

Table with deviations for class F 0.6 / F 0.3 / F 0.15 / F 0.1

according to DIN EN 60751

Calculation basis:		Notes on the table $R_0 = 500 \Omega$
$t \geq 0$	$R(t) = R_0 \cdot (1 + At + Bt^2)$	(X.XX) Only theoretical values (not covered by DIN EN 60751)
$t < 0$	$R(t) = R_0 \cdot (1 + At + Bt^2 + C(t - 100^\circ\text{C})t^3)$	
with constants:	with constants:	
$A = 3.9083 \cdot 10^{-3} \text{ } ^\circ\text{C}^{-1}$ $B = -5.775 \cdot 10^{-7} \text{ } ^\circ\text{C}^{-2}$	$A = 3.9083 \cdot 10^{-3} \text{ } ^\circ\text{C}^{-1}$ $B = -5.775 \cdot 10^{-7} \text{ } ^\circ\text{C}^{-2}$ $C = -4.183 \cdot 10^{-12} \text{ } ^\circ\text{C}^{-4}$	

Class	Validity range [°C]	Tolerance value [°C]
F 0.1 (1/3B)	0 to +150	$\Delta t = \pm(0.1 + 0.0017 \cdot t)$
F 0.15 (A)	-50 to +300	$\Delta t = \pm(0.15 + 0.002 \cdot t)$
F 0.3 (B)	-70 to +550	$\Delta t = \pm(0.3 + 0.005 \cdot t)$
F 0.6 (2B)	-70 to +600	$\Delta t = \pm(0.6 + 0.01 \cdot t)$

Nominal value $R_0 = 500 \Omega$

$R_0 = 500 \Omega$		F 0.6 (2B)		F 0.3 (B)		F 0.15 (A)		F 0.1 (1/3B)	
Temp.	Nominal Resistance	Resistance deviation	Temperature deviation	Resistance deviation	Temperature deviation	Resistance deviation	Temperature deviation	Resistance deviation	Temperature deviation
T [°C]	R [Ω]	[±Ω]	[±K]	[±Ω]	[±K]	[±Ω]	[±K]	[±Ω]	[±K]
-70	361.67	2.60	1.30	1.30	0.65	(0.58)	(0.29)	(0.44)	(0.22)
-60	381.64	2.39	1.20	1.20	0.60	(0.54)	(0.27)	(0.40)	(0.20)
-50	401.53	2.18	1.10	1.09	0.55	0.50	0.25	(0.37)	(0.19)
-40	421.35	1.98	1.00	0.99	0.50	0.46	0.23	(0.33)	(0.17)
-30	441.11	1.77	0.90	0.89	0.45	0.41	0.21	(0.30)	(0.15)
-20	460.80	1.57	0.80	0.79	0.40	0.37	0.19	(0.26)	(0.13)
-10	480.43	1.37	0.70	0.69	0.35	0.33	0.17	(0.23)	(0.12)
0	500.00	1.17	0.60	0.59	0.30	0.29	0.15	0.20	0.10
10	519.51	1.36	0.70	0.68	0.35	0.33	0.17	0.23	0.12
20	538.97	1.55	0.80	0.78	0.40	0.37	0.19	0.26	0.13
30	558.36	1.74	0.90	0.87	0.45	0.41	0.21	0.29	0.15
40	577.70	1.93	1.00	0.97	0.50	0.44	0.23	0.32	0.17
50	596.99	2.12	1.10	1.06	0.55	0.48	0.25	0.36	0.19
60	616.21	2.30	1.20	1.15	0.60	0.52	0.27	0.39	0.20
70	635.38	2.49	1.30	1.24	0.65	0.55	0.29	0.42	0.22
80	654.48	2.67	1.40	1.34	0.70	0.59	0.31	0.45	0.24
90	673.53	2.85	1.50	1.43	0.75	0.63	0.33	0.48	0.25
100	692.53	3.03	1.60	1.52	0.80	0.66	0.35	0.51	0.27
110	711.46	3.21	1.70	1.61	0.85	0.70	0.37	0.54	0.29
120	730.34	3.39	1.80	1.70	0.90	0.74	0.39	0.57	0.30
130	749.16	3.57	1.90	1.78	0.95	0.77	0.41	0.60	0.32
140	767.92	3.75	2.00	1.87	1.00	0.81	0.43	0.63	0.34
150	786.63	3.92	2.10	1.96	1.05	0.84	0.45	0.66	0.36
160	805.27	4.09	2.20	2.05	1.10	0.87	0.47	(0.69)	(0.37)
170	823.86	4.27	2.30	2.13	1.15	0.91	0.49	(0.72)	(0.39)
180	842.39	4.44	2.40	2.22	1.20	0.94	0.51	(0.75)	(0.41)
190	860.86	4.61	2.50	2.31	1.25	0.98	0.53	(0.78)	(0.42)
200	879.28	4.78	2.60	2.39	1.30	1.01	0.55	(0.81)	(0.44)
210	897.64	4.95	2.70	2.47	1.35	1.04	0.57	(0.84)	(0.46)
220	915.94	5.11	2.80	2.56	1.40	1.08	0.59	(0.87)	(0.47)

The mentioned table values were calculated to the polynomial of DIN EN 60751 with microsoft excel.

