Nikkor AF-S 17-35mm f/2.8 D IF-ED - Review / Lab Test Report

Lens Reviews - Nikon / Nikkor (APS-C)
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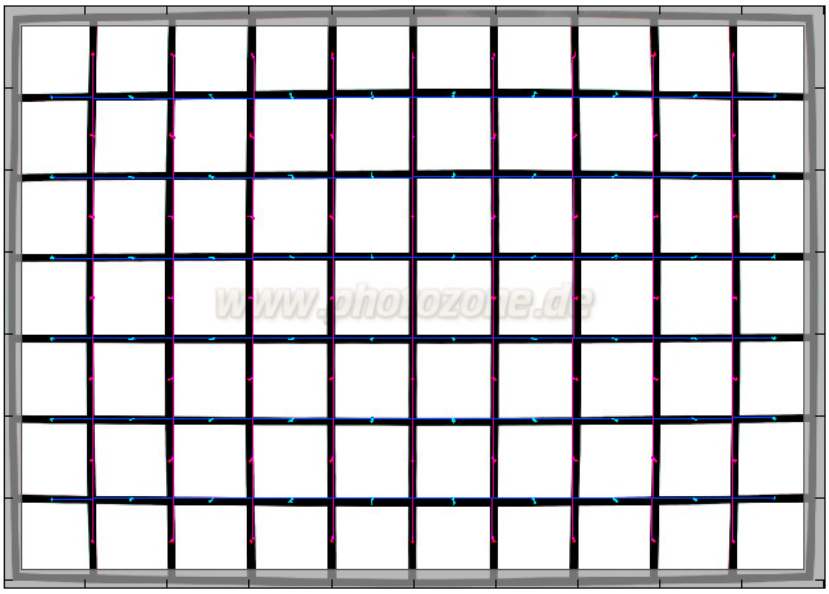
Distortions

The AF-S 17-35mm shows a quite typical distortion characteristic for a lens in this class. At 17mm there're pronounced barrel distortions (2.3%) which ease towards the long end of the zoom range. At 35mm the lens is basically free of distortions.

Move the mouse cursor over the focal length text marks below to observe the respective distortions

17mm 24mm 35mm

Distortion: 3rd order correction 29-Jul-2006 10:27:03
17mm



SMIA TV Distortion = -2.31%
k_1 = 0.0392 ($r_u = r_d + k_1 r_d^3$)
(r in center-corner units.)
h_1, h_2 = 0.0475, -0.00595
PW Pro Coeff. = 0.0335
PW Pro Scale = 0.9875
Line calc: 3rd order

Selected EXIF data
File: 2006:07:29 10:20:06
Make: NIKON CORPORATION
Model: NIKON D200
Taken: 2006:07:26 15:54:14
Res: 1000 x 709
FL:
Exp: 1.800 s

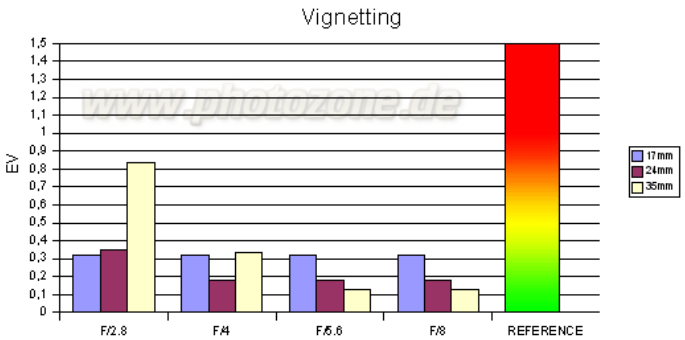
Aper: f/11.0
ISO: 200

The chart above has a real-world size of about 120x80cm.

Vignetting

Thanks to the full frame design the Nikkor AF-S 17-35mm ED shows little vignetting on the D200. At 17mm it doesn't even matter whether you use the lens wide-open or stopped-down. Interestingly the vignetting increases towards the long end of the zoom range - probably a side effect of the camera sensor characteristic. At 35mm @ f/2.8 is even quite pronounced at around 0.8EV so in critical situations you may prefer to stop down a little at this setting.

Vignetting	F/2.8	F/4	F/5.6	F/8
17mm	0,32	0,32	0,32	0,32
24mm	0,35	0,18	0,18	0,18
35mm	0,84	0,34	0,13	0,13

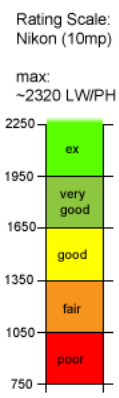


MTF (resolution)

The AF-S 17-35mm f/2.8 ED produced very good to excellent resolution figures in the MTF lab. The center resolution is excellent throughout the tested aperture range and at all focal length - it scratches and may possibly even exceed the sensor resolution of the D200 at f/4 here (at 17mmm and 24mm). The borders suffer from a performance penalty at large aperture settings at 17mm (still *good*) and to a lesser degree at 24mm (already *very good*). Nonetheless the quality increase when stopping down peaking in an excellent performance around f/5.6. There's a slight decrease in quality at 35mm primarily at the borders which are no longer capable to leave *very good* territory here.

