, and 12 trapezoid rings. ***Be sure you select the correct table for your project.*** Information for the spreadsheet will come from the charts contained in the PDF files.

Whether or not you use the spreadsheet you will need to understand the charts contained in the PDF files. Use the many examples provided to learn about sizing the trapezoids needed for circle and border projects.

If you are using the spreadsheets it is possible to unintentionally corrupt them. You can always download a fresh copy but we suggest you keep a backup copy.

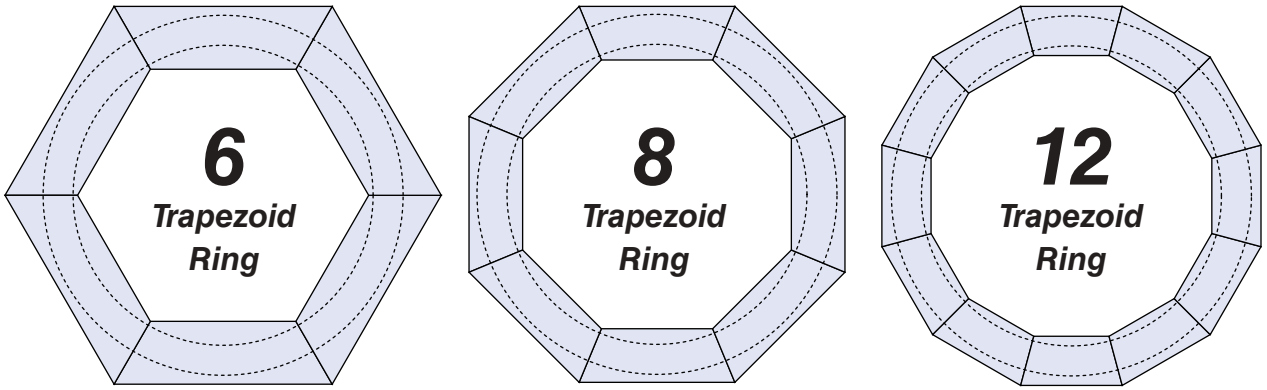
If you have print capabilities you may consider, at a minimum, printing the 2 charts in each PDF. Should you print all the pages of each PDF be sure to keep the pages of each PDF separated using a stapler or other means.

The computer program developed for the Circle & Border System in 2006 is no longer compatible with your operating systems.

The program, "CBS1 Border Calculator", was developed in the now discontinued Adobe Flash. The elimination of Flash has resulted in the need for a replacement program. The replacement is quite different from the Border Calculator but is equally effective in helping you determine the size of the trapezoids needed for your border project.

The trapezoid ring has you making trapezoids from strips and then converting the trapezoids to border segments. Making the trapezoids is quite easy with your Portable Glass Shop once you know the number of border segments, strip width needed and base length of the trapezoid.

Our trapezoid rings have three options. The options are 6, 8 or 12 trapezoids needed to make the ring. You will understand more as you go along but we recommend that you use the "8 Trapezoid Ring" option unless you have some design reasons to use the 6 or 12 options.



