Resistance vs Temperature Tables



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	hnperature Resistance	e Temperature Rosisti	ice 32	Resistance	,	Resistant	200	Resistance
	K Resi	Leur Beg.	Ton.	Rest	Zent.	Rest	Tent.	Resi
-40	84.27	19 97.18	78	109.95	137	122.60	196	135.13
-39 -38	84.49 84.71	20 97.39 21 97.61	79 80	110.17 110.38	138 139	122.81 123.03	197 198	135.34 135.55
-37	84.93	22 97.83	81	110.60	140	123.24	199	135.76
-36	85.15	23 98.05	82	110.81	141	123.45	200	135.97
-35	85.37	24 98.26	83	111.03	142	123.67	201	136.18
-34	85.59	25 98.48	84	111.24	143	123.88	202	136.39
-33 -32	85.81 86.03	26 98.70 27 98.91	85 86	111.46 111.67	144 145	124.09 124.31	203 204	136.60 136.81
-31	86.25	28 99.13	87	111.87	146	124.52	205	130.81
-30	86.47	29 99.35	88	112.10	147	124.73	206	137.24
-29	86.69	30 99.57	89	112.32	148	124.94	207	137.45
-28	86.91	31 99.78	90	112.53	149	125.16	208	137.66
-27	87.13	32 100.00	91	112.75	150	125.37	209	137.87
-26 -25	87.35 87.57	33 100.22 34 100.43	92	112.96	151 152	125.58 125.80	210 211	138.08
-24	87.78	34 100.43 35 100.65	93 94	113.18 113.39	153	126.01	212	138.29 138.50
-23	88.00	36 100.87	95	113.61	154	126.22	213	138.71
-22	88.22	37 101.09	96	113.82	155	126.43	214	138.92
-21	88.44	38 101.30	97	114.04	156	126.65	215	139.13
-20	88.66	39 101.52	98	114.25	157	126.86	216	139.34
-19 -18	88.88 89.10	40 101.74	99	114.47	158 159	127.07 127.28	217 218	139.55
-17	89.10	41 101.95 42 102.17	100 101	114.68 114.90	160	127.28	219	139.76 139.97
-16	89.54	43 102.39	101	115.11	161	127.71	220	140.18
-15	89.76	44 102.60	103	115.33	162	127.92	221	140.39
-14	89.97	45 102.82	104	115.54	163	128.13	222	140.61
-13	90.19	46 103.04	105	115.75	164	128.35	223	140.82
-12	90.41	47 103.25	106	115.97	165	128.56	224	141.03
-11 -10	90.63 90.85	48 103.47 49 103.69	107 108	116.18 116.40	166 167	128.77 128.98	225 226	141.24
-9	91.07	50 103.99	108	116.40	168	129.20	227	141.45 141.66
-8	91.29	51 104.12	110	116.83	169	129.41	228	141.87
-7	91.51	52 104.34	111	117.04	170	129.62	229	142.08
-6	91.72	53 104.55	I	117.25	171	129.83	230	142.29
-5	91.94 92.16	54 104.77	113	117.47	172	130.05	231	142.50
-4 -3	92.16	55 104.98 56 105.20	114 115	117.68 117.90	173 174	130.26 130.47	232 233	142.71 142.92
-2	92.60	57 105.42	116	117.90	175	130.47	234	142.92
-1	92.82	58 105.63	117	118.33	176	130.89	235	143.34
0	93.03	59 105.85	118	118.54	177	131.11	236	143.55
1	93.25	60 106.07	119	118.75	178	131.32	237	143.76
2	93.47	61 106.28	120	118.97	179	131.53	238	143.97
3 4	93.69 93.91	62 106.50 63 106.71	121 122	119.18 119.40	180 181	131.74 131.95	239 240	144.18 144.38
5	94.13	64 106.93	123	119.40	182	132.16	241	144.59
6	94.34	65 107.15	124	119.82	183	132.38	242	144.80
7	94.56	66 107.36	125	120.04	184	132.59	243	145.01
8	94.78	67 107.58	126	120.25	185	132.80	244	145.22
9	95.00	68 107.79	127	120.46	186	133.01	245	145.43
10 11	95.22 95.43	69 108.01 70 108.22	128 129	120.68 120.89	187 188	133.22 133.43	246 247	145.64 145.85
12	95.65	70 108.22 71 108.44	130	120.89	189	133.65	248	145.85
13	95.87	72 108.66	131	121.32	190	133.86	249	146.27
14	96.09	73 108.87	132	121.53	191	134.07	250	146.48
15	96.30	74 109.09	133	121.75	192	134.28		
16 17	96.52 96.74	75 109.30	134	121.96	193 194	134.49 134.70		
18	96.74	76 109.52 77 109.73	135 136	122.17 122.39	194	134.70		



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	ature	e /	inte sc	e /	tite c	, /	tire ce
	Derice Glane		etat stanc		erat		etane
~e5	nderature Resistanc	Terri	perature Resistant	Tem	gerature Resistance	Temp	Resistance
-40	84.27	11	104.29	62	124.01	113	143.42
-39	84.67	12	104.29	63	124.01	113	143.42
-38	85.06	13	105.07	64	124.77	115	144.17
-37	85.46	14	105.46	65	125.16	116	144.55
-36	85.85	15	105.85	66	125.54	117	144.93
-35	86.25	16	106.24	67	125.92	118	145.31
-34	86.64	17	106.63	68	126.31	119	145.68
-33	87.04	18	107.02	69	126.69	120	146.06
-32	87.43	19	107.40	70	127.07	121	146.44
-31	87.83	20	107.79	71	127.45	122	146.81
-30	88.22	21	108.18	72	127.84	123	147.19
-29	88.62	22	108.57	73	128.22	124	147.57
-28	89.01	23	108.96	74	128.60	125	147.94
-27	89.40	24	109.35	75	128.98	126	148.32
-26	89.80	25	109.73	76	129.37	127	148.70
-25	90.19	26	110.12	77	129.75	128	149.07
-24	90.59	27	110.51	78	130.13	129	149.45
-23	90.98	28	110.90	79	130.51	130	149.82
-22	91.37	29	111.28	80	130.89	131	150.20
-21	91.77	30	111.67	81	131.27	132	150.57
-20	92.16	31	112.06	82	131.66	133	150.95
-19	92.55	32	112.45	83	132.04	134	151.33
-18	92.95	33	112.83	84	132.42	135	151.70
-17	93.34	34	113.22	85	132.80	136	152.08
-16	93.73	35	113.61	86	133.18	137	152.45
-15	94.12	36	113.99	87	133.56	138	152.83
-14	94.52	37	114.38	88	133.94	139	153.20
-13	94.91	38	114.77	89	134.32	140	153.58
-12	95.30	39	115.15	90	134.70	141	153.95
-11	95.69	40	115.54	91	135.08	142	154.32
-10	96.09	41 42	115.93	92	135.46 135.84	143 144	154.70 155.07
-9 -8	96.48 96.87	43	116.31 116.70	93 94	136.22	144	155.45
- - -7	96.87	43 44	116.70	95	136.22	145	155.45
-6	97.65	45	117.03	96	136.98	147	156.19
-5	98.04	46	117.47	97	137.36	148	156.57
-4	98.44	47	117.03	98	137.74	149	156.94
-3	98.83	48	118.62	99	138.12	150	157.31
-2	99.22	49	119.01	100	138.50	100	107.01
-1	99.61	50	119.40	101	138.88		
0	100.00	51	119.78	102	139.26		
1	100.39	52	120.16	103	139.64		
2	100.78	53	120.55	104	140.02		
3	101.17	54	120.93	105	140.39		
4	101.56	55	121.32	106	140.77		
5	101.95	56	121.70	107	141.15		
6	102.34	57	122.09	108	141.53		
7	102.73	58	122.47	109	141.91		
8	103.12	59	122.86	110	142.29		
9	103.51	60	123.24	111	142.66		
10	103.90	61	123.62	112	143.04		



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	ature	e /	ature	e /	ature acc	v /	ature ace
	apert istall		era istan		erio istati	/ .06	istall.
~e5	nderature Resistanc	Tenn	erature Resistant	Ten	gerature Resistance	Tomi	Resistance
-40	791.31	11	1061.14	62	1366.05	113	1709.25
-39	796.26	12	1066.78	63	1372.39	114	1716.41
-38	801.23	13	1072.43	64	1378.75	115	1723.58
-37	806.21	14	1078.09	65	1385.12	116	1730.77
-36	811.21	15	1083.77	66	1391.51	117	1737.98
-35	816.21	16	1089.46	67	1397.91	118	1745.21
-34	821.23	17	1095.17	68	1404.33	119	1752.45
-33	826.27	18	1100.89	69	1410.76	120	1759.72
-32	831.32	19	1106.62	70	1417.21	121	1767.00
-31	836.38	20	1112.36	71	1423.67	122	1774.30
-30	841.46	21	1118.12	72	1430.14	123	1781.61
-29	846.55	22	1123.90	73	1436.64	124	1788.95
-28	851.65	23	1129.68	74	1443.14	125	1796.30
-27	856.77	24	1135.48	75	1449.67	126	1803.68
-26	861.90	25	1141.29	76	1456.20	127	1811.07
-25	867.04	26	1147.12	77	1462.75	128 129	1818.48 1825.90
-24	872.20 877.37	27	1152.96	78	1469.32		1833.35
-23		28	1158.81	79	1475.91 1482.50	130	1840.82
-22 -21	882.56 887.75	29 30	1164.68 1170.56	80 81	1482.50	131 132	1848.30
-21	892.96	31	1176.36	82	1489.12	133	1855.80
-19	898.19	32	1170.45	83	1502.39	134	1863.33
-18	903.43	33	1182.30	84	1502.39	135	1870.87
-17	908.68	34	1194.21	85	1515.73	136	1878.43
-16	913.94	35	1200.16	86	1522.42	137	1886.01
-15	919.22	36	1206.13	87	1529.13	138	1893.61
-14	924.51	37	1212.10	88	1535.85	139	1901.23
-13	929.82	38	1218.09	89	1542.59	140	1908.87
-12	935.14	39	1224.09	90	1549.34	141	1916.52
-11	940.47	40	1230.11	91	1556.12	142	1924.20
-10	945.82	41	1236.14	92	1562.90	143	1931.90
-9	951.17	42	1242.19	93	1569.71	144	1939.62
-8	956.55	43	1248.25	94	1576.53	145	1947.35
-7	961.93	44	1254.32	95	1583.36	146	1955.11
-6	967.33	45	1260.41	96	1590.21	147	1962.89
-5	972.74	46	1266.51	97	1597.08	148	1970.69
-4	978.17	47	1272.62	98	1603.97	149	1978.51
-3	983.60	48	1278.75	99	1610.87	150	1986.35
-2	989.06	49	1284.89	100	1617.79		
-1	994.52	50	1291.05	101	1624.72		
0	1000.00	51	1297.22	102	1631.67		
1 2	1005.49	52	1303.41	103	1638.64		
3	1011.00 1016.51	53 54	1309.61 1315.82	104 105	1645.62 1652.62		
4	1010.51	55 55	1313.82	105	1652.62		
5	1027.59	56	1328.29	107	1666.68		
6	1033.15	57	1334.55	107	1673.73		
7	1038.72	58	1340.82	109	1680.80		
8	1044.31	59	1347.10	110	1687.89		
9	1049.90	60	1353.40	111	1694.99		
10	1055.52	61	1359.72	112	1702.11		