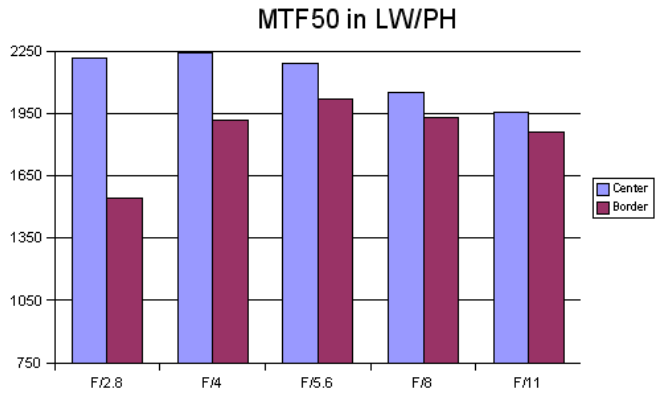
The lens suffers somewhat from field curvature specifically at 17mm only.

Below is a simplified summary of the formal findings. The chart shows in line widths per picture height (LW/PH) which can be taken as a quantity for sharpness. The chart is limited to the visually relevant LW/PH range of [750, 2250]. If you want to know more about the MTF50 figures you may check out the corresponding Imatest Explanations.

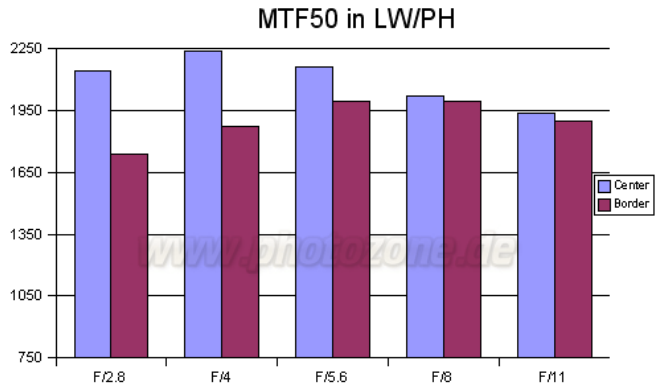


Nikkor AF-S 17-35mm f/2.8 IF-ED D

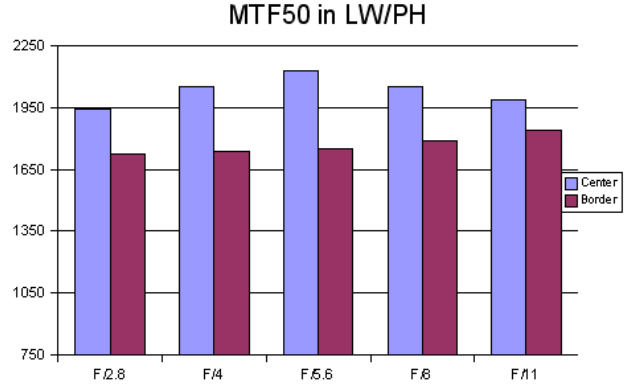
17mm	F/2.8	F/4	F/5.6	F/8	F/11
Center	2215	2244,5	2189,5	2053,5	1956,5
Border	1541,5	1920	2020,5	1928,5	1863,5



24mm	F/2.8	F/4	F/5.6	F/8	F/11
Center	2143	2236	2161	2019,5	1940
Border	1740,5	1875,5	1992,5	1995,5	1897



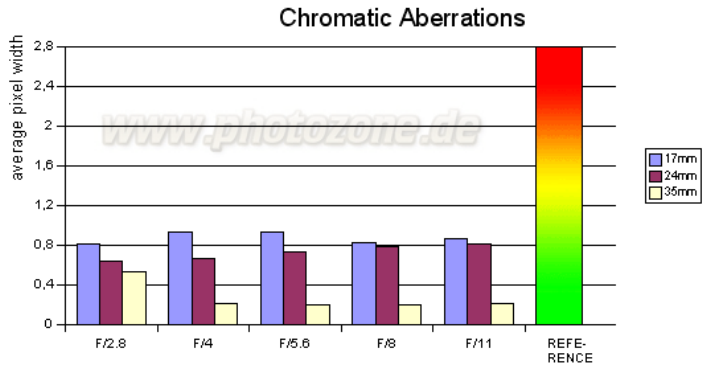
35mm	F/2.8	F/4	F/5.6	F/8	F/11
Center	1944,5	2049	2127	2054	1986
Border	1726	1737	1751,5	1786,5	1841



Chromatic Aberrations (CAs)

Chromatic aberrations (color shadows at harsh contrast transitions) are very well controlled for such a zoom lens. The issue remains below 1px on the average at the image borders.

Border CA	F/2.8	F/4	F/5.6	F/8	F/11
17mm	0,81	0,94	0,93	0,83	0,86
24mm	0,63	0,67	0,74	0,78	0,81
35mm	0,54	0,22	0,2	0,2	0,21



Verdict

The Nikkor AF-S 17-35mm f/2.8D IF-ED is a professional grade lens and it delivers accordingly specifically regarding its superb build quality. The optical quality is on a very high though not unprecedented level. The center resolution is superb followed by generally very good borders. Distortions are quite pronounced at 17mm but not a real problem beyond. Vignetting is very well controlled except at 35mm @ f/2.8. CAs are very low for a zoom lens. All-in-all the performance is very similar to the AF-S 17-55m f/2.8G IF-ED DX in the overlapping range so for (APS-C) DSLR-only users it may make sense to stick to the dedicated lens. For a dual-use strategy (film + digital and possibly full frame DSLRs in the future) the AF-S 17-35mm f/2.8D IF-ED remains a quite obvious choice.

Optical Quality: ★★★☆
Mechanical Quality: ★★★★☆
Price/Performance: ★★★☆

What does this mean ?

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