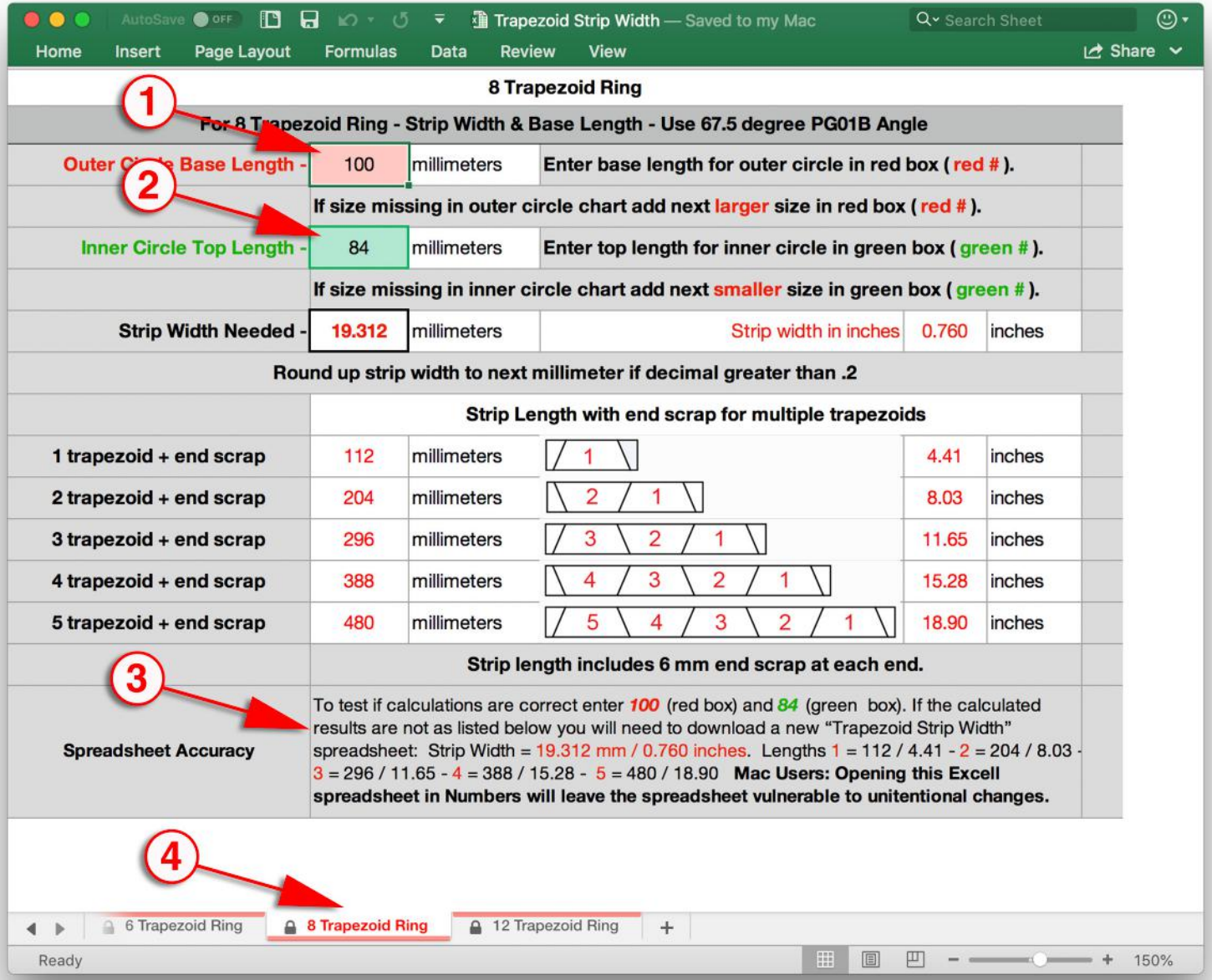
Excel Information page 2 - Numbers Information page 3

Spreadsheet Files

Microsoft Excel is a spreadsheet developed by Microsoft for Windows, macOS, Android and iOS. You can use Excel to do the calculations needed to size trapezoids. Information for the speadsheet will come from the charts in the 3 PDF files.

Numbers is a spreadsheet application developed by Apple Inc. as part of the iWork productivity suite alongside Keynote and Pages. Numbers is available for iOS, and macOS High Sierra or newer. Information for the speadsheet will come from the charts in the 3 PDF files.

