



## Why do you need a cleaning cartridge?

---

Because tape is removable, tape drive components are vulnerable and sensitive to contaminants in the environment. Small amounts of debris can literally be blown into the tape path by circulating air. Metal particle tapes can also deposit 'brown stain' on the recording heads. When this happens, error rates increase and backups take longer, because the tape drive has to keep rewinding and rewriting every time it encounters an error.

---

## When should the drive be cleaned?

Depending on the drive hardware and backup application you are using, you will be reminded when to clean the drive by LEDs on the drive or a message from the software. Cleaning will be called for more often if your system has to operate in a particularly dirty environment, or at extreme temperature and humidity levels. You should always perform a clean after any media-related error.

## How should the drive be cleaned?

Your tape drive's installation and operation manual will explain how to carry out the cleaning procedure. Unless you are using Travan technology, which has cleaning material built in to enable the drive to automatically clean the tape whenever debris has built up, you will need to use a separate cleaning cartridge relevant to the tape technology you are using.

How many cleans can you expect using specific drives?

Drive or library in use	Number of cleans
HP StorageWorks Ultrium 215 tape drive	15 cleans
HP StorageWorks Ultrium 230 tape drive	15 cleans
HP Surestore tape library family (2/20, 4/40, 6/60)	15 cleans
HP Surestore-e tape libraries (10/180, 20/700)	50 cleans
HP StorageWorks Ultrium tape libraries (MSL5030L1, MSL5060L1)	15 cleans
HP StorageWorks Ultrium libraries (ESL9322L1, ESL9595L1)	15 cleans
HP StorageWorks Ultrium 460 tape drive	50 cleans
IBM and Certance Ultrium generation 1 and 2 drives and libraries	50 cleans
A mixture of HP ultrium 215 (and 230) tape drives and HP StorageWorks Ultrium 460 tape drives	between 15 and 50 cleans
A mixture of HP, IBM and Certance Ultrium generation 1 drives	between 15 and 50 cleans



## Always use the recommended cleaning cartridge for your drive

Cleaning with wet chemicals such as alcohol and cotton or foam swabs will not remove brown stain and can damage your drive, leaving behind their own residues. Chemicals can also stall the scanner assembly. These cleaners sometimes require you to partially dismantle the drive to obtain better access. All this will do is add further contamination and invalidate the drive's warranty.

All HP drives have a special cleaning cartridge that will successfully remove all debris from the read/write heads, provided it is used regularly and whenever the drive calls for it.

## What is 'brown stain' and what can be done about it?

Brown stain can accumulate on the drive recording heads as a result of friction between the heads and the polyurethane binders that attach metal particles to MP tape. The build up of residue distances the heads from the tape, reducing the signal strength from the heads.

Recording errors will occur more often and, ultimately, the drive will fail. The problem is minimised during manufacture by the calendaring process which smoothes out the coated film prior to slitting. You can also avoid brown stain by controlling the environment and using your cleaning cartridge regularly. Brown stain is worse in dry conditions, below 20% humidity.

## How many cleans can you expect from your cleaning cartridge?

For most formats, you will get the maximum number of cleans specified for the product. However, for Ultrium 1 drives, you will get 15 or 50 cleans, depending on the firmware of the drive you are using. All Ultrium 2 drives and libraries, however, will give you the full 50 cleans. (see table above)