

**Electronic data delivery** PDF/X-1 or PDF/X-3 data files as defined in ISO 15930-4 or ISO 15930-6

**Tone values for printing formes** Resolution of the film or plate setter should be set to 500 L/cm  
The deviation of tone values over the complete printing forme shall not exceed +/- 2 %

**Screen frequency** For four-colour work, the screen frequency should be 40 L/cm

**Non-periodic screens** Minimum dimension of the image elements is 40 µm

**Tone value reproduction** 3 % to 90 %

**Screen angle** Cyan at 15°, Magenta at 75°, Yellow at 0°, Black at 135°

**Dot Shape** Elliptical half-tone dot shape, first link-up at 40 %, second link at 60%

**Tone value sum** The tone value sum should not exceed 240 %, max. 260 %  
Maximum black should be at least 85 %.  
GCR is recommended for newspaper colour separations

**Spectrometric measurement** Black backing, D50 illuminant, 2° observer, 0/45 or 45/0 geometry

	L*	a*	b*
<b>Newsprint</b>	82	0	3
<b>Tolerance</b>	3	1	1

<b>Ink set colours (Blackbacking)</b>	L*	a*	b*
<b>Cyan (C)</b>	57	-23	-27
<b>Magenta (M)</b>	54	44	-2
<b>Yellow (Y)</b>	78	-3	58
<b>Black (B)</b>	36	1	4
<b>C+Y</b>	53	-34	17
<b>C+M</b>	41	7	-22
<b>M+Y</b>	52	41	25
<b>C+M+Y</b>	40	0	1
<b>C52 %, M44 %, Y44 %, K100 %</b>	34	1	2

**Tolerances normative C,M,Y,K** Delta E 5

**Tolerances informative M+Y, C+Y, C+M** Delta E 8

**Colour printing sequences** CMYK and KCMY

**Tolerance for image positioning** less than 0,15 mm, max. 0,3 mm

<b>Tone value increase curve (TVI) in %</b>	<b>Reference tone value</b>	<b>Value increase on paper</b>
	10,0	11,1
20,0	19,0	
30,0	24,0	
40,0	26,1	
50,0	26,0	
60,0	23,9	
70,0	19,8	
80,0	14,3	
90,0	7,6	

**Mid-tone spread CMY** 6 %

<b>Densities of ink set colours (informative only)</b>	<b>ISO Status E, relative density polarized</b>	<b>ISO Status T, absolute density, unpolarized</b>
	<b>Cyan</b>	0,9
<b>Magenta</b>	0,9	0,9
<b>Yellow</b>	0,9	0,85
<b>Black</b>	1,1	1,05
<b>Newsprint</b>	0	CMYK: 0,23; 0,24; 0,27; 0,22

<b>Grey balance (informative only)</b>	<b>Cyan</b>	<b>Magenta</b>	<b>Yellow</b>
	10	8	8
20	16	16	
30	24	24	
40	33	33	
50	42	42	
60	53	53	