Screenshot of Excel "Trapezoid Strip Width" Spreadsheet



8 Trapezoid Ring

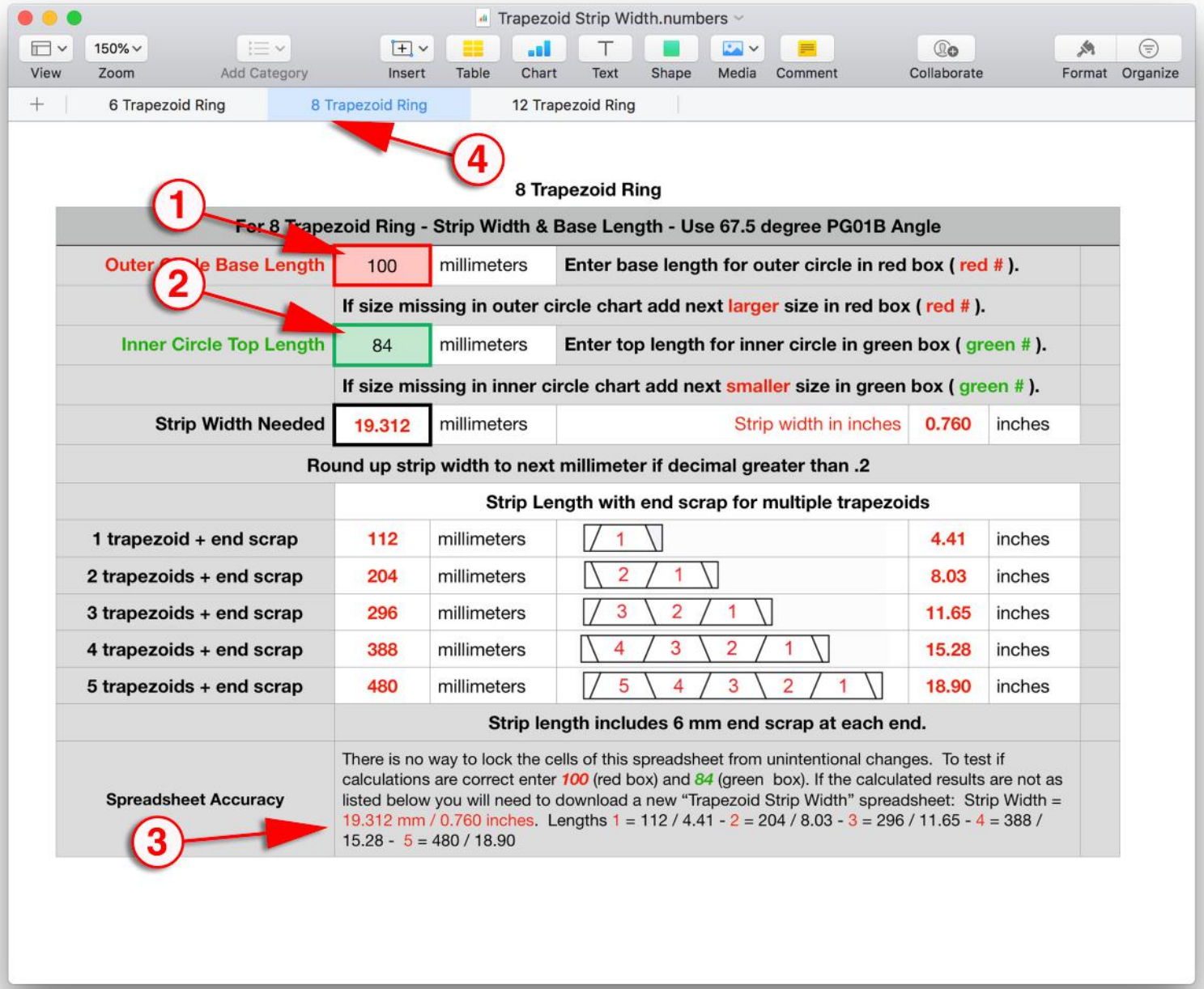
For 8 Trapezoid Ring - Strip Width & Base Length - Use 67.5 degree PG01B Angle					
Outer Circle Base Length -	100	millimeters	Enter base length for outer circle in red box (red #).		
			If size missing in outer circle chart add next larger size in red box (red #).		
Inner Circle Top Length -	84	millimeters	Enter top length for inner circle in green box (green #).		
			If size missing in inner circle chart add next smaller size in green box (green #).		
Strip Width Needed -	19.312	millimeters	Strip width in inches	0.760	inches
Round up strip width to next millimeter if decimal greater than .2					
	Strip Length with end scrap for multiple trapezoids				
1 trapezoid + end scrap	112	millimeters	1	4.41	inches
2 trapezoid + end scrap	204	millimeters	2 1	8.03	inches
3 trapezoid + end scrap	296	millimeters	3 2 1	11.65	inches
4 trapezoid + end scrap	388	millimeters	4 3 2 1	15.28	inches
5 trapezoid + end scrap	480	millimeters	5 4 3 2 1	18.90	inches
	Strip length includes 6 mm end scrap at each end.				
Spreadsheet Accuracy	To test if calculations are correct enter ***100*** (red box) and ***84*** (green box). If the calculated results are not as listed below you will need to download a new "Trapezoid Strip Width" spreadsheet: Strip Width = 19.312 mm / 0.760 inches. Lengths 1 = 112 / 4.41 - 2 = 204 / 8.03 - 3 = 296 / 11.65 - 4 = 388 / 15.28 - 5 = 480 / 18.90 **Mac Users: Opening this Excell spreadsheet in Numbers will leave the spreadsheet vulnerable to unintentional changes.**				

1 & **2** are the only cells that you should alter by entering the red and green numbers from the PDF charts.

3 is a method for checking to see if your spreadsheet is calculating as intended. Should any of the numbers not match you will need to trash this spreadsheet and download a new copy. Keeping a backup copy of a fresh download is a good idea.

4 is where the tabs for the 3 tables are located. Be sure to always select the correct tab for your project.

Screenshot of Numbers "Trapezoid Strip Width" Spreadsheet



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5 trapezoids + end scrap	480	millimeters	5 4 3 2 1	18.90	inches
	Strip length includes 6 mm end scrap at each end.				
Spreadsheet Accuracy	There is no way to lock the cells of this spreadsheet from unintentional changes. To test if calculations are correct enter *100* (red box) and *84* (green box). If the calculated results are not as listed below you will need to download a new "Trapezoid Strip Width" spreadsheet: Strip Width = 19.312 mm / 0.760 inches. Lengths 1 = 112 / 4.41 - 2 = 204 / 8.03 - 3 = 296 / 11.65 - 4 = 388 / 15.28 - 5 = 480 / 18.90				

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