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	Apsistance Resistance	e Tomporature Resistan	9	perature Resistance		erature Resistance		Persture Resistance
	Acest Rest	Territ Rest	Ten	Rest	Territ	Rest	Territ	Rest
-40	842.7	19 971.8	78	1099.5	137	1226.0	196	1351.3
-39 -38	844.9 847.1	20 973.9 21 976.1	79 80	1101.7 1103.8	138 139	1228.1 1230.3	197 198	1353.4 1355.5
-37	849.3	21 978.3	81	1105.8	140	1230.3	199	1357.6
-36	851.5	23 980.5	82	1108.1	141	1234.5	200	1359.7
-35	853.7	24 982.6	83	1110.3	142	1236.7	201	1361.8
-34	855.9	25 984.8	84	1112.4	143	1238.8	202	1363.9
-33	858.1	26 987.0	85	1114.6	144	1240.9	203	1366.0
-32 -31	860.3 862.5	27 989.1	86	1116.7	145	1243.1	204 205	1368.1
-30	862.5	28 991.3 29 993.5	87 88	1118.9 1121.0	146 147	1245.2 1247.3	205	1370.2 1372.4
-29	866.9	30 995.7	89	1123.2	148	1247.3	207	1374.5
-28	869.1	31 997.8	90	1125.3	149	1251.6	208	1376.6
-27	871.3	32 1000.0	91	1127.5	150	1253.7	209	1378.7
-26	873.5	33 1002.2	92	1129.6	151	1255.8	210	1380.8
-25	875.7	34 1004.3	93	1131.8	152	1258.0	211	1382.9
-24	877.8	35 1006.5	94	1133.9	153	1260.1	212	1385.0
-23 -22	880.0 882.2	36 1008.7 37 1010.9	95	1136.1	154 155	1262.2	213 214	1387.1 1389.2
-22	884.4	37 1010.9 38 1013.0	96 97	1138.2 1140.4	156	1264.3 1266.5	214	1309.2
-20	886.6	39 1015.2	98	1140.4	157	1268.6	216	1393.4
-19	888.8	40 1017.4	99	1144.7	158	1270.7	217	1395.5
-18	891.0	41 1019.5	100	1146.8	159	1272.8	218	1397.6
-17	893.2	42 1021.7	101	1149.0	160	1275.0	219	1399.7
-16	895.4	43 1023.9	102	1151.1	161	1277.1	220	1401.8
-15	897.6	44 1026.0	103	1153.3	162	1279.2	221	1403.9
-14	899.7	45 1028.2	104	1155.4	163	1281.3	222	1406.1
-13 -12	901.9 904.1	46 1030.4 47 1032.5	105	1157.5	164 165	1283.5	223 224	1408.2 1410.3
-12	904.1	47 1032.5 48 1034.7	106 107	1159.7 1161.8	166	1285.6 1287.7	225	1410.3
-10	908.5	49 1036.9	107	1164.0	167	1289.8	226	1414.5
-9	910.7	50 1039.0	109	1166.1	168	1292.0	227	1416.6
-8	912.9	51 1041.2	110	1168.3	169	1294.1	228	1418.7
-7	915.1	52 1043.4	111	1170.4	170	1296.2	229	1420.8
-6	917.2	53 1045.5	112	1172.5	171	1298.3	230	1422.9
-5	919.4	54 1047.7	113	1174.7	172	1300.5	231	1425.0
-4 -3	921.6 923.8	55 1049.8 56 1052.0	114	1176.8 1179.0	173 174	1302.6	232 233	1427.1 1429.2
-3	923.8	56 1052.0 57 1054.2	115 116	1179.0	174	1304.7 1306.8	234	1429.2
-1	928.2	58 1056.3	117	1183.3	176	1308.9	235	1433.4
0	930.3	59 1058.5	118	1185.4	177	1311.1	236	1435.5
1	932.5	60 1060.7	119	1187.5	178	1313.2	237	1437.6
2	934.7	61 1062.8	120	1189.7	179	1315.3	238	1439.7
3	936.9	62 1065.0	121	1191.8	180	1317.4	239	1441.8
4 5	939.1	63 1067.1	122	1194.0	181 182	1319.5	240 241	1443.8
6	941.3 943.4	64 1069.3 65 1071.5	123 124	1196.1 1198.2	183	1321.6 1323.8	241	1445.9 1448.0
7	945.6	66 1073.6	125	1200.4	184	1325.9	243	1450.1
8	947.8	67 1075.8	126	1202.5	185	1328.0	244	1452.2
9	950.0	68 1077.9	127	1204.6	186	1330.1	245	1454.3
10	952.2	69 1080.1	128	1206.8	187	1332.2	246	1456.4
11	954.3	70 1082.2	129	1208.9	188	1334.3	247	1458.5
12	956.5	71 1084.4	130	1211.1	189	1336.5	248	1460.6
13 14	958.7 960.9	72 1086.6 73 1088.7	131	1213.2	190 191	1338.6	249 250	1462.7 1464.8
15	960.9	73 1088.7 74 1090.9	132 133	1215.3 1217.5	191	1340.7 1342.8	230	1404.0
16	965.2	75 1093.0	134	1217.5	193	1344.9		
17	967.4	76 1095.2	135	1221.7	194	1347.0		
18	969.6	77 1097.3	136	1223.9	195	1349.1		



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	nderature Resistanc	e /	perature Resistant	٠ /	Peralite Resistant		Resistance
, o\$	Ape. esiste	ans	per asista	1	Ret esista	31779	, sista
70	₽¢	/ < ⁰	Re.	100	R.C		₹¢
-40	842.7	11	1042.9	62	1240.1	113	1434.3
-39	846.7	12	1046.8	63	1243.9	114	1438.0
-38	850.7	13	1050.7	64	1247.8	115	1441.8
-37	854.6	14	1054.5	65	1251.6	116	1445.6
-36	858.6	15	1058.5	66	1255.4	117	1449.4
-35	862.5	16	1062.4	67	1259.3	118	1453.1
-34	866.5	17	1066.3	68	1263.1	119	1456.9
-33	870.4	18	1070.2	69	1266.9	120	1460.6
-32	874.3	19	1074.1 1077.9	70 71	1270.8 1274.6	121 122	1464.5 1468.2
-31 -30	878.3 882.2	20 21	1077.9	71 72	1274.0	123	1408.2
-30	886.2	22	1081.8	73	1278.4	123	1472.0
-28	890.1	23	1089.6	74	1286.0	125	1479.5
-27	894.1	24	1093.5	75	1289.9	126	1483.3
-26	898.0	25	1093.3	76	1293.7	127	1487.0
-25	901.9	26	1101.2	77	1297.5	128	1490.8
-24	905.9	27	1105.1	78	1301.3	129	1494.6
-23	909.8	28	1109.0	79	1305.2	130	1498.3
-22	913.7	29	1112.9	80	1309.0	131	1502.1
-21	917.7	30	1116.7	81	1312.8	132	1505.6
-20	921.6	31	1120.6	82	1316.6	133	1509.6
-19	925.5	32	1124.5	83	1320.4	134	1513.3
-18	929.5	33	1128.4	84	1324.2	135	1517.1
-17	933.4	34	1132.2	85	1328.0	136	1520.9
-16	937.3	35	1136.1	86	1331.8	137	1524.6
-15	941.3	36	1140.0	87	1335.7	138	1528.4
-14	945.2	37	1143.8	88	1339.5	139	1532.1
-13	949.1	38	1147.7	89	1343.3	140	1535.8
-12	953.0	39	1151.6	90	1347.1	141	1539.6
-11	956.9	40	1155.4	91	1350.9	142	1543.3
-10	960.9	41	1159.3	92	1354.7	143	1547.1
-9	964.8	42	1163.1 1167.0	93	1358.4 1362.3	144	1550.8 1554.6
-8 -7	968.7 972.6	43 44	1170.9	94 95	1362.3	145 146	1554.6
-6	976.5	45	1170.5	96	1369.9	147	1562.0
-5	980.4	46	1178.6	97	1373.7	148	1565.8
-4	984.4	47	1182.4	98	1377.5	149	1569.5
-3	988.3	48	1186.3	99	1381.3	150	1573.1
-2	992.2	49	1190.1	100	1385.0		10,0.1
-1	996.1	50	1194.0	101	1388.9		
0	1000.0	51	1197.8	102	1392.6		
1	1003.9	52	1201.7	103	1396.4		
2	1007.8	53	1205.5	104	1400.2		
3	1011.7	54	1209.4	105	1404.0		
4	1015.6	55	1213.2	106	1407.8		
5	1019.5	56	1217.1	107	1411.6		
6	1023.4	57	1220.9	108	1415.4		
7	1027.3	58	1224.7	109	1419.1		
8	1031.2	59	1128.6	110	1422.9		
9	1035.1	60	1232.4	111	1426.7		
10	1039.0	61	1236.3	112	1430.5		



