

Use of Filters

**(or “When Filters might be used to change
the way a scene looks”)**

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To be covered

- Polarising Filter
- ND (Neutral Density) Grad
- ND
- When you *may* want to use these filters
- What can go wrong.....

POLARISING FILTER

- Uses
 - Enhancing skies and clouds
 - Managing reflections (in glass/water)
 - Saturating colours
- What can go wrong
 - Over-polarisation
- Brands
 - Hoya, Lee, Cokin, Kood etc



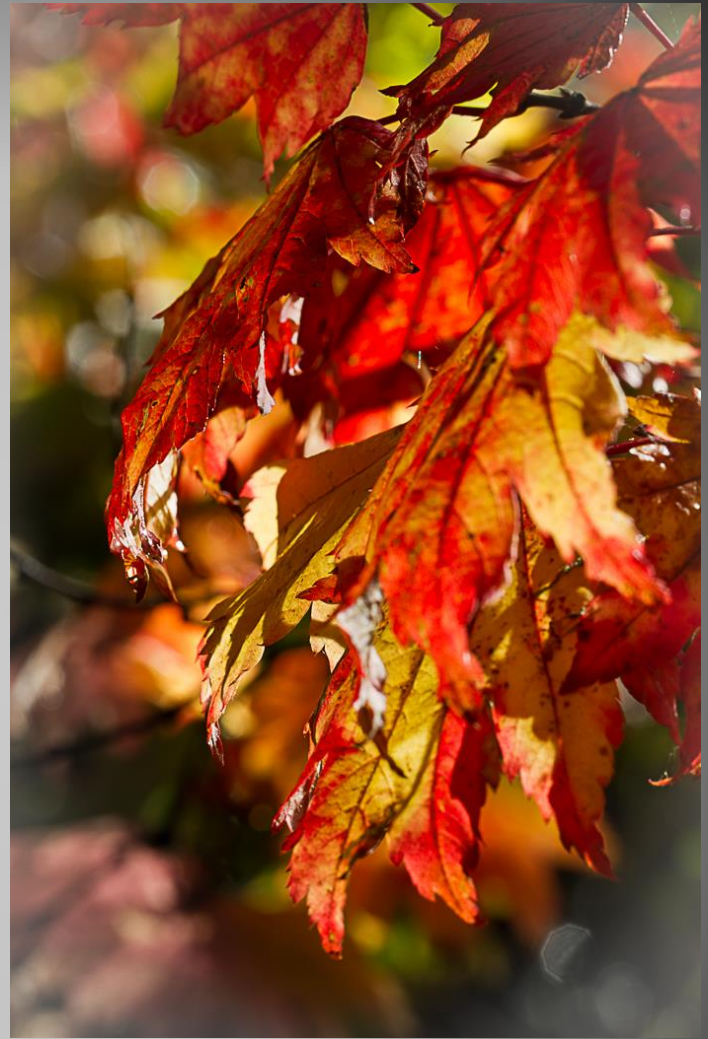


Or any range in between



Or any range in between





Enhancing colours. Great for autumn, Good when foliage is wet



Over-polarised?????



Polarisers

Things to be aware of

- Polarising filters work best on sunny days with the sun at an angle of about 90° to the subject
- On grey, overcast days they may have little or no effect
- Vignetting if you leave UV filter on and add Polariser
- Uneven polarisation when using wide angle lens
- Polarisers are in effect a 2-stop filter

ND Grad Filters

- Neutral Density filters reduce the light without changing the colour
- Almost always used to balance the light in the sky with light on land
- A large difference in brightness between sky and foreground is beyond a digital camera's ability to see and record
 - A lot of times the sky is much brighter than the ground, so the ground looks ok but the sky comes out pure white, or the sky looks fine but the ground looks too dark.
 - Blown, white skies familiar to anyone?
- Can bring texture to dull skies



