



**Overview**

Product name	TE188 A / TE188 D
Principle	Color rendition test chart known as "ColorChecker."

**Features**

Color patches

Type/s of pattern	24 patches arranged in four rows with six patches each <ul style="list-style-type: none"> <li>• 12 colors that are critical in reproduction, e.g., dark and light skin tones, blue sky, orange, violet, and others</li> <li>• Six color patches with primary and secondary colors as blue, green, red, yellow, purple, and cyan</li> <li>• 6-step grayscale</li> </ul>			
Color values	<input type="checkbox"/> reflective charts with Munsell paper (default color values provided by Calibrite, individual measurement available on request) <input type="checkbox"/> transmissive charts (individually measured, default color values 20180404) Values are provided in a separate Acceptance Protocol. All default values are given at the end of this datasheet.			
Size of a single patch		4:3		16:9
		W [mm]	H [mm]	W [mm] H [mm]
	<input type="checkbox"/> A460	58.0	58.0	58.0 44.0
	<input type="checkbox"/> A444	-	-	56.0 43.5
	<input type="checkbox"/> A360	-	-	45.5 34.5
	<input type="checkbox"/> A280	40.0	40.0	35.5 27.0
	<input type="checkbox"/> K360*	40.0	40.0	45.6 34.6
	<input type="checkbox"/> K280*	40.0	40.0	- -
	<input type="checkbox"/> D280	41.5	41.5	41.5 27.5
	<input type="checkbox"/> D35	3.5	3.5	- -
	<input type="checkbox"/> other			



Surface finish	<p>The color foils of transparent charts (and, in rare cases, Munsell charts) may show scratches or streaks.</p> <p>This issue does not affect the test chart's function as the scratches/streaks are not visible under normal illumination geometry. We also recommend recording the color chart slightly out of focus to obtain a stable average value in the result.</p>
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## General description hardware

Type	<input type="checkbox"/> reflective (A chart) <input type="checkbox"/> transmissive (D chart)				
Aspect ratio	<input type="checkbox"/> 4:3 <input type="checkbox"/> 16:9 <input type="checkbox"/> other: _____				
Chart size [W x H x D]**		W [mm]	H [mm]		
	<input type="checkbox"/> A460	600	500	3.2	
	<input type="checkbox"/> A444	600	500	3.2	
	<input type="checkbox"/> A360	500	400	3.2	
	<input type="checkbox"/> A280	365	305	3.2	
	<input type="checkbox"/> K360*	390	271	2.1	
	<input type="checkbox"/> K280*	334	271	2.1	
	<input type="checkbox"/> D280	360	280	4.6	
	<input type="checkbox"/> D35	50	50	2.6	
<input type="checkbox"/> other					
Picture size [W x H]**		4:3		16:9	
		W [mm]	H [mm]	W [mm]	H [mm]
	<input type="checkbox"/> A460	460	340	460.0	259
	<input type="checkbox"/> A444	-	-	444.4	250
	<input type="checkbox"/> A360	-	-	360	202.5
	<input type="checkbox"/> A280	275	180	280	157.5
	<input type="checkbox"/> K360*	275	180	360	202.5
	<input type="checkbox"/> K280*	275	180	-	-
	<input type="checkbox"/> D280	280	210	280	157.5
<input type="checkbox"/> D35	28	21	-	-	
<input type="checkbox"/> other					
Material	<input type="checkbox"/> specific matt paper (Munsell) and black cardboard (frame) <input type="checkbox"/> different transparent foils				
Mounting	<input type="checkbox"/> aluminum composite panel (aluminum Dibond) <input type="checkbox"/> aluminum <input type="checkbox"/> Polystyrene <input type="checkbox"/> embedded between metal frames				
Edge protection	<input type="checkbox"/> fabric tape <input type="checkbox"/> none				
Service life	<input type="checkbox"/> reflective Munsell Paper (ColorChecker) 2 years <input type="checkbox"/> transparent color foils 1 year <p>For color targets, please check annually if a new reference measurement is necessary. Some filter foils used for transparent charts are not fadeless, especially when exposed to sunlight (ultraviolet light). We, therefore, recommend storing the chart in the folder or case when not in use.</p> <p>We also recommend and offer a recalibration of the chart after three years of regular use.</p>				