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	nnperature Resistant		Derature Resistant	,	Perature Resistant		erature Resistance	Tompe	gature Resistance
	K Reg.	Ten	Yes.	Ton	Rest	Zont.	Res	Tont.	Res
-40	696.5	19	853.1	78	1024.1	137	1211.4	196	1415.0
-39 -38	699.0 701.5	20 21	855.9 858.7	79 80	1027.2 1030.2	138 139	1214.6 1218.0	197 198	1418.6 1422.2
-37	701.3	22	861.5	81	1033.3	140	1221.3	199	1425.9
-36	706.5	23	864.3	82	1036.3	141	1224.6	200	1429.5
-35	709.0	24	867.1	83	1039.4	142	1228.0	201	1433.1
-34	711.6	25	869.9	84	1042.4	143	1231.3	202	1436.6
-33 -32	714.1	26	872.7	85	1045.5	144	1234.7	203	1440.3
-32	716.7 719.3	27 28	875.5 878.3	86 87	1048.5 1051.6	145 146	1238.0 1241.4	204 205	1443.9 1447.5
-30	717.3	29	881.1	88	1051.0	147	1241.4	206	1447.3
-29	724.5	30	883.9	89	1057.8	148	1248.1	207	1454.8
-28	727.1	31	886.7	90	1060.9	149	1251.4	208	1458.5
-27	729.6	32	889.6	91	1064.0	150	1254.8	209	1462.2
-26	732.2	33	892.4	92	1067.1	151	1258.1	210	1465.8
-25	734.9 737.4	34	895.2	93	1070.2	152 153	1261.5	211 212	1469.5
-24 -23	737.4	35 36	898.1 900.9	94 95	1073.3 1076.4	154	1264.9 1268.3	212	1473.1
-22	740.0	37	903.8	96	1079.5	155	1271.7		
-21	745.3	38	906.6	97	1082.6	156	1275.1		
-20	747.9	39	909.5	98	1085.7	157	1278.5		
-19	750.5	40	912.3	99	1088.9	158	1281.9		
-18	753.1	41	915.1	100	1092.0	159	1285.4		
-17	755.8	42	918.0	101	1095.1	160	1288.8		
-16 -15	758.4 761.0	43	920.9 923.7	102	1098.3	161 162	1292.2 1295.6		
-14	761.0	44 45	925.7	103 104	1101.4 1104.6	163	1295.6		
-13	766.3	46	929.5	104	1104.8	164	1302.5		
-12	769.0	47	932.4	106	1110.9	165	1305.9		
-11	771.7	48	935.3	107	1114.1	166	1309.4		
-10	774.3	49	938.2	108	1117.3	167	1312.8		
-9	777.0	50	941.1	109	1120.4	168	1316.3		
-8 -7	779.7 782.4	51	944.0 946.9	110	1123.6 1126.8	169 170	1319.8 1323.2		
-6	785.0	52 53	946.9	111 112	1120.8	170	1326.7		
-5	787.6	54	952.7	113	1133.2	172	1330.2		
-4	790.3	55	955.6	114	1136.4	173	1333.7		
-3	793.0	56	958.5	115	1139.6	174	1337.2		
-2	795.7	57	961.5	116	1142.8	175	1340.7		
-1	798.4	58	964.4	117	1146.0	176	1344.1		
0	801.1 803.8	59	967.4 970.3	118	1149.3 1152.5	177 178	1347.6 1351.1		
2	806.5	60 61	970.3	119 120	1152.5	179	1351.1		
3	809.2	62	976.2	121	1159.0	180	1358.2		
4	811.9	63	979.2	122	1162.2	181	1361.7		
5	814.7	64	982.1	123	1165.4	182	1365.2		
6	817.4	65	985.1	124	1168.7	183	1368.8		
8	820.1	66	988.1	125	1171.9	184 185	1372.3		
9	822.8 825.6	67 68	991.1 994.0	126 127	1175.2 1178.5	186	1375.8 1379.3		
10	828.3	69	997.0	127	1178.3	187	1379.3		
11	831.1	70	1000.0	129	1185.0	188	1386.5		
12	833.8	71	1003.0	130	1188.3	189	1390.0		
13	836.5	72	1006.0	131	1191.5	190	1393.6		
14	839.3	73	1009.0	132	1194.8	191	1397.2		
15 16	842.1 844.9	74	1012.0 1015.1	133	1198.1 1201.4	192 193	1400.7 1404.3		
17	847.6	75 76	1013.1	134 135	1201.4	193	1404.3		
18	850.4	77	1021.1	136	1208.0	195	1411.4		



	ndorature Resistanc	o. /	Resistant.	o , /	, sie o
	seratt dans		zrativ kanc		erativ xance
Ter	nperature Resistant	Temp	grature Resistant	Tem	grature Resistance
-40	696.3	8	930.6	56	1197.5
-39	700.9	9	935.8	57	1203.4
-38	705.5	10	941.1	58	1209.3
-37	710.1	11	946.3	59	1215.3
-36	714.7	12	951.5	60	1221.3
-35	719.3	13	953.2	61	1227.3
-34	724.0	14	962.1	62	1233.3
-33	728.6	15	967.4	63	1239.3
-32	733.3	16	972.7	64	1245.4
-31	738.0	17	978.0	65	1251.4
-30	742.7	18	983.3	66	1257.5
-29	747.4	19	988.7	67	1263.6
-28	752.1	20	994.0	68	1269.7
-27	756.8	21	999.4	69	1275.8
-26	761.6	22	1004.8	70	1281.9
-25	766.3	23	1010.2	71	1288.1
-24	771.1	24	1015.7	72	1294.3
-23	775.9	25	1021.1	73	1300.4
-22	780.7	26	1026.6	74	1306.6
-21	785.5	27	1032.0	75	1312.8
-20	790.3	28	1037.5	76	1319.1
-19	795.2	29	1043.0	77	1325.3
-18	800.0	30	1048.5	78	1331.6
-17	804.9	31	1054.1	79	1337.8
-16	809.8	32	1059.6	80	1344.1
-15	814.7	33	1065.2	81	1350.4
-14	819.6	34	1070.8	82	1356.7
-13	824.5	35	1076.4	83	1363.1
-12	829.4	36	1082.0	84	1369.4
-11	834.4	37	1087.6	85	1375.8
-10	839.3	38	1093.3	86	1382.2
-9	844.3	39	1098.9	87	1388.6
-8	849.3	40	1104.6	88	1395.0
-7	854.3	41	1110.3	89	1401.4
-6	859.3	42	1116.0	90	1407.8
-5	864.3	43	1121.7	91	1414.3
-4	869.3	44	1127.4	92	1420.8
-3	874.4	45	1133.2	93	1427.3
-2	879.4	46	1139.0	94	1433.8
-1	884.5	47	1144.7	95	1440.3
0	889.6	48	1150.5	96	1446.8
1	894.7	49	1156.3	97	1452.8
2	899.8	50	1162.2	98	1459.9
3	904.9	51	1168.0	99	1466.5
4	910.0	52	1173.9	100	1473.1
5	915.1	53	1179.7		
6	920.3	54	1185.6		
7	925.5	55	1191.5		



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	pperature Resistant	ر و.	noerature Resistance	e /	Dorature Resistance	v /	perature Resistance	, /	perature Resistance
4	npert sistan		nero sistan	, si	perti sistati	M	geric sistati	M	goric sistair
	Res	10th	Res	10th	Res	Total	Res	1ºth	Res
-40	776.1	19	891.6	78	1017.6	137	1154.2	196	1301.2
-39 -38	778.0 779.8	20 21	893.7 895.7	79 80	1019.8 1022.1	138 139	1156.6 1159.0	197 198	1303.8 1306.3
-37	781.8	22	897.7	81	1022.1	140	1161.4	199	1308.9
-36	783.6	23	899.8	82	1026.5	141	1163.8	200	1311.5
-35	785.5	24	901.9	83	1028.8	142	1166.2	201	1314.2
-34	787.4	25	903.9	84	1031.0	143	1168.6	202	1316.8
-33 -32	789.2 791.1	26 27	906.0 908.1	85 86	1033.3 1035.5	144 145	1171.0 1173.5	203 204	1319.3 1321.9
-31	793.1	28	910.1	87	1035.5	146	1175.9	205	1324.6
-30	795.0	29	912.2	88	1040.0	147	1178.3	206	1327.2
-29	796.8	30	914.3	89	1042.3	148	1180.8	207	1329.7
-28	798.7	31	916.4	90	1044.5	149	1183.2	208	1332.4
-27	800.7	32	918.5 920.5	91	1046.8	150	1185.6	209	1335.0
-26 -25	802.6 804.5	33 34	920.5 922.6	92 93	1049.1 1051.3	151 152	1188.1 1190.6	210 211	1337.6 1340.3
-24	806.4	35	924.7	94	1051.5	153	1190.0	212	1342.8
-23	808.3	36	926.8	95	1055.9	154	1195.4		10 12.0
-22	810.3	37	929.0	96	1058.1	155	1197.9		
-21	812.2	38	931.1	97	1060.4	156	1200.4		
-20	814.1	39	933.2	98	1062.7	157	1202.8		
-19 -18	816.0 818.0	40 41	935.3 937.5	99 100	1065.0 1067.3	158 159	1205.3 1207.7		
-17	819.9	42	939.6	101	1067.5	160	1210.2		
-16	821.8	43	941.7	102	1071.9	161	1212.7		
-15	823.8	44	943.8	103	1074.2	162	1215.1		
-14	825.7	45	946.0	104	1076.5	163	1217.6		
-13 -12	827.7 829.6	46 47	948.1 950.2	105 106	1078.8	164 165	1220.1 1222.6		
-12	831.6	47	950.2 952.4	106	1081.1 1083.4	166	1225.1		
-10	833.5	49	954.5	108	1085.7	167	1227.6		
-9	835.5	50	956.7	109	1088.0	168	1230.1		
-8	837.4	51	958.8	110	1090.4	169	1232.6		
-7	839.4	52	961.0	111	1092.7	170	1235.1		
-6 -5	841.4 843.3	53 54	963.1 965.3	112 113	1095.0 1097.3	171 172	1237.6 1240.7		
-4	845.3	55	967.4	114	1097.3	173	1242.7		
-3	847.3	56	969.6	115	1102.0	174	1245.2		
-2	849.3	57	971.7	116	1104.3	175	1253.2		
-1	851.2	58	973.9	117	1106.7	176	1250.2		
0	853.3 855.3	59 60	976.1 978.2	118 119	1109.0	177 178	1252.7 1255.3		
2	857.2	61	980.4	120	1111.4 1113.7	179	1257.8		
3	859.2	62	982.6	121	1116.1	180	1260.3		
4	861.2	63	984.7	122	1118.4	181	1262.8		
5	863.3	64	986.9	123	1120.8	182	1265.4		
6 7	865.2	65	989.1	124	1123.8	183	1267.9		
8	867.3 869.3	66 67	991.3 993.5	125 126	1125.5 1127.9	184 185	1270.5 1273.0		
9	871.3	68	995.6	127	1130.2	186	1275.5		
10	873.3	69	997.8	128	1132.6	187	1278.1		
11	875.3	70	1000.0	129	1135.0	188	1280.7		
12	877.3	71	1002.2	130	1137.4	189	1283.2		
13 14	879.4 881.4	72 73	1004.4 1006.6	131 132	1139.8 1142.1	190 191	1285.8 1288.3		
15	883.4	74	1006.6	133	1142.1	191	1288.3		
16	885.5	75	1011.0	134	1144.5	193	1293.5		
17	887.5	76	1013.2	135	1149.3	194	1296.0		
18	889.6	77	1015.4	136	1151.7	195	1298.6		



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	peru stan		erat istair		era starre
Tem	perature Resistanc	Temi	orature Resistant	Territ	prature Rosistance
-40	776.2	8	948.8	56	1144.0
-39	779.6	9	952.7	57	1148.3
-38	783.0	10	956.5	58	1152.6
-37	786.4	11	960.4	59	1157.0
-36	789.8	12	964.3	60	1161.3
-35	793.2	13	968.1	61	1165.6
-34	796.6	14	972.0	62	1170.0
-33	800.0	15	975.9	63	1174.4
-32	803.5	16	979.8	64	1178.7
-31	806.9	17	983.7	65	1183.1
-30	810.4	18	987.6	66	1187.5
-29	813.8	19	991.6	67	1191.9
-28	817.3	20	995.5	68	1196.3
-27	820.3	21	999.5	69	1200.7
-26	824.3	22	1003.4	70	1205.2
-25	827.8	23	1007.4	71	1209.6
-24	831.3	24	1011.4	72	1214.1
-23	834.8	25	1015.4	73	1218.5
-22	838.4	26	1019.4	74	1223.0
-21	841.9	27	1023.4	75	1227.5
-20	845.4	28	1027.4	76	1232.0
-19	849.0	29	1031.5	77	1236.5
-18	852.5	30	1035.5	78	1241.0
-17	856.1	31	1039.5	79	1245.5
-16	859.7	32	1043.6	80	1250.1
-15	863.3	33	1047.7	81	1254.6
-14	866.9	34	1051.8	82	1259.2
-13	870.6	35	1055.8	83	1263.7
-12	874.2	36	1059.9	84	1268.2
-11	877.8	37	1064.1	85	1272.9
-10	881.5	38	1068.2	86	1277.5
-9	885.1	39	1072.3	87	1282.0
-8	888.8	40	1076.4	88	1286.7
-7	892.5	41	1080.6	89	1291.3
-6	896.2	42	1084.8	90	1295.9
-5	899.9	43	1088.9	91	1300.5
-4	903.6	44	1093.1	92	1305.1
-3	907.3	45	1097.3	93	1309.8
-2	911.0	46	1101.5	94	1314.5
-1	914.8	47	1105.7	95	1319.2
0	918.5	48	1109.9	96	1323.9
1	922.3	49	1114.1	97	1328.9
2	926.0	50	1118.4	98	1333.3
3	929.8	51	1122.6	99	1338.0
4	933.6	52 52	1126.9	100	1342.7
5	937.4	53	1131.2		
6	941.2	54	1135.4		
7	945.0	55	1139.7		