Reduces light
to 50%
ie 1 stop

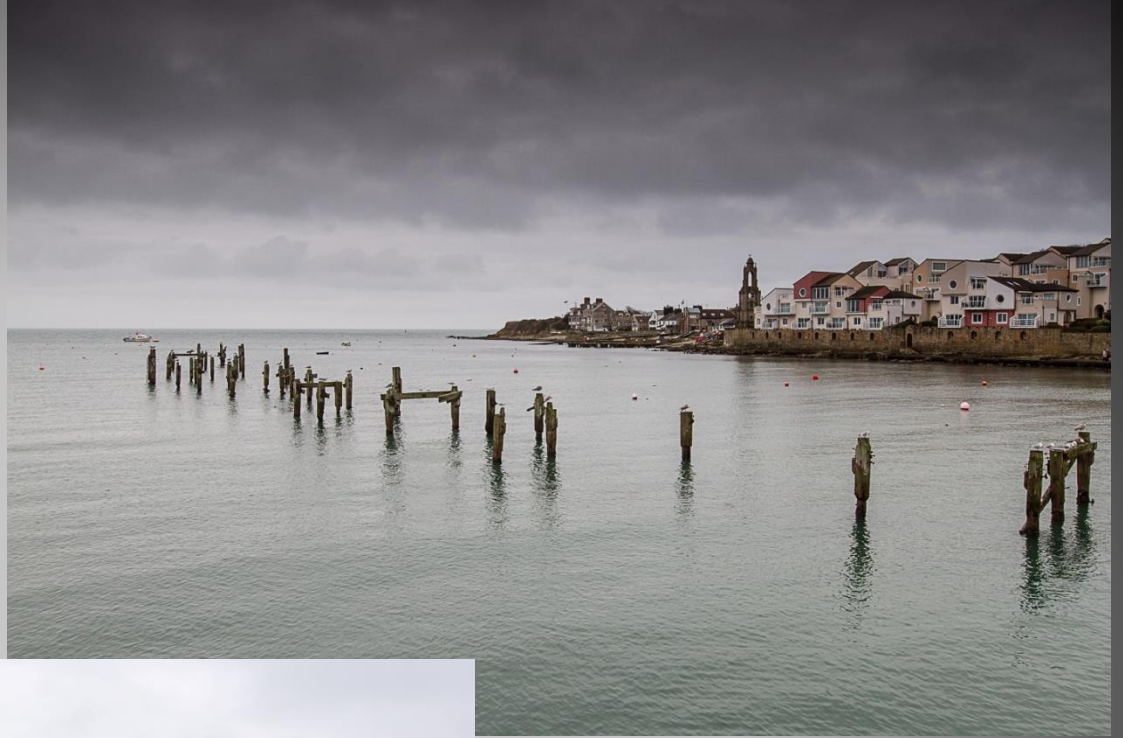


Reduces light
to 25%
ie 2 stops



Reduces light
to 12.5%
ie 3 stops

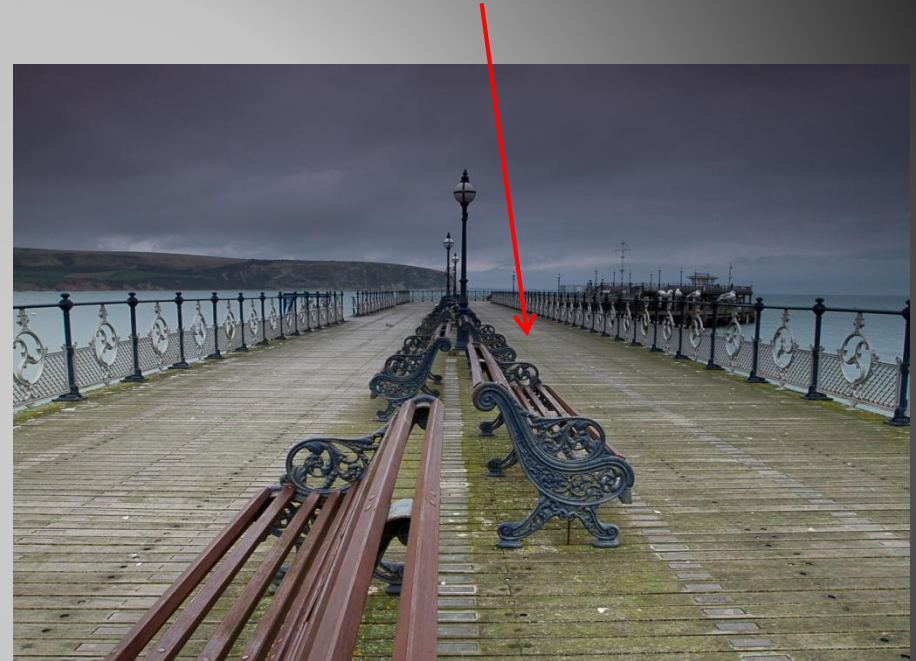
With ND Grad



No ND Grad



Grad pulled too far down
over horizon



Note – horizons aren't always straight so need to take care where the Grad line comes

Hard Grads
Soft Grads

Forgetting to rotate Grad when switching between Portrait and Landscape



Forgetting to straighten Grad



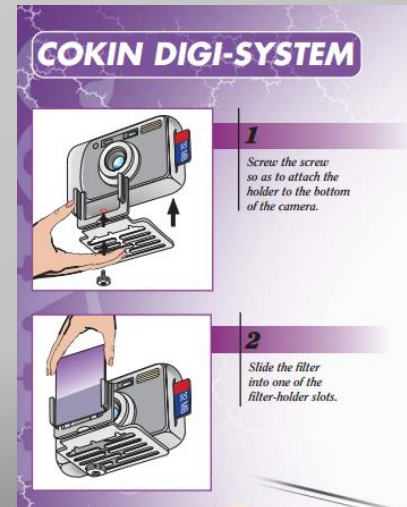
Can get strange colour casts which can be easily removed
using software



Magenta cast in sky removed

Availability of ND Grad

- Cokin
 - kit is £45 from Amazon
- Lee (glass)
 - expensive but the best
 - £100 to get started
- Grads for Compacts/CSCs
 - Cokin Snap System
 - £50 for Kit



ND Filters

- Primarily used to slow down water motion
- Used when you want to use a longer shutter speed than is ordinarily possible due to the brightness of the conditions
- Available in a range of strengths depending on how much you wish to cut out the light
- Often give a colour cast (which can be removed)
- Will always need to use a Tripod



ND2

Reduces light
to 50%
ie 1 stop



ND4

Reduces light
to 25%
ie 2 stops



ND8

Reduces light
to 50%
ie 3 stops



**Big
Stopper
ND1000**

Reduces light
by
10 stops

Assume $1/30^{\text{th}}$ at f11 without filter

Becomes
 $1/15^{\text{th}}$

Becomes
 $1/8^{\text{th}}$

Becomes
 $\frac{1}{4}$ sec

Becomes
1 minute

0.3 seconds at f16



1/4 second at f13



13 seconds at f9



2 seconds at f11



Image taken using ND Grad for sky
and ND combined

Big Stoppers

- Hitech Big Stopper
 - £65
- Lee Big Stopper
 - £100
 - High Quality Glass
- All generally give colour casts which can be removed



1/13th sec at f11

3 minutes at f11



45 secs at f16

Correcting colour casts





**Or just convert
to Black and white**



ND 4
0.6 seconds at f11

Big Stopper
25 seconds at f13



Deciding how much to blur.....



Finally.....

- Filters don't have to be used but.....
 - They may enhance an image or allow a shot which ordinarily might not be possible
 - Combinations of filters can also be considered (e.g., blurring moving water AND using ND Grad for the sky)