



# Tech Info Library

## Tape Cartridge: Life Span

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TOPIC -----

I am trying determine the life span of a tape cartridge. The article says "5,000 passes". Can you give me the suggested usage limits for a tape cartridge? How many backups is that? How many times does the tape pass through the drive during a backup?

DISCUSSION -----

The tape cartridge life span can be greatly influenced by the environment you store and use them in, and by whether you back up the tapes by Volume or by File.

If you are backing up tapes by volume, your cartridge can last for a few thousand backups. This estimate is not based on any controlled study, but on the assumption that during a Volume backup, after the initial tensioning of the tape, the drive generally records information on the tape from the beginning to wherever it stops once it has completed transferring all of the data. This is usually in one or two continuous passes. Incidentally, the noise the drive makes when performing a Volume backup, changes in pitch, and variance of the volume is not from the drive stopping the tape, rewinding it, and proceeding forward--it is the drive switching tracks.

Backing up onto the tapes by File is much more stressful on the tape. The drive may have to reverse direction of the tape many times to put the files down sequentially on the tape, especially when the files are fractured on the drive. We are unable to predict the longevity of a tape used for file backups because of the great variance in the quantity of files backed up at any time, the differences in sizes, and the degree to which they are fractured. However, prudence should dictate practice when archiving data.

The operating environment also influences the tape life. Prior to using the cartridge, let it acclimate to your operating environment for eight hours or for the amount of time it has been exposed to dissimilar conditions--whichever is less. Recommended operating environment:

Temperature	41 to 113 degrees F (5 to 45 degrees C)
Relative Humidity	20 to 80% noncondensing
Maximum Wet Bulb Temperature	79 degrees F (26 degrees C)

Tapes should be stored out of direct sunlight and not be exposed to high temperatures.

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