Sensor Type 7 - 10,000 ohm NTC thermistor (Type III)

Fahrenheit



	rature	<u>,</u>	rature	,	rature	, /	rature
4	emperature Resistenc	Temp	grature Resistance	Tem	perature Resistance	Temp	grature Resistance
-40		8	20517	56	3160	104	733
-39		9	19631	57	3054	105	713
-38		10	18787	58	2952	106	694
-37		11	17983	59	2854	107	676
-36		12	17219	60	2760	108	658
-35		13	16490	61	2669	109	641
-34		14	15797	62	2582	110	624
-33		15	15136	63	2498	111	608
-32		16	14507	64	2417	112	592
-31		17	13906	65	2339	113	577
-30		18	13334	66	2264	114	562
-29		19	12788	67	2191	115	548
-28		20	12268	68	2122	116	534
-27		21	11771	69	2055	117	521
-26		22	11297	70	1990	118	508
-25		23	10845	71	1928	119	495
-24		24	10413	72	1868	120	483
-23		25	10000	73	1810	121	471
-22		26	9606	74	1754	122	459
-21		27	9229	75	1700	123	448
-20		28	8869	76	1648	124	437
-19		29	8525	77	1598	125	426
-18		30	8197	78	1550	126	416
-17		31	7882	79	1503	127	406
-16		32	7581	80	1458	128	396
-15		33	7293	81	1414	129	386
-14		34	7018	82	1372	130	377
-13		35	6754	83	1332	131	368
-12		36	6501	84	1293	132	360
-11		37	6260	85	1255	133	351
-10		38	6028	86	1218	134	343
-9	45274	39	5806	87	1183	135	335 327
-8 -7	43119	40	5594	88	1149	136	320
-6	41079	41 42	5390 5195	89 90	1116 1084	137 138	312
	39147						305
-5	37316	43 44	5008	91 92	1053	139	298
-4	35580	44	4828		1023 995	140 141	293
-3 -2	33935 32375	45	4656 4490	93 94	995	141	285
-z -1	30895	46	4332	95	967	142	283
0	29490	48	4332	96	940	143	272
1	28157	49	4034	97	888	145	266
2	26891	50	3893	98	864	146	260
3	25689	51	3759	99	840	147	254
4	24547	52	3629	100	817	147	249
5	23462	53	3505	101	795	149	243
6	22431	54	3386	101	774	150	238
7	21450	55	3271	103	753	130	200

MANAC SYSTEMS® Sensor Type 8 - 10,000 ohm NTC thermistor (Carel) Celsius

	emperature Resistanc	g /	grature Resistance	•	erature Resistance	, /	grature Resistance
£	emperature Resistanc	ann	orature Resistanc	om	gerature Resistance	ann	erature Resistance
-40		11	17240	62	2830	113	700
-39 -38		12	16560 15900	63 64	2750 2660	114	680 670
-37		13 14	15280	65	2580	115 116	650
-36		15	14690	66	2510	117	640
-35		16	14120	67	2430	117	620
-34		17	13580	68	2360	119	610
-33		18	13060	69	2290	120	590
-32		19	12560	70	2220	120	0,0
-31		20	12090	71	2160		
-30		21	11630	72	2100		
-29		22	11200	73	2030		
-28		23	10780	74	1980		
-27		24	10380	75	1920		
-26		25	10000	76	1860		
-25		26	9630	77	1810		
-24		27	9280	78	1760		
-23		28	8940	79	1710		
-22		29	8620	80	1660		
-21		30	8310	81	1620		
-20		31	8010	82	1570		
-19		32	7720	83	1530		
-18		33	7450	84	1490		
-17		34	7190	85	1450		
-16	55970	35	6940	86	1410		
-15	53410	36	6690	87	1370		
-14	50980	37	6460	88	1330		
-13		38	6240	89	1300		
-12	46500	39	6030	90	1260		
-11		40	5820	91	1230		
-10		41	5620	92	1200		
-9	40570	42	5430	93	1160		
-8	38770	43	5250	94	1130		
-7	37060	44	5080	95	1100		
-6	35440	45	4910	96	1070		
-5	33900	46	4740	97	1050		
-4	32440	47	4590	98	1020		
-3	31050	48	4440	99	990		
-2	29730	49	4290 4160	100	970		
-1	28480	50		101	940		
0	27280	51	4020 3890	102	920 900		
1 2	26130 25030	52 53	3770	103 104	870		
	23990	54	3650	104	850		
3 4	23990	54 55	3520	105	830		
5	22050	56	3420	106	810		
6	21150	57	3310	107	790		
7	20300	58	3210	109	770		
8	19480	59	3110	110	750		
9	18700	60	3020	111	730		
10	17960	61	2920	1112	720		
10	17,000	01	2720	112	120		

MANAC SYSTEMS® Sensor Type 10 - 3,000 ohm NTC thermistor Fahrenheit

			,		,				,
	nnorature Resistanc	. /	Derature Resistant	. /	perature Resistance	. /	Resistance	z Tenne	, se
	erativ kanc	<i>y</i> /	gatu. kanc	,	oratu.	,	ratur and		gature Resistance
x 6	nnperature Resistanc	om	Perature Resistanc	omi	gerature Resistance	omp	Resistance	, orthog	a esiste
		10		/ 10	- Re	10	142		
-40	100618	19	14282	78	2928	137	792	196	266
-39 -38	96983 93494	20 21	13865 13462	79 80	2858 2789	138 139	777 761	197 198	261 257
-37	90141	22	13072	81	2723	140	746	199	253
-36	86920	23	12694	82	2658	141	731	200	248
-35	83827	24	12329	83	2596	142	717	201	244
-34	80856	25	11975	84	2534	143	703	202	240
-33	78000	26	11633	85	2475	144	689	203	236
-32 -31	75254 72615	27 28	11301 10980	86 87	2417 2360	145 146	676 662	204 205	232 228
-30	70079	29	10670	88	2305	147	650	206	225
-29	67640	30	10369	89	2252	148	637	207	221
-28	65295	31	10077	90	2200	149	625	208	217
-27	63040	32	9795	91	2149	150	613	209	214
-26	60870	33	9522	92	2100	151	601	210	210
-25 -24	58783 56774	34 35	9257 9000	93 94	2052 2005	152 153	589 578	211 212	207 204
-23	54841	36	8752	95	1959	154	567	213	204
-22	52982	37	8511	96	1915	155	556	214	197
-21	51192	38	8277	97	1871	156	546	215	194
-20	49468	39	8051	98	1829	157	536	216	191
-19	47809	40	7831	99	1788	158	525	217	188
-18 -17	46211	41 42	7619 7413	100	1748	159	516	218 219	185
-17	44673 43191	42	7213	101 102	1709 1671	160 161	506 497	220	182 179
-15	41763	44	7019	103	1634	162	487	221	176
-14	40387	45	6830	104	1597	163	479	222	173
-13	39062	46	6648	105	1562	164	469	223	171
-12	37785	47	6471	106	1528	165	461	224	168
-11 -10	36554 35367	48 49	6299 6133	107 108	1494 1462	166 167	452 444	225 226	165 163
-10	34223	50	5971	109	1402	168	436	227	160
-8	33120	51	5814	110	1399	169	428	228	158
-7	32057	52	5662	111	1368	170	420	229	155
-6	31031	53	5514	112	1339	171	413	230	153
-5	30042	54	5371	113	1310	172	405	231	151
-4	29087 28167	55 56	5232 5097	114 115	1282 1254	173 174	398 391	232 233	148 146
-2	27278	57	4965	116	1234	175	384	234	144
-1	26421	58	4838	117	1202	176	377	235	142
0	25593	59	4714	118	1176	177	370	236	140
1	24795	60	4594	119	1151	178	364	237	138
2	24024	61	4477	120	1127	179	357	238	135
3 4	23279 22561	62 63	4364 4254	121 122	1103 1080	180 181	351 345	239 240	133 131
5	21866	64	4147	123	1058	182	339	241	129
6	21196	65	4043	124	1036	183	333	242	128
7	20549	66	3942	125	1014	184	327	243	126
8	19923	67	3844	126	993	185	321	244	124
9	19319	68	3748	127	973	186	316	245	122
10 11	18735 18170	69 70	3655 3565	128 129	953 933	187 188	310 305	246 247	120 118
12	17625	70	3477	130	933	189	300	248	117
13	17028	72	3392	131	895	190	294	249	115
14	16589	73	3309	132	877	191	289	250	113
15	16096	74	3229	133	860	192	284		
16	15619	75 76	3150	134	842	193	280		
17 18	15159 14713	76 77	3074 3000	135 136	825 809	194 195	275 270		
10	14/13	11	3000	130	309	190	210		



	ndorature Resistanc	o. /	Perature Resistant	o. /	Resistance	. /	Resistance
	nperature Resistanc	,	Perature Resistant		Resistance		Resistance
s ex	no cesist	om	ge gist	omp	osisti	omp	a esist
	- Ro	/ 70	- K	/ 👎	Re	/ 💯	- QC
-40	100618	8	6577	56	863	104	181
-39	94180	9	6266	57	832	105	176
-38	88193	10	5971	58	802	106	171
-37	82624	11	5692	59	774	107	167
-36	77442	12	5428	60	746	108	162
-35	72615	13	5177	61	720	109	157
-34	68122	14	4940	62	695	110	153
-33	63932	15	4714	63	670	111	149 145
-32 -31	60025	16	4500 4297	64 65	647 625	112	145
-30	56382 52982	17 18	4105	66	603	113 114	137
-29	49808	19	3922	67	583	115	133
-29	49808	20	3748	68	563	116	130
-27	44073	21	3583	69	544	117	126
-26	41784	22	3426	70	525	118	123
-25	39062	23	3277	71	508	119	120
-24	36796	24	3135	72	491	120	117
-23	34675	25	3000	73	475	121	114
-22	32690	26	2872	74	459	122	111
-21	30830	27	2749	75	444	123	108
-20	29087	28	2633	76	430	124	105
-19	27453	29	2522	77	416	125	102
-18	25921	30	2417	78	402	126	100
-17	24483	31	2316	79	389	127	97
-16	23134	32	2220	80	377	128	95
-15	21866	33	2129	81	365	129	92
-14	20680	34	2042	82	353	130	90
-13	19558	35	1959	83	342	131	88
-12	18507	36	1880	84	332	132	86
-11	17518	37	1804	85	321	133	83
-10	16589	38	1732	86	311	134	81
-9	15713	39	1663	87	302	135	79
-8	14889	40	1597	88	292	136	78
-7	14114	41	1535	89	283	137	76
-6	13383	42	1475	90	275	138	74 72
-5 -4	12694 12045	43 44	1417 1362	91 92	267 259	139	72 70
-4	12045	44	1362	92	259 251	140 141	69
-3	10855	46	1260	93	243	141	67
-1	10333	47	1212	95	236	142	65
0	9795	48	1166	96	229	143	64
1	9309	49	1122	97	222	145	62
2	8850	50	1080	98	216	146	61
3	8416	51	1040	99	210	147	60
4	8006	52	1002	100	204	148	58
5	7619	53	965	101	198	149	57
6	7252	54	929	102	192	150	56
7	6905	55	895	103	187		

