

Film footage and runtime

Nominal planning factors. Choose gauge, perforations per picture, usable footage and camera/playback rates.

Nominal footage factors

Film format	Frames/ft	Feet/min at 24 fps
16 mm / Super 16	40	36
35 mm 2-perf	32	45
35 mm 3-perf	64/3	67.5
35 mm 4-perf	16	90

A 400 ft roll at 24 fps, no reserve

Format	Whole frames	Recording duration
16 mm / Super 16	16000	11 min 6.667 s
35 mm 2-perf	12800	8 min 53.333 s
35 mm 3-perf	8533	5 min 55.542 s
35 mm 4-perf	6400	4 min 26.667 s

Calculate in this order

- Usable length = roll length - chosen reserve, in the same unit. One international foot = 0.3048 metre exactly.
- Whole picture capacity = floor(usable feet x nominal frames/foot). Retain 64/3 for 3-perf until the final floor; do not use 21.33.
- Recording seconds = whole frames / camera fps. Playback seconds = the same frames / playback fps.
- Example: 400 ft of 4-perf at 96 fps lasts 66.667 seconds in the camera. Its 6400 pictures play for 266.667 seconds at 24 fps.

Loading, leader, run-up, short ends and movement support require job-specific checks. Nominal footage is not a guarantee of usable capacity or exact KEYCODE/perforation boundaries.

Primary references

Kodak: [Essential Reference Guide for Filmmakers](#)

NIST: [exact international-foot conversion](#)

Native calculator: [Mac / iPhone and iPad](#). Separate purchases.