Scope of delivery	test chart, a case for storing the chart safely (A charts), stable cardboard envelope (D charts)
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## Miscellaneous

Evaluation / Assessment	supported by the iQ-Analyzer Color Module
Illumination	It is recommended to test this chart under a continuous spectrum. Typical white LED spectra are not suited for color tests in general.
Standards	Metamorfoze Guideline (Archiving)
Accessories	chart case
Terms & Conditions	<a href="http://image-engineering.de/terms-and-conditions">image-engineering.de/terms-and-conditions</a>

\* only available in combination with a folder

\* If only the target without mounting is needed, please ask for the original ColorChecker, not for TE188.



## Default color values A chart (reflective)

Patch	Name	sRGB_D65			CIE Lab_D50			Munsell Notation			CIE XYZ_D50		
		R	G	B	L*	a*	b*	Hue	Value	Chroma	X	Y	Z
A1	Dark skin	116	79	65	37.54	14.37	14.92	3.0 YR	3.7	3.2	11.36	9.83	4.78
B1	Light skin	197	144	127	64.66	19.27	17.50	2.2 YR	6.47	4.1	38.11	33.62	18.53
C1	Blue sky	91	120	155	49.32	-3.82	-22.54	4.3 PB	4.95	5.5	16.53	17.86	25.47
D1	Foliage	91	108	64	43.46	-12.74	22.72	6.7 GY	4.2	4.1	11.14	13.47	5.24
E1	Blue flower	131	127	175	54.94	9.61	-24.79	9.7 PB	5.47	6.7	24.20	22.87	32.83
F1	Bluish green	95	189	172	70.48	-32.26	-0.37	2.5 BG	7.0	6.0	30.45	41.44	34.45
A2	Orange	224	124	48	62.73	35.83	56.50	5.0 YR	6.0	11.0	40.74	31.26	5.13
B2	Purplish blue	69	90	167	39.43	10.75	-45.17	7.5 PB	4.0	10.7	12.01	10.91	28.76
C2	Moderate red	197	80	95	50.57	48.64	16.67	2.5 R	5.0	10.0	29.15	18.90	9.74
D2	Purple	93	58	104	30.10	22.54	-20.87	5.0 P	3.0	7.0	8.35	6.28	10.42
E2	Yellow green	156	187	58	71.77	-24.13	58.19	5.0 GY	7.1	9.1	34.27	43.32	8.33
F2	Orange yellow	227	161	39	71.51	18.24	67.37	10.0 YR	7.0	10.5	47.70	42.93	6.01
A3	Blue	40	62	145	28.37	15.42	-49.80	7.5 PB	2.9	12.7	6.81	5.60	20.78
B3	Green	61	147	70	54.38	-39.72	32.27	0.25 G	5.4	8.65	14.14	22.33	7.29
C3	Red	178	54	57	42.43	51.05	28.62	5.0 R	4.0	12.0	21.44	12.78	3.87
D3	Yellow	236	200	15	81.80	2.67	80.41	5.0 Y	8.0	11.1	58.89	59.93	7.08
E3	Magenta	191	79	146	50.63	51.28	-14.12	2.5 RP	5.0	12.0	29.91	18.95	22.14
F3	Cyan	0	133	165	49.57	-29.71	-28.32	5.0 B	5.0	8.0	12.48	18.06	29.14
A4	White (0.05*)	241	242	235	95.19	-1.03	2.93	-	9.5	-	84.37	88.07	69.39
B4	Neutral 8 (0.23*)	201	202	201	81.29	-0.57	0.44	-	8.0	-	56.65	59.00	48.30
C4	Neutral 6.5 (0.44*)	161	163	163	66.89	-0.75	-0.06	-	6.5	-	34.96	36.49	30.15
D4	Neutral 5 (0.70*)	121	121	121	50.76	-0.13	0.14	-	5.0	-	18.36	19.06	15.67
E4	Neutral 3.5 (1.05*)	83	84	85	35.63	-0.46	-0.48	-	3.5	-	8.45	8.82	7.39
F4	Black (1.50*)	50	50	50	20.64	0.07	-0.46	-	2.0	-	3.04	3.15	2.66