MAMAC SYSTEMS® Sensor Type 12 - 10,000 ohm NTC thermistor Type (II) Fahrenheit

									ranre
	. €		/ .e		/ <u>.e</u>	/	. .		.0
	nporature Resistant	<i>.و</i>	nperature Resistant	; e /	perature Resistance	ν /	Posture Resistant	2	Perature Resistance
4	mper distar		npett distar		pert istair		ere		ett
40	Res	1 con	Res	Ten	Res	Zen.	Res	Zen.	Res
-40	336095	19	47612	78	9760	137	2642	196	885
-39	323934	20	46222	79	9526	138	2589	197	870
-38	312255	21	44878	80	9298	139	2538	198	856
-37	301040	22	43576	81	9077	140	2487	199	841
-36	290264	23	42316	82	8861	141	2438	200	827
-35	279921	24	41098	83	8652	142	2390	201	814
-34	269982	25	39919	84	8448	143	2343	202	800
-33	260429	26	38777	85	8249	144	2297	203	787
-32	251250	27	37673	86	8056	145	2252	204	774
-31	242426	28	36602	87	7868	146	2208	205	761
-30	233942	29	35566	88	7685	147	2165	206	749
-29 -28	225794 217954	30 31	34563 33592	89 90	7506	148 149	2123 2082	207 208	736 724
-27	21/954 210413	32	32651	90	7333 7164	150	2082	208	724
-26	203161	33	31739	92	6999	151	2003	210	701
-25	196184	34	30856	93	6839	152	1965	211	690
-24	189473	35	30001	94	6682	153	1903	212	678
-23	183017	36	29172	95	6530	154	1891	213	668
-22	176801	37	28369	96	6382	155	1855	214	657
-21	170821	38	27591	97	6238	156	1820	215	646
-20	165062	39	26836	98	6097	157	1785	216	636
-19	159520	40	26104	99	5960	158	1752	217	626
-18	154185	41	25395	100	5826	159	1719	218	616
-17	149045	42	24707	101	5696	160	1687	219	606
-16	144094	43	24041	102	5569	161	1655	220	597
-15	139324	44	23394	103	5446	162	1624	221	587
-14	134734	45	22767	104	5325	163	1594	222	578
-13	130307	46	22159 21569	105	5208	164	1565	223	569
-12 -11	126041 121932	47 48	20997	106 107	5093 4981	165 166	1536 1508	224 225	560 551
-10	117968	49	20442	107	4981	167	1480	226	543
-9	114152	50	19903	109	4766	168	1453	227	534
-8	110468	51	19380	110	4663	169	1427	228	526
-7	106917	52	18873	111	4562	170	1401	229	518
-6	103492	53	18381	112	4463	171	1375	230	510
-5	100192	54	17903	113	4367	172	1350	231	502
-4	97007	55	17439	114	4273	173	1326	232	494
-3	93932	56	16989	115	4182	174	1302	233	487
-2	90968	57	16551	116	4093	175	1279	234	479
-1	88106	58	16126	117	4006	176	1256	235	472
0	85346	59	15714	118	3921	177	1234	236	465
1 2	82680 80109	60 61	15313 14924	119 120	3838	178 179	1212 1190	237 238	458 451
3	77624	62	14924	120	3757 3678	180	1169	239	444
4	75226	63	14179	121	3601	181	1149	240	438
5	72910	64	13822	123	3526	182	1129	241	431
6	70675	65	13476	124	3453	183	1109	242	425
7	68515	66	13139	125	3381	184	1089	243	418
8	66428	67	12812	126	3311	185	1070	244	412
9	64411	68	12493	127	3243	186	1052	245	406
10	62464	69	12184	128	3176	187	1034	246	400
11	60581	70	11884	129	3111	188	1016	247	394
12	58762	71	11591	130	3047	189	998	248	388
13 14	57003 55303	72 73	11307 11031	131 132	2985 2925	190 191	981 964	249 250	383 377
15	53660	74	1031	132	2925	191	964	230	311
16	52072	75	10702	134	2807	192	932		
17	50535	76	10247	135	2751	194	916		
18	49049	77	10000	136	2696	195	901		



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	oraturanc	ه /	rature and	e /	ratur ar	çe /	cature cance
× 65	nderature Resistanc	OM	erature Resistant		Cannorature Resistan	ce Tempe	Rature Resistance
-40 -39	336095 314553	11 12	18973	63		113 114	469
-38	294525	13	18092 17257	64		114	457 444
-37	275896	14	16465	6		116	432
-36	258562	15	15714	6		117	421
-35	242426	16	15001	6		118	410
-34	227400	17	14324	68		119	399
-33	213391	18	13683	69	9 1813	120	388
-32	200338	19	13073	70	0 1752	121	378
-31	188162	20	12493	7:		122	368
-30	176801	21	11943	72		123	359
-29	166199	22	11420	73		124	350
-28	156295	23	10923	74		125	341
-27	147041	24	10450	7		126	332
-26	138393	25	10000	70		127	323
-25	130307	26	9572	77		128	315
-24	122742	27	9165	78		129	307
-23	115663	28	8777	79		130	300
-22	109032	29	8408	80		131	292
-21 -20	102824 97007	30 31	8056 7721	82		132 133	285 278
-20	91552	32	7402	83		134	278
-19	86438	33	7097	84		135	264
-17	81640	34	6807	8!		136	258
-16	77138	35	6530	80		137	252
-15	72910	36	6266	87		138	246
-14	68940	37	6014	88		139	240
-13	65209	38	5774	89		140	234
-12	61703	39	5544	90		141	228
-11	58406	40	5325	9:	1 888	142	223
-10	55303	41	5116	92	2 862	143	218
-9	52385	42	4916	93	3 836	144	212
-8	49638	43	4725	94		145	207
-7	47050	44	4542	95		146	203
-6	44613	45	4367	90		147	198
-5	42316	46	4200	97		148	193
-4	40152	47	4040	98		149	189
-3	38110	48	3887	99		150	185
-2	36184	49	3741		00 678		
-1 0	34366 32651	50 51	3601 3467		01 659 02 640		
1	31031	52	3339		03 622		
2	29501	53	3216		04 604		
3	28054	54	3098		05 587		
4	26688	55	2985		06 571		
5	25395	56	2877		07 555		
6	24172	57	2773		08 539		
7	23016	58	2674	10	09 524		
8	21921	59	2579	11	10 510		
9	20885	60	2487		11 496		
10	19903	61	2399	11	12 482		



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	mporature Resistant		perature Resistant		perature Resistance		erature Resistance	Tempe.	Resistance Resistance
	Ace.	Ten	Reg.	Ton	Rest	Tent.	Res	Tenti	Rest
-40	167862	19	23805	78	4880	137	1321	196	443
-39 -38	161791 155965	20 21	23110 22437	79 80	4763 4649	138 139	1294 1269	197 198	435 428
-37	150368	22	21787	81	4538	140	1244	199	421
-36	144994	23	21158	82	4431	141	1219	200	414
-35	139828	24	20548	83	4326	142	1195	201	407
-34 -33	134866 130100	25 26	19959 19388	84 85	4224 4125	143 144	1171 1148	202 203	400 394
-32	125518	27	18836	86	4028	145	1126	204	387
-31	121114	28	18301	87	3934	146	1104	205	381
-30	116881	29	17783	88	3842	147	1083	206	374
-29	112811	30	17282	89	3753	148	1062	207	368
-28 -27	108898 105131	31 32	16796	90	3666 3582	149 150	1041 1021	208 209	362 356
-26	103131	33	16325 15870	91 92	3499	151	1021	210	351
-25	98029	34	15428	93	3419	152	982	211	345
-24	94676	35	15001	94	3341	153	964	212	339
-23	91453	36	14586	95	3265	154	945	213	334
-22	88349	37	14184	96	3191	155	927	214	329
-21 -20	85362 82486	38 39	13795 13418	97 98	3119 3048	156 157	910 893	215 216	323 318
-19	79719	40	13052	99	2980	158	876	217	313
-18	77052	41	12698	100	2913	159	859	218	308
-17	74486	42	12354	101	2848	160	843	219	303
-16	72014	43	12021	102	2785	161	828	220	298
-15	69633	44	11698	103	2723	162	812	221	294
-14 -13	67338 65127	45 46	11384 11080	104 105	2662 2604	163 164	797 782	222 223	289 285
-12	62996	47	10785	106	2546	165	768	224	280
-11	60943	48	10499	107	2491	166	754	225	276
-10	58965	49	10221	108	2436	167	740	226	271
-9	57055	50	9952	109	2383	168	727	227	267
-8 -7	55216 53442	51 52	9690	110	2331 2281	169 170	713 700	228 229	263 259
-6	51732	53	9437 9190	111 112	2231	171	688	230	255
-5	50082	54	8952	113	2183	172	675	231	251
-4	48490	55	8720	114	2137	173	663	232	247
-3	46955	56	8494	115	2091	174	651	233	244
-2 -1	45473 44044	57	8275	116	2046	175 176	640	234 235	240
0	42664	58 59	8063 7857	117 118	2003 1960	177	628 617	236	236 233
1	41332	60	7657	119	1919	178	606	237	229
2	40047	61	7462	120	1878	179	595	238	226
3	38805	62	7273	121	1839	180	585	239	222
4 5	37607 36450	63	7090	122	1800	181 182	574	240 241	219
6	35332	64 65	6911 6738	123 124	1763 1726	183	564 554	241	216 212
7	34252	66	6569	125	1690	184	545	243	209
8	33209	67	6406	126	1655	185	535	244	206
9	32202	68	6247	127	1621	186	526	245	203
10	31228	69	6092	128	1588	187 188	517	246 247	200
11 12	30288 29378	70 71	5942 5796	129 130	1555 1524	188	508 499	247	197 194
13	28499	72	5654	131	1493	190	491	249	194
14	27650	73	5515	132	1462	191	482	250	189
15	26828	74	5381	133	1433	192	474		
16 17	26034	75	5251	134	1404	193 194	466		
18	25266 24523	76 77	5124 5000	135 136	1375 1348	194	458 450		



