

Calculating Parts Per Reel

For Any Custom Reel Size:



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For Preset Reel Sizes:

For 7" click [here](#).

For 13" Standard click [here](#).

For 13" Wide click [here](#).

For 22" click [here](#).

Setting Up Your Own Excel Worksheet

Using Microsoft Excel® to determine parts per take-up reel is easy. To begin, you will need your reel diameter and its inside hub diameter as well as the pocket depth and pitch of your carrier tape. All numbers are referenced in millimeters except where specified. Proceed as follows:

Step-by-Step Instructions:

- Open a new Microsoft Excel® worksheet.
- In cell A1 record the value of your carrier tape pocket depth in mm's.
- In cell A2 record the value of your carrier tape pitch in mm's.
- In cell A3 record the value of your reel's outer diameter in inches.
- In cell A4 record the value of your reel's inner hub diameter in inches.
- In cell A5 cut and paste the following formula:
• =ROUNDDOWN(((((((POWER((\$A\$3/2*25.4),2))-
(POWER((\$A\$4/2*25.4),2)))*3.1416)/1000)/(\$A\$1+0.31))-1)*
(1000/\$A\$2),-1)
- The value supplied in cell A5 will represent the maximum number of parts that can fit on one take-up reel.

Keep in mind that this number is the practical maximum. In theory more pockets may be able to fit. It is often best to round down to the nearest 100, 250, 500, or 1000-mark for an optimal selling count. This formula already allows for leader and trailer in setting the final reel count. For other reel configurations, please contact us to request the proper formula by using our [contact](#) sheet.

Here Is An Example:

- In cell A1 record 4.90 as the value of your carrier tape pocket depth in mm's.
- In cell A2 record 16.00 as the value of your carrier tape pitch in mm's.
- In cell A3 record 13.00 as the value of your reel's outer diameter.
- In cell A4 record 4.00 as the value of your reel's inner hub (or

core) diameter.

- In cell A5 cut and paste the following formula:
- =ROUNDDOWN(((((((POWER((\$A\$3/2*25.4),2))-
(POWER((\$A\$4/2*25.4),2))))*3.1416)/1000)/(\$A\$1+0.31))-1)*
(1000/\$A\$2),-1)
- The value supplied in cell A5 should be 860.
- In this case after rounding down to the nearest 250, we would suggest 750 parts per reel.

OX3's semiconductor handling services are supported by four web sites at **OX3.com** for services, Reelpak.com for carrier tapes, Reel.biz for reels, and Traymania for JEDEC Trays.