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Nominal value R ₀ = 500 Ω									
R ₀ = 500 Ω		F 0.6 (2B)		F 0.3 (B)		F 0.15 (A)		F 0.1 (1/3B)	
Temp.	Nominal Resistance	Resistance deviation	Temperature deviation	Resistance deviation	Temperature deviation	Resistance deviation	Temperature deviation	Resistance deviation	Temperature deviation
T [°C]	R [Ω]	[±Ω]	[±K]	[±Ω]	[±K]	[±Ω]	[±K]	[±Ω]	[±K]
230	934.18	5.28	2.90	2.64	1.45	1.11	0.61	(0.89)	(0.49)
240	952.36	5.44	3.00	2.72	1.50	1.14	0.63	(0.92)	(0.51)
250	970.49	5.61	3.10	2.80	1.55	1.18	0.65	(0.95)	(0.53)
260	988.56	5.77	3.20	2.89	1.60	1.21	0.67	(0.98)	(0.54)
270	1006.57	5.93	3.30	2.97	1.65	1.24	0.69	(1.01)	(0.56)
280	1024.52	6.09	3.40	3.05	1.70	1.27	0.71	(1.03)	(0.58)
290	1042.42	6.25	3.50	3.13	1.75	1.30	0.73	(1.06)	(0.59)
300	1060.26	6.41	3.60	3.20	1.80	1.34	0.75	(1.09)	(0.61)
310	1078.04	6.56	3.70	3.28	1.85	(1.37)	(0.77)	(1.11)	(0.63)
320	1095.76	6.72	3.80	3.36	1.90	(1.40)	(0.79)	(1.14)	(0.64)
330	1113.42	6.87	3.90	3.44	1.95	(1.43)	(0.81)	(1.17)	(0.66)
340	1131.03	7.03	4.00	3.51	2.00	(1.46)	(0.83)	(1.19)	(0.68)
350	1148.58	7.18	4.10	3.59	2.05	(1.49)	(0.85)	(1.22)	(0.70)
360	1166.07	7.33	4.20	3.67	2.10	(1.52)	(0.87)	(1.24)	(0.71)
370	1183.51	7.48	4.30	3.74	2.15	(1.55)	(0.89)	(1.27)	(0.73)
380	1200.88	7.63	4.40	3.81	2.20	(1.58)	(0.91)	(1.29)	(0.75)
390	1218.20	7.77	4.50	3.89	2.25	(1.61)	(0.93)	(1.32)	(0.76)
400	1235.46	7.92	4.60	3.96	2.30	(1.64)	(0.95)	(1.34)	(0.78)
410	1252.66	8.07	4.70	4.03	2.35	(1.67)	(0.97)	(1.37)	(0.80)
420	1269.81	8.21	4.80	4.11	2.40	(1.69)	(0.99)	(1.39)	(0.81)
430	1286.89	8.35	4.90	4.18	2.45	(1.72)	(1.01)	(1.42)	(0.83)
440	1303.92	8.49	5.00	4.25	2.50	(1.75)	(1.03)	(1.44)	(0.85)
450	1320.90	8.63	5.10	4.32	2.55	(1.78)	(1.05)	(1.47)	(0.87)
460	1337.81	8.77	5.20	4.39	2.60	(1.81)	(1.07)	(1.49)	(0.88)
470	1354.67	8.91	5.30	4.46	2.65	(1.83)	(1.09)	(1.51)	(0.90)
480	1371.46	9.05	5.40	4.53	2.70	(1.86)	(1.11)	(1.54)	(0.92)
490	1388.20	9.18	5.50	4.59	2.75	(1.89)	(1.13)	(1.56)	(0.93)
500	1404.89	9.32	5.60	4.66	2.80	(1.91)	(1.15)	(1.58)	(0.95)
510	1421.51	9.45	5.70	4.73	2.85	(1.94)	(1.17)	(1.60)	(0.97)
520	1438.08	9.58	5.80	4.79	2.90	(1.97)	(1.19)	(1.63)	(0.98)
530	1454.59	9.71	5.90	4.86	2.95	(1.99)	(1.21)	(1.65)	(1.00)
540	1471.04	9.84	6.00	4.92	3.00	(2.02)	(1.23)	(1.67)	(1.02)
550	1487.44	9.97	6.10	4.99	3.05	(2.05)	(1.25)	(1.69)	(1.04)
560	1503.77	10.10	6.20	(5.05)	(3.10)	(2.07)	(1.27)	(1.72)	(1.05)
570	1520.05	10.23	6.30	(5.12)	(3.15)	(2.10)	(1.29)	(1.74)	(1.07)
580	1536.27	10.35	6.40	(5.18)	(3.20)	(2.12)	(1.31)	(1.76)	(1.09)
590	1552.43	10.48	6.50	(5.24)	(3.25)	(2.15)	(1.33)	(1.78)	(1.10)
600	1568.54	10.60	6.60	(5.30)	(3.30)	(2.17)	(1.35)	(1.80)	(1.12)

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