	<u>.e</u>		/ <u>,e</u>	e Leunge	*e		
	eratu.	<i>°</i>	ratur and		ratili ance	, ,	atili ance
s of	nperature Resistanc	SIMP	prature Resistant	, orthog	gature Resistance	Temper	Resistance
	Re	1 20	- RC	/ 🚜	Re	/ 👯	- QC
-40	167862	11	9487	62	1158	113	235
-39	157110	12	9046	63	1117	114	228
-38	147118	13	8629	64	1078	115	222
-37	137819	14	8233	65	1041	116	216
-36	129169	15	7857 7501	66	1005	117	211
-35 -34	121114 113612	16 17	7162	67 68	971 938	118 119	205 200
-33	106620	18	6841	69	906	120	194
-32	100020	19	6536	70	876	121	189
-31	94022	20	6247	71	847	122	184
-30	88349	21	5971	72	818	123	180
-29	83054	22	5710	73	791	124	175
-28	78108	23	5461	74	765	125	170
-27	73486	24	5225	75	740	126	166
-26	69167	25	5000	76	716	127	162
-25	65127	26	4786	77	693	128	158
-24	61347	27	4582	78	670	129	154
-23	57810	28	4388	79	649	130	150
-22	54499	29	4204	80	628	131	146
-21	51398	30	4028	81	608	132	143
-20	48490	31	3860	82	589	133	139
-19	45765	32	3701	83	571	134	136
-18	43210	33	3549	84	553	135	132
-17	40812	34	3403	85	535	136	129
-16	38562	35	3265	86	519	137	126
-15	36450	36	3133	87	503	138	123
-14 -13	34465 32601	37 38	3007 2887	88 89	487 472	139 140	120 117
-12	30848	39	2772	90	472	141	117
-12	29200	40	2662	91	444	142	112
-10	27650	41	2558	92	431	143	109
-9	26191	42	2458	93	418	144	106
-8	24817	43	2362	94	406	145	104
-7	23524	44	2271	95	394	146	101
-6	22306	45	2183	96	382	147	99
-5	21158	46	2100	97	371	148	97
-4	20075	47	2020	98	360	149	95
-3	19055	48	1944	99	349	150	92
-2	18092	49	1870	100	339		
-1	17183	50	1800	101	330		
0	16325	51	1733	102	320		
1	15516	52	1669	103	311		
2	14750	53	1608	104	302		
3 4	14027 13344	54 55	1549 1493	105 106	294 285		
5	13344	55 56	1493	106	285 277		
6	12098	57	1387	107	277		
7	11508	58	1337	103	262		
8	10961	59	1289	110	255		
9	10443	60	1244	111	248		
10	9952	61	1200	112	241		
			•				



Temper è	Resistance
-67	490
-58	515
-40	567
-22	624
-4	684
14	747
32	815
50	886
68	961
77	1000
86	1040
104	1122
122	1209
140	1299
158	1392
176	1490
194	1591
212	1696
230	1805
248	1915
257	1970
266	2023
284	2124
302	2211



Temperat	ure Resistance	
-55	490	
-50	515	
-40	567	
-30	624	
-20	684	
-10	747	
0	815	
10	886	
20	961	
25	1000	
30	1040	
40	1122	
50	1209	
60	1299	
70	1392	
80	1490	
90	1591	
100	1696	
110	1805	
120	1915	
125	1970	
130	2023	
140	2124	
150	2211	



		/	
-35	2801K	140	24.86K
-30	2341K	145	22.51K
-25	1963K	150	20.41K
-20	1651K	155	18.54K
-15	1393K	160	16.86K
-10	1180K	165	15.35K
-5	1002K	170	14.00K
0	853.5K	175	12.78K
5	729.1K	180	11.68K
10	624.8K	185	10.70K
15	536.4K	190	9805
20	462.3K	195	8996
25	399.1K	200	8268
30	345.6K	205	7607
35	300.0K	210	7007
40	261.0K	215	6461
45	227.6K	220	5964
50	199.0K	225	5515
55	174.4K	230	5102
60	153.1K	235	4725
65	134.8K	240	4383
70	118.8K		
75	105.0K		
80	92.98K		
85	82.50K		
90	73.31K		
95	65.32K		
100	58.26K		
105	52.09K		
110	46.63K		
115	41.82K		
120	37.57K		
125	33.81K		
130	30.47K		
135	27.5K		

±0.36 °F @77° $\pm 1.3^{\circ} F$ from 32° to $158^{\circ} F$

CMAMAC SYSTEMS® Sensor Type 15 - 100,000 ohm NTC thermistor Celsius

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× 05	ndorature Resistanc	cerns	perature Resistant	c estri	Perature Resistant	comp	Resistance
-40 -39	3335.437 3121.996	11 12	189.531	62 63	23.171 22.359	113 114	4.685 4.558
-38	2923.656	13	180.745 172.419	64	22.559	114	4.435
-37	2739.415	14	164.523	65	20.837	116	4.316
-36	2568.175	15	157.037	66	20.117	117	4.201
-35	2408.834	16	149.919	67	19.417	118	4.089
-34	2259.536	17	143.171	68	18.767	119	3.980
-33	2120.539	18	136.763	69	18.137	120	3.876
-32	1991.042	19	130.685	70	17.527	121	3.774
-31	1870.344	20	124.907	71	16.938	122	3.675
-30	1757.847	21	119.409	72	16.369	123	3.580
-29	1652.516	22	114.182	73	15.831	124	3.488
-28	1554.284	23	109.215	74	15.312	125	3.398
-27	1462.452	24	104.497	75	14.803	126	3.310
-26	1376.721	25	100.000	76	14.322	127	3.226
-25	1296.689	26	95.723	77	13.861	128	3.145
-24	1221.521	27	91.655	78	13.409	129	3.065
-23	1151.153	28	87.778	79	12.978	130	2.988
-22	1085.284	29	84.091	80	12.557	131	2.914 2.841
-21	1023.716 965.968	30	80.583	81	12.155 11.774	132	2.771
-20	905.908	31 32	77.236	82		133 134	2.771
-19 -18	860.885	33	74.049 71.001	83 84	11.403 11.041	135	2.635
-17	813.183	34	68.104	85	10.700	136	2.571
-17	768.472	35	65.337	86	10.700	137	2.508
-15	726.500	36	62.707	87	10.050	138	2.448
-14	686.994	37	60.187	88	9.738	139	2.388
-13	649.878	38	57.777	89	9.441	140	2.331
-12	615.011	39	55.487	90	9.154	141	2.275
-11	582.235	40	53.287	91	8.877	142	2.221
-10	551.418	41	51.197	92	8.609	143	2.168
-9	552.345	42	49.197	93	8.352	144	2.117
-8	494.992	43	47.287	94	8.103	145	2.067
-7	469.239	44	45.457	95	7.862	146	2.019
-6	444.996	45	43.707	96	7.630	147	1.971
-5	422.153	46	42.037	97	7.406	148	1.926
-4	400.574	47	40.447	98	7.189	149	1.881
-3	380.245	48	38.917	99	6.979	150	1.838
-2	361.067 342.978	49	37.447	100 101	6.777		
-1 0	325.900	50 51	36.010 34.705	101	6.582 6.393		
1	309.742	52	33.424	102	6.210		
2	294.484	53	32.193	103	6.035		
3	280.066	54	31.011	105	5.864		
4	266.448	55	29.880	106	5.699		
5	253.570	56	28.799	107	5.540		
6	241.379	57	27.757	108	5.385		
7	229.839	58	26.766	109	5.235		
8	218.918	59	25.805	110	5.091		
9	208.577	60	24.893	111	4.951		
10	198.797	61	24.012	112	4.816		

**Sensor Type 16 - 10,000 ohm NTC thermistor (Fliwell)

										ahrenhei
Temperature Resist		emperature Resistat				/ .e	/	/ <u>.e</u>		perature Resistance
Leune tature	ance	emperature Resistar	ice /	emperature Resistant	2	perature Resistanc	ę /	perature Resistance	· /	Peralure Resistance
THE Sist	,	mper sistar		Mete sista		et distar		port distar	/ 6	ner siste
der de	/ 4	or Bos	/ K	er Res	Ten.	Res	Zon.	Res	100	Ste.
-58 329.5	-07	73.42	44	20.58	95	6.940	146	2.723	197	1.210
-57 319.0	-06	71.48	45	20.11	96	6.805	147	2.677	198	1.193
-56 308.9	-05	69.60	46	19.66	97	6.672	148	2.632	199	1.175
-55 299.2	-04	67.77	47	19.22	98	6.543	149	2.588	200	1.158
-54 289.8	-03	65.97	48	18.79	99	6.417	150	2.545	201	1.141
-53 280.7	-02	64.23	49	18.37	100	6.294	151	2.502	202	1.124
-52 272.0	-01	62.53	50	17.96	101	6.173	152	2.461	203	1.108
-51 263.6	0	60.89	51	17.56	102	6.055	153	2.420	204	1.092
-50 255.5	1	59.30	52	17.16	103	5.940	154	2.380	205	1.076
-49 247.7	2	57.76	53	16.78	104	5.827	155	2.341	206	1.061
-48 240.1	3	56.26	54	16.41	105	5.716	156	2.303	207	1.045
-47 232.9	4	54.81 53.41	55 56	16.05	106	5.607 5.501	157	2.265 2.228	208 209	1.030 1.016
-46 225.8 -45 219.0	5	52.04	57	15.69	107	5.397	158 159	2.228	210	1.010
-45 219.0 -44 212.5	6	50.72	58	15.35 15.01	108 109	5.295	160	2.156	211	0.9870
-43 206.2	8	49.43	59	14.69	110	5.196	161	2.121	212	0.9731
-42 200.1	9	48.18	60	14.37	111	5.099	162	2.086	213	0.9593
-41 194.2	10	46.97	61	14.06	112	5.004	163	2.052	214	0.9457
-40 188.5	11	45.79	62	13.75	113	4.911	164	2.019	215	0.9324
-39 182.8	12	44.65	63	13.46	114	4.820	165	1.987	216	0.9193
-38 177.4	13	43.54	64	13.17	115	4.731	166	1.955	217	0.9065
-37 172.1	14	42.47	65	12.89	116	4.644	167	1.924	218	0.8938
-36 167.0	15	41.40	66	12.62	117	4.559	168	1.893	219	0.8814
-35 162.1	16	40.36	67	12.35	118	4.476	169	1.863	220	0.8692
-34 157.4	17	39.36	68	12.09	119	4.394	170	1.834	221	0.8572
-33 152.8	18	38.38	69	11.84	120	4.315	171	1.805	222	0.8453
-32 148.3	19	37.43	70	11.59	121	4.237	172	1.776	223	0.8337
-31 144.1	20	36.51	71	11.34	122	4.160	173	1.748	224	0.8223
-30 139.9	21	35.61	72 73	11.10	123	4.085 4.011	174	1.721 1.694	225	0.8110
-29 135.9 -28 132.0	22 23	34.74 33.90	74	10.87 10.65	124	3.939	175 176	1.668	226 227	0.8000 0.7891
-28 132.0 -27 128.3	24	33.08	75	10.63	125 126	3.868	177	1.642	228	0.7784
-26 124.7	25	32.28	76	10.43	126	3.799	178	1.616	229	0.7679
-25 121.2	26	31.50	77	10.00	128	3.731	179	1.591	230	0.7576
-24 117.8	27	30.75	78	9.794	129	3.664	180	1.567		
-23 114.5	28	30.02	79	9.593	130	3.600	181	1.543		
-22 111.3	29	29.31	80	9.396	131	3.536	182	1.519		
-21 108.2	30	28.61	81	9.205	132	3.474	183	1.496		
-20 105.1	31	27.94	82	9.018	133	3.413	184	1.473		
-19 102.2	32	27.28	83	8.835	134	3.353	185	1.451		
-18 99.36	33	26.64	84	8.657	135	3.295	186	1.429		
-17 96.60	34	26.01	85	8.483	136	3.237	187	1.407		
-16 93.93	35	25.39	86	8.313	137	3.181	188	1.386		
-15 91.35	36	24.80 24.22	87 88	8.145 7.982	138 139	3.126 3.073	189 190	1.365 1.344		
-14 88.85 -13 86.43	38	23.65	89	7.982 7.822	139	3.073	190	1.344		
-13 86.43 -12 84.09	39	23.03	90	7.666	140	2.968	191	1.324		
-12 84.09 -11 81.81	40	22.57	91	7.514	141	2.903	193	1.285		
-10 79.61	41	22.05	92	7.366	143	2.867	194	1.266		
-09 77.48	42	21.55	93	7.220	144	2.818	195	1.247		
-08 75.42	43	21.06	94	7.079	145	2.770	196	1.229		
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MANAC SYSTEMS® Sensor Type 16 - 10,000 ohm NTC thermistor (Eliwell) Celsius

