

Film Grain

When you expose film, light causes a reaction in silver halide particles, which show up as the tiny dots that make up your photograph (much like how pixels work in digital.) Some photographs work toward the aesthetic of small, virtually invisible grain, others like to draw attention to the fact it is there and use an enlarged, pronounced grain. It is caused by:

Film Speed: The slower the film speed, the finer the grain (ISO 100 - down)
The higher the film speed, the coarser the grain (ISO 800 – up)

Film Exposure: An overexposed negative will have coarser grain than a correctly exposed negative.

Film Development: An overdeveloped negative will have coarser grain than a normally developed negative.

Film Speed

Film speed refers to the sensitivity of the emulsion to light. It is measured by the film's ability to record shadow density at lower levels of exposure. Faster films (with larger ISO numbers) record shadow density with less exposure than slow films. Faster films have larger silver halide crystals in their emulsion than slower films; because the crystals are larger, the light has a bigger target to hit and thus the film is able to react faster to low light situation. Slower films (ISO 100 and down) need more exposure than faster films since the silver halide crystals are smaller and thus their target is harder to hit. Thus, it takes longer to render shadow detail with a slower speed film than it does with a faster film. In other words, the higher the ISO, the greater the film sensitivity.

Also, each doubling of the ISO number indicates a doubling of film sensitivity. ISO 400 film might render a scene 1/60 @ f 11, while 200 ISO film would render the same scene 1/60 @ f8. Each time you double the film speed, you make the exposure one stop faster. Each time you halve it, you make the exposure one stop slower. ASA (American Standards Association) and ISO (International Standards Organization) refers to the organizations that helped set a standard by which to rate film speed.

How to choose what to use

If you want a film that allows you to use a smaller (larger numbered) aperture and a faster shutter speed, that means you need a larger numbered ISO film (800 and up). Just remember, the grain gets larger as the film gets faster. Fine grain films (ISO 100 and down) will require longer exposures or larger (smaller numbered) apertures. 400 speed film is considered the median film, with decent speed and limited grain.