The table above follows the original X-Rite data sheet, given with the ColorChecker for CIE L\*a\*b\* and Munsell notation. The CIE XYZ (for illuminant D50) and the sRGB (for illuminant D65) values are calculated by using the origin L\*a\*b\* values. According to X-Rite these values are "a generic, averaged colorimetric description of the ColorChecker charts. For highest accuracy it is a good idea to create custom reference files for a chart."

## Default color values D chart (transmissive)

Patch	Name	CIE XYZ_D50			CIE xy_D50		CIE Lab_D50			Optical density	Transmission
		X	Y	Z	x	y	L	a	b		
A1	Dark skin	14.58	12.51	8.65	0.41	0.35	42.01	17.60	14.05	-	-
B1	Light skin	54.40	49.35	37.85	0.38	0.35	75.67	20.01	17.42	-	-
C1	Blue sky	15.34	17.61	30.46	0.24	0.28	49.02	-8.02	-18.71	-	-
D1	Foliage	7.14	12.41	3.20	0.31	0.55	41.85	-38.42	38.00	-	-
E1	Blue flower	49.31	45.51	85.69	0.27	0.25	73.23	17.16	-30.81	-	-
F1	Bluish green	41.71	57.74	67.46	0.25	0.35	80.59	-36.40	-3.96	-	-
A2	Orange	47.89	37.39	6.82	0.52	0.41	67.57	37.63	64.66	-	-
B2	Purplish blue	18.23	18.27	64.25	0.18	0.18	49.83	4.60	-54.26	-	-
C2	Moderate red	40.32	28.32	18.75	0.46	0.32	60.17	47.35	20.06	-	-
D2	Purple	13.53	8.25	38.88	0.22	0.14	34.49	43.46	-54.84	-	-
E2	Yellow green	60.19	82.73	33.24	0.34	0.47	92.89	-40.01	53.08	-	-
F2	Orange yellow	53.34	45.59	8.43	0.50	0.42	73.28	27.59	68.69	-	-
A3	Blue	8.60	3.75	45.32	0.15	0.07	22.84	57.04	-82.37	-	-
B3	Green	9.97	23.31	6.40	0.25	0.59	55.39	-71.87	45.33	-	-
C3	Red	37.11	19.08	2.55	0.63	0.32	50.78	77.58	57.92	-	-
D3	Yellow	55.78	63.14	5.06	0.45	0.51	83.51	-10.33	99.65	-	-
E3	Magenta	43.54	21.44	52.53	0.37	0.18	53.43	86.20	-37.16	-	-
F3	Cyan	47.09	59.26	102.19	0.23	0.28	81.43	-24.31	-27.83	-	-
A4	White	95.05	100.00	108.88	0.31	0.33	100.00	0.00	0.00	0.00	100.00
B4	Neutral	68.99	72.74	78.32	0.31	0.33	88.32	-0.33	0.67	0.19	64.57
C4	Neutral	41.54	43.83	46.90	0.31	0.33	72.12	-0.37	0.88	0.41	38.90
D4	Neutral	22.53	23.77	25.40	0.31	0.33	55.86	-0.28	0.78	0.68	20.89
E4	Neutral	11.07	11.68	12.37	0.32	0.33	40.70	-0.23	0.89	1.00	10.00
F4	Black	3.12	3.30	3.48	0.32	0.33	21.19	-0.21	0.65	1.52	3.02

The table above provides a generic colorimetric description of the color and gray patches (for illuminant D50). For highest accuracy individual reference values for a chart can be ordered.