	nperature Resistant	.e /	erature Resistanc	•	perature Resistance
4	nperi sistan	m	ero	n	Perature Resistance
	Res	Tell	Res	10th	Res
-40	188.5	19	12.56	78	1.765
-39	178.5	20	12.09	79	1.716
-38 -37	169.0 160.2	21 22	11.63 11.20	80 81	1.668 1.622
-36	151.9	23	10.78	82	1.622
-35	144.1	24	10.78	83	1.533
-34	136.7	25	10.00	84	1.492
-33	129.8	26	9.632	85	1.451
-32	123.3	27	9.281	86	1.412
-31	117.1	28	8.944	87	1.373
-30 -29	111.3 105.7	29 30	8.622 8.313	88 89	1.336 1.301
-28	100.5	31	8.014	90	1.266
-27	95.52	32	7.728	91	1.232
-26	90.84	33	7.454	92	1.200
-25	86.43	34	7.192	93	1.168
-24	82.26	35	6.940	94	1.137
-23	78.33	36	6.699	95	1.108
-22 -21	74.61	37	6.467	96	1.079
-21	71.10 67.77	38 39	6.245 6.032	97 98	1.051 1.024
-19	64.57	40	5.827	98	0.9984
-18	61.54	41	5.629	100	0.9731
-17	58.68	42	5.438	101	0.9484
-16	55.97	43	5.255	102	0.9246
-15	53.41	44	5.080	103	0.9014
-14	50.98	45	4.911	104	0.8789
-13	48.68	46	4.749	105	0.8572
-12	46.50	47	4.593	106	0.8360
-11 -10	44.43 42.47	48 49	4.443 4.299	107 108	0.8155 0.7956
-9	40.57	50	4.299	103	0.7930
-8	38.77	51	4.026	110	0.7576
-7	37.06	52	3.896		
-6	35.44	53	3.771		
-5	33.90	54	3.651		
-4	32.44	55	3.536		
-3 -2	31.05	56 57	3.425 3.318		
-z -1	29.73 28.48	58	3.215		
0	27.28	59	3.116		
1	26.13	60	3.020		
2	25.03	61	2.927		
3	23.99	62	2.838		
4	23.00	63	2.751		
5	22.05	64	2.668		
6	21.15 20.30	65 66	2.588 2.511		
8	19.48	67	2.436		
9	18.70	68	2.364		
10	17.96	69	2.295		
11	17.24	70	2.228		
12	16.56	71	2.163		
13	15.90	72	2.100		
14 15	15.28	73	2.039		
16	14.69 14.12	74 75	1.980 1.924		
17	13.58	76	1.869		
18	13.06	77	1.816		

MANAC SYSTEMS® Sensor Type 17 - 20,000 ohm NTC thermistor Fahrenheit

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	aperat istant	, /	gerati istan	, / .	perat istanc		erate istanc	50	rate istant
10°	nnperature Resistance	Ten	nderature Resistant	Tem	Dorature Resistance	Term	erature Resistant	Tompe.	gature Resistance
-40	830741	19	105137	78	19488	137	4827	196	1495
-39	799087	20	101882	79	18991	138	4724	197	1468
-38	768750	21	98739	80	18508	139	4624	198	1442
-37 -36	739670 711792	22 23	95703 92771	81 82	18038 17582	140 141	4526 4430	199 200	1416 1391
-35	685061	23	89938	83	17139	141	4337	200	1366
-34	659428	25	87200	84	16709	143	4246	202	1341
-33	634842	26	84555	85	16290	144	4157	203	1318
-32	611259	27	81999	86	15884	145	4070	204	1294
-31	588633	28	79528	87	15488	146	3985	205	1271
-30 -29	566924 546090	29 30	77140 74831	88 89	15104 14730	147 148	3902 3821	206 207	1249 1227
-29	526094	31	72599	90	14367	149	3742	207	1205
-27	506899	32	70441	91	14014	150	3665	209	1184
-26	488471	33	68354	92	13671	151	3590	210	1164
-25	470776	34	66336	93	13337	152	3516	211	1143
-24	453784	35	64383	94	13012	153	3444	212	1123
-23	437463	36	62495	95	12696	154	3374	213	1104
-22 -21	421785 406723	37 38	60667 58900	96 97	12389 12090	155 156	3306 3239	214 215	1085 1066
-21	392251	39	57189	98	11799	156	3173	216	1048
-19	378343	40	55534	99	11516	158	3109	217	1030
-18	364976	41	53931	100	11241	159	3047	218	1013
-17	352127	42	52381	101	10973	160	2986	219	995
-16	339774	43	50879	102	10712	161	2926	220	978
-15	327897	44	49426	103	10459	162	2868	221	962
-14	316476	45	48019	104	10212	163	2811	222	946
-13 -12	305491 294925	46 47	46656 45336	105 106	9971 9737	164 165	2755 2701	223 224	930 914
-12	284761	48	44058	107	9509	166	2648	225	899
-10	274981	49	42820	108	9287	167	2596	226	884
-9	265570	50	41621	109	9071	168	2545	227	869
-8	256513	51	40459	110	8861	169	2495	228	854
-7	247796	52	39333	111	8656	170	2447	229	840
-6 -5	239405	53	38242	112	8457 8262	171	2399 2353	230 231	826 813
-4	231326 223547	54 55	37185 36160	113 114	8073	172 173	2307	232	799
-3	216056	56	35167	115	7889	174	2263	233	786
-2	208841	57	34204	116	7709	175	2219	234	77
-1	201892	58	33271	117	7534	176	2177	235	761
0	195197	59	32366	118	7363	177	2135	236	748
1	188746	60	31488	119	7197	178 179	2095 2055	237 238	736 724
3	182530 176540	61 62	30637 29812	120 121	7035 6878	180	2035	238	724 712
4	170767	63	29011	122	6724	181	1978	240	701
5	165201	64	28235	123	6574	182	1941	241	690
6	159836	65	27481	124	6428	183	1904	242	679
7	154663	66	26751	125	6285	184	1869	243	668
8	149674	67	26042	126	6146	185	1834	244	657
9	144863	68 69	25353	127 128	6011 5879	186 187	1800 1766	245 246	647 636
11	140223 135746	70	24685 24037	128	5879 5750	187	1733	246 247	626
12	131428	70	23408	130	5624	189	1701	248	616
13	127261	72	22797	131	5502	190	1670	249	607
14	123240	73	22205	132	5382	191	1639	250	597
15	119359	74	21629	133	5266	192	1609		
16	115614	75	21070	134	5152	193	1580		
17	111998	76	20527	135	5041	194	1551		
18	108507	77	20000	136	4933	195	1523		



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₹¢	nderature Resistanc	Tenn	perature Resistant	Tent	perature Resistance	Tempe	Resistance
-40	830741	11	39555	62	4192	113	756
-39	774715	12	37604	63	4035	114	734
-38	722802	13	35759	64	3886	115	712
-37	674679	14	34015	65	3742	116	692
-36	630047	15	32366	66	3605	117	672
-35	588633	16	30805	67	3473	118	653
-34	550188	17	29329	68	3347	119	634
-33	514483	18	27931	69	3225	120	616
-32	481307	19	26607	70	3109	121	599
-31	450467	20	25353	71	2998	122	582
-30	421785	21	24165	72	2891	123	566
-29	395099	22	23040	73	2789	124	550
-28	370259	23	21972	74	2690	125	535
-27	347128	24	20960	75	2596	126	520
-26	325577	25	20000	76	2505	127	506
-25	305491	26	19089	77	2418	128	492
-24	286762	27	18224	78	2334	129	479
-23	269291	28	17404	79	2254	130	466
-22	252987	29	16624	80	2177	131	453
-21	237764	30	15884	81	2103	132	441
-20	223547	31	15180	82	2032	133	429
-19	210263	32	14511	83	1963	134	418
-18	197845	33	13876	84	1897	135	407
-17 -16	186232	34 35	13271 12696	85 86	1834 1773	136 137	396 386
-15	175369 165201	36	12090	87	1773	137	376
-14	155682	37	11629	88	1658	139	366
-13	146767	38	11133	89	1603	140	357
-12	138413	39	10661	90	1551	141	347
-11	130582	40	10212	91	1501	142	338
-10	123240	41	9783	92	1452	143	330
-9	116352	42	9375	93	1406	144	321
-8	109889	43	8987	94	1361	145	313
-7	103821	44	8616	95	1318	146	305
-6	98124	45	8262	96	1276	147	298
-5	92771	46	7925	97	1236	148	290
-4	87740	47	7603	98	1197	149	283
-3	83011	48	7296	99	1160	150	276
-2	78563	49	7003	100	1124		
-1	74379	50	6724	101	1089		
0	70441	51	6456	102	1055		
1	66734	52	6201	103	1023		
2	63243	53	5957	104	992		
3	59953	54	5724	105	962		
4	56854	55	5502	106	933		
5	53931	56	5289	107	905		
6	51176	57	5085	108	878		
7	48576	58 50	4890	109	852		
8	46123	59 60	4704	110 111	826		
9	43807	61	4526	111	802		
10	41621	91	4355	112	778		



