

# ISO NUMBERS

## A brief introduction.

**FILM SPEED** is the simplest and most appropriate way to think of ISO numbering.

**EXPOSURE** is the fundamental description which relates one ISO number to another.

**ISO 64** requires a much greater EXPOSURE than

**ISO 1600** which is best described as most suitable for FAST MOVING subjects where motion needs to be FROZEN.

### SUMMARY

The HIGHER the ISO number the faster the “film speed” BUT definition will be compromised. The lower the ISO number the slower the “film speed” and the greater DEFINITION can be achieved in the photographic subject.

**APERTURE** is the name given to the size of the HOLE in the camera lens, the bigger the hole the more exposure will be given to the photo subject.

The APERTURE is designated by a NUMBER which progresses in steps, each of which are known as f “stops”.

Typically the smallest f stop represents the largest “hole”.

f2.8 is 4 times larger than f 8 which in turn is larger than f 16.

**SHUTTER SPEED** describes the amount of TIME that the “shutter” allows the image of the picture to be “exposed” to the film or sensitive camera storage card in the case of a digital camera system.

The “shutter speed” combined with the “aperture” determines the “exposure” amount that will be given to the photograph about to be taken and that amount of “exposure” is determined by the ISO number to which the digital camera has been set OR the “speed” of the film being used.

### **TUNING FOR THE BEST RESULT.**

Correct “EXPOSURE” can be achieved by varying the combination of APERTURE and SHUTTER SPEED.

A larger “aperture” and faster “shutter speed” will achieve the same **exposure** as a smaller aperture and slower shutter speed. BUT other factors come into play which have to be understood and catered for.

LARGE APERTURES create a very “shallow” depth of field OR amount of the scene which is in focus.

SMALL APERTURES create a very “deep” depth of field OR amount of the scene which is in focus.

FAST shutter speeds “freeze” movement.

SLOW shutter speeds cause “camera shake” which creates fuzzy images.

Combining the four attributes listed above with a specific ISO number setting is determined by the nature of the SUBJECT to be photographed.

RACING CARS to be captured in sharp focus will need a “fast” ISO number combined with fast shutter speed and small aperture.

FLOWERS are best captured with a slow shutter speed, large aperture and slow ISO setting BUT with the camera mounted on a tripod to avoid “camera shake”

Example No 1.

1/1000<sup>th</sup> of a second shutter speed

f16 aperture

ISO No 400

Would be a good setting for capturing RACING CARS on a bright sunny day.

Example No 2.

1/60<sup>th</sup> of a second shutter speed

f 3.5 aperture

ISO No 64

Would be a good setting to capture a sharp image of a flower bloom in sunshine.

These examples deal with subjects at either end of the photographic spectrum.

No 1 where movement needs to be frozen in order to obtain a sharp image of the racing car while in motion at say 100 mph.

No 2 where the flower is stationary and the sharpest possible image and clear definition is required but no movement of the subject is taking place.

By interpreting these features for other subjects from portraits to playing children, active pets, landscapes etc good photographic results can be obtained every time.

However “ARTISTIC INTERPRETATION” will rear its head sooner or later and the application of the above knowledge to achieve differential focusing and blurred speed images, are the artistic facility which photography can provide via adjustment of all three elements described above.