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	Apsistance Resistance	ge Temperature Resistar	çı /	emperature Resistant		perature Resistant	z Tenne	gature Resistance
	Acs.	Louis Bos	/ <	en Res.	Ten	Res	Tone	Res
-40	75491	19 10721	78	2198	137	595	196	199
-39 -38	72764 70148	20 10408 21 10105	79 80	2145 2094	138 139	583 571	197 198	196 193
-37	67633	22 9813	81	2044	140	560	199	190
-36	65219	23 9529	82	1996	141	549	200	186
-35	62898	24 9255	83	1948	142	538	201	183
-34	60670	25 8989	84	1902	143	528	202	180
-33 -32	58528 56469	26 8732 27 8483	85 86	1858 1814	144 145	517 507	203 204	177 174
-31	54489	28 8243	87	1772	146	497	205	172
-30	52586	29 8009	88	1731	147	488	206	169
-29	50757	30 7784	89	1690	148	478	207	166
-28	48998	31 7565	90	1651	149	469	208	163
-27	47307	32 7353	91	1613	150	460	209	161
-26 -25	45678 44113	33 7148 34 6949	92	1576 1540	151 152	451 442	210 211	158 155
-24	42606	35 6756	94	1505	153	434	212	153
-23	41157	36 6570	95	1471	154	426	213	150
-22	39761	37 6389	96	1437	155	418	215	146
-21	38418	38 6213	97	1405	156	410	216	143
-20	37125	39 6044	98	1373	157	402	217	141
-19 -18	35880 34681	40 5879 41 5719	99	1342 1312	158 159	394 387	218	139 137
-17	33527	41 5719 42 5564	101		160	380	219 220	134
-16	32415	43 5414	102		161	373	221	132
-15	31344	44 5269	103		162	366	222	130
-14	30312	45 5127	104		163	359	223	128
-13	29317	46 4991	105		164	352	224	126
-12 -11	28359 27435	47 4858 48 4729	106		165 166	346 340	225	124 122
-10	26545	48 4729 49 4604	107		167	333	226 227	122
-9	25686	50 4482	109		168	327	228	119
-8	24859	51 4365	110		169	321	229	117
-7	24061	52 4250	111		170	315	230	115
-6	23291	53 4140	112		171	310	231	113
-5 -4	22549 21832	54 4032 55 3927	113		172 173	304 299	232	111 110
-3	21141	56 3826	115		173	293	233 234	108
-2	20475	57 3727	116		175	288	235	106
-1	19831	58 3632	117	902	176	283	236	105
0	19210	59 3539	118		177	278	237	103
1	18611	60 3449	119		178	273	238	102
3	18032 17474	61 3361 62 3276	120 121		179 180	268 263	239 240	100 99
4	16935	63 3193	122		181	259	240	97
5	16413	64 3113	123		182	254	242	96
6	15911	65 3035	124		183	250	243	94
7	15424	66 2959	125		184	245	244	93
8	14955	67 2885	126		185	241	245	92
9	14501 14063	68 2814 69 2744	127 128		186 187	237 233	246 247	90 89
11	13640	70 2676	129		188	229	247	88
12	13230	71 2610	130		189	225	249	86
13	12835	72 2546	131	672	190	221	250	85
14	12452	73 2484	132		191	217		
15 16	12082 11725	74 2424 75 2365	133 134		192 193	214 210		
17	11725	76 2308	134		193	210		
18	11044	77 2252	136		195	203		



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~e	nperature Resistanc	Temp	Resistant	Temp	Resistance	Temper	Attire Resistance
-40	75491	11	4273	62	521	113	106
-39	70663	12	4075	63	503	114	103
-38	66173	13	3886	64	486	115	100
-37	61996	14	3708	65	469	116	98
-36	58109	15	3539	66	453	117	95
-35	54489	16	3378	67	437	118	92
-34	5117	17	3226	68	422	119	90
-33	47975	18	3081	69	408	120	88
-32	45046	19	2944	70	394	121	85
-31	42312	20	2814	71	381	122	83
-30	39761	21	2690	72	369	123	81
-29	37380	22	2572	73	356	124	79
-28	35156	23	2460	74	345	125	77
-27	33077	24	2353	75	333	126	75 70
-26	31134	25	2252	76	322	127	73 71
-25	29317	26	2156	77 78	312 302	128	69
-24	27617	27	2064		292	129	68
-23 -22	26026 24536	28 29	1977 1893	79 80	283	130 131	66
-22	23140	30		81	274	131	64
-21	21832	31	1814 1739	82	265	133	63
-20	21832	32	1667	83	257	134	61
-19	19456	33	1598	84	249	135	60
-17	18377	34	1533	85	249	136	58
-16	17364	35	1471	86	234	137	57
-15	16413	36	1471	87	226	138	55
-14	15520	37	1354	88	220	139	54
-13	14681	38	1300	89	213	140	53
-12	13892	39	1248	90	206	141	52
-11	13150	40	1199	91	200	142	50
-10	12452	41	1152	92	194	143	49
-9	11795	42	1107	93	188	144	48
-8	11177	43	1064	94	183	145	47
-7	10594	44	1023	95	177	146	46
-6	10046	45	983	96	172	147	45
-5	9529	46	946	97	167	148	44
-4	9042	47	910	98	162	149	43
-3	8582	48	875	99	157	150	42
-2	8148	49	842	100	153		
-1	7739	50	811	101	149		
0	7353	51	781	102	144		
1	6988	52	752	103	140		
2	6644	53	724	104	136		
3	6318	54	698	105	132		
4	6010	55	672	106	129		
5	5719	56	648	107	125		
6	5444	57	625	108	122		
7	5183	58	602	109	118		
8	4937	59	581	110	115		
9	4704	60	560	111	112		
10	4482	61	540	112	109		



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	ature	e /	atilité ac	ę /	ature acc	v / ,	tire sce
	pere stance		erat statt		era. Stance	ne yo	Kana
Lex	nperature Resistant	r emi	perature Resistant	T emi	erature Resistance	Tompor	ture Resistance
-40	39073	11	3159	62	497	113	122
-39	36879	12	3030	63	482	114	119
-38	34821	13	2906	64	467	115	116
-37	32891	14	2789	65	453	116	113
-36	31081	15	2677	66	439	117	111
-35	29380	16	2570	67	426	118	108
-34	27783	17	2468	68	413	119	106
-33	26284	18	2371	69	401	120	103
-32	24874	19	2278	70	389	121	101
-31 -30	23548	20 21	2189	71 72	377 366	122 123	98 96
1	22301	22	2104 2023	73	356	123	96
-29 -28	21128 20024	23	1945	74	345	124	94
-27	18984	23 24	1943	75	335	126	90
-26	18004	25	1800	76	326	120	88
-25	17081	26	1732	77	316	127	86
-24	16211	27	1667	78	307	129	84
-23	15390	28	1605	79	299	130	82
-22	14616	29	1546	80	299	131	80
-22	13886	30	1489	81	282	132	78
-20	13196	31	1434	82	274	133	77
-19	12544	32	1382	83	266	134	77 75
-18	11929	33	1332	84	259	135	73
-17	11348	34	1284	85	252	136	72
-16	10798	35	1234	86	245	137	70
-15	10778	36	1194	87	238	138	69
-14	9787	37	1151	88	232	139	67
-13	9321	38	1111	89	226	140	66
-12	8881	39	1072	90	220	141	65
-11	8464	40	1034	91	214	142	63
-10	8069	41	999	92	208	143	62
-9	7695	42	964	93	203	144	61
-8	7340	43	931	94	197	145	59
-7	7004	44	899	95	192	146	58
-6	6685	45	869	96	187	147	57
-5	6383	46	840	97	182	148	56
-4	6095	47	811	98	178	149	55
-3	5823	48	784	99	173	150	53
-2	5564	49	758	100	169		
-1	5318	50	733	101	164		
0	5085	51	709	102	160		
1	4863	52	686	103	156		
2	4652	53	664	104	152		
3	4452	54	642	105	148		
4	4261	55	622	106	145		
5	4079	56	602	107	141		
6	3906	57	583	108	138		
7	3742	58	564	109	134		
8	3585	59	547	110	131		
9	3436	60	529	111	128		
10	3294	61	513	112	125		



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	Apsistance Resistance	e Temperature	sistance Te	Angerature Resistant	, ni	perature Resistant	z Tempe	Resistance
	Ko.	Lour Bo	\$ / \^ @	Res	Total	Res	Terr	Res
-40	39073	19 7077	78	1762	137	558	196	213
-39 -38	37836 36644	20 6896 21 6720	79 80	1725 1689	138 139	548 539	197 198	210 207
-37	35492	22 6549	81	1653	140	529	199	204
-36	34382	23 6383	82	1619	141	520	200	201
-35	33310	24 6221	83	1585	142	511	201	198
-34	32275	25 6065	84	1552	143	502	202	195
-33 -32	31276	26 5912 27 5764	85	1520	144 145	494	203 204	192
-32	30312 29380	27 5764 28 5621	86 87	1489 1458	145	485 477	204	189 187
-30	28481	29 5481	88	1428	147	469	206	184
-29	27612	30 5345	89	1399	148	461	207	181
-28	26773	31 5213	90	1370	149	453	208	179
-27	25963	32 5085	91	1343	150	445	209	176
-26	25180	33 4960	92	1315	151	438	210	173
-25	24423	34 4839 35 4721	93	1289	152 153	430	211 212	171
-24 -23	23692 22985	35 4721 36 4607	94 95	1263 1238	154	423 416	212	169 166
-22	22301	37 4495	96	1213	155	409	214	164
-21	21641	38 4387	97	1189	156	402	215	161
-20	21002	39 4282	98	1165	157	395	216	159
-19	20384	40 4179	99	1142	158	389	217	157
-18	19787	41 4079	100	1120	159	382	218	155
-17	19209	42 3982	101	1098	160	376	219	153
-16	18651	43 3888	102	1076	161	370	220	150
-15 -14	18110 17587	44 3796 45 3707	103 104	1055 1034	162 163	364 358	221 222	148 146
-13	17081	46 3620	105	1014	164	352	223	144
-12	16591	47 3535	106	995	165	346	224	142
-11	16117	48 3452	107	975	166	341	225	140
-10	15658	49 3372	108	957	167	335	226	138
-9	15214	50 3294	109	938	168	330	227	137
-8 -7	14784	51 3218	110	920	169	324	228	135
-6	14368 13964	52 3144 53 3072	111 112	903 886	170 171	319 314	229 230	133 131
-5	13574	54 3002	113	869	172	309	231	129
-4	13196	55 2933	114		173	304	232	128
-3	12829	56 2867	115	836	174	299	233	126
-2	12474	57 2802	116	821	175	295	234	124
-1	12130	58 2739	117	805	176	290	235	122
0	11797	59 2677	118	790 776	177	286	236	121
1 2	11474 11161	60 2617 61 2559	119 120	776 761	178 179	281 277	237 238	119 118
3	10858	62 2502	121	747	180	272	239	116
4	10563	63 2446	122		181	268	240	115
5	10278	64 2392	123	720	182	264	241	113
6	10002	65 2339	124	707	183	260	242	112
7	9734	66 2288	125		184	256	243	110
8	9474	67 2238	126		185	252	244	109
9	9222 8977	68 2189 69 2141	127 128	669 657	186 187	248 244	245 246	107 106
11	8740	70 2095	129	645	188	244	247	100
12	8509	71 2049	130	633	189	237	248	103
13	8286	72 2005	131	622	190	233	249	102
14	8069	73 1962	132		191	230	250	100
15	7859	74 1920	133	600	192	226		
16	7655	75 1879	134	589 570	193	223		
17 18	7456 7264	76 1839 77 1800	135 136		194 195	220		
18	7264	77 1800	136	568	195	216		



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