

## Charakterystyka termometryczna termopar typu K ( NiCr-Ni )

Siła elektromotoryczna emf [mV] w funkcji temperatury. Norma PN-EN 60584-1.

°C	0	1	2	3	4	5	6	7	8	9	10
-270	-6.458	-6.457	-6.456	-6.455	-6.453	-6.452	-6.450	-6.448	-6.446	-6.444	-6.441
-260	-6.441	-6.438	-6.435	-6.432	-6.429	-6.425	-6.421	-6.417	-6.413	-6.408	-6.404
-250	-6.404	-6.399	-6.393	-6.388	-6.382	-6.377	-6.370	-6.364	-6.358	-6.351	-6.344
-240	-6.344	-6.337	-6.329	-6.322	-6.314	-6.306	-6.297	-6.289	-6.280	-6.271	-6.262
-230	-6.262	-6.252	-6.243	-6.233	-6.223	-6.213	-6.202	-6.192	-6.181	-6.170	-6.158
-220	-6.158	-6.147	-6.135	-6.123	-6.111	-6.099	-6.087	-6.074	-6.061	-6.048	-6.035
-210	-6.035	-6.021	-6.007	-5.994	-5.980	-5.965	-5.951	-5.936	-5.922	-5.907	-5.891
-200	-5.891	-5.876	-5.861	-5.845	-5.829	-5.813	-5.797	-5.780	-5.763	-5.747	-5.730
-190	-5.730	-5.713	-5.695	-5.678	-5.660	-5.642	-5.624	-5.606	-5.588	-5.569	-5.550
-180	-5.550	-5.531	-5.512	-5.493	-5.474	-5.454	-5.435	-5.415	-5.395	-5.374	-5.354
-170	-5.354	-5.333	-5.313	-5.292	-5.271	-5.250	-5.228	-5.207	-5.185	-5.163	-5.141
-160	-5.141	-5.119	-5.097	-5.074	-5.052	-5.029	-5.006	-4.983	-4.960	-4.936	-4.913
-150	-4.913	-4.889	-4.865	-4.841	-4.817	-4.793	-4.768	-4.744	-4.719	-4.694	-4.669
-140	-4.669	-4.644	-4.618	-4.593	-4.567	-4.542	-4.516	-4.490	-4.463	-4.437	-4.411
-130	-4.411	-4.384	-4.357	-4.330	-4.303	-4.276	-4.249	-4.221	-4.194	-4.166	-4.138
-120	-4.138	-4.110	-4.082	-4.054	-4.025	-3.997	-3.968	-3.939	-3.911	-3.882	-3.852
-110	-3.852	-3.823	-3.794	-3.764	-3.734	-3.705	-3.675	-3.645	-3.614	-3.584	-3.554
-100	-3.554	-3.523	-3.492	-3.462	-3.431	-3.400	-3.368	-3.337	-3.306	-3.274	-3.243
-90	-3.243	-3.211	-3.179	-3.147	-3.115	-3.083	-3.050	-3.018	-2.986	-2.953	-2.920
-80	-2.920	-2.887	-2.854	-2.821	-2.788	-2.755	-2.721	-2.688	-2.654	-2.620	-2.587
-70	-2.587	-2.553	-2.519	-2.485	-2.450	-2.416	-2.382	-2.347	-2.312	-2.278	-2.243
-60	-2.243	-2.208	-2.173	-2.138	-2.103	-2.067	-2.032	-1.996	-1.961	-1.925	-1.889
-50	-1.889	-1.854	-1.818	-1.782	-1.745	-1.709	-1.673	-1.637	-1.600	-1.564	-1.527
-40	-1.527	-1.490	-1.453	-1.417	-1.380	-1.343	-1.305	-1.268	-1.231	-1.194	-1.156
-30	-1.156	-1.119	-1.081	-1.043	-1.006	-0.968	-0.930	-0.892	-0.854	-0.816	-0.778
-20	-0.778	-0.739	-0.701	-0.663	-0.624	-0.586	-0.547	-0.508	-0.470	-0.431	-0.392
-10	-0.392	-0.353	-0.314	-0.275	-0.236	-0.197	-0.157	-0.118	-0.079	-0.039	0.000
0	0.000	0.075	0.114	0.154	0.193	0.233	0.273	0.313	0.352	0.392	0.432
10	0.432	0.472	0.512	0.552	0.592	0.632	0.672	0.713	0.753	0.793	0.833
20	0.833	0.874	0.914	0.954	0.995	1.035	1.076	1.117	1.157	1.198	1.238
30	1.238	1.279	1.320	1.361	1.402	1.442	1.483	1.524	1.565	1.606	1.647
40	1.647	1.688	1.729	1.770	1.811	1.852	1.893	1.935	1.976	2.017	2.058
50	2.058	2.100	2.141	2.182	2.223	2.265	2.306	2.347	2.389	2.430	2.472
60	2.472	2.513	2.555	2.596	2.637	2.679	2.720	2.762	2.803	2.845	2.886
70	2.886	2.928	2.970	3.011	3.053	3.094	3.136	3.177	3.219	3.260	3.302
80	3.302	3.343	3.385	3.426	3.468	3.510	3.551	3.593	3.634	3.676	3.717
90	3.717	3.759	3.800	3.842	3.883	3.924	3.966	4.007	4.049	4.090	4.131
100	4.131	4.173	4.214	4.255	4.297	4.338	4.379	4.421	4.462	4.503	4.544
110	4.544	4.585	4.627	4.668	4.709	4.750	4.791	4.832	4.873	4.914	4.955

**Charakterystyka termometryczna termopar typu K ( NiCr-Ni )**

Siła elektromotoryczna emf [mV] w funkcji temperatury. Norma PN-EN 60584-1.

°C	0	1	2	3	4	5	6	7	8	9	10
120	4.955	4.996	5.037	5.078	5.119	5.160	5.200	5.241	5.282	5.323	5.364
130	5.364	5.404	5.445	5.486	5.526	5.567	5.608	5.648	5.689	5.729	5.770
140	5.770	5.810	5.851	5.891	5.932	5.972	6.012	6.053	6.093	6.133	6.174
150	6.174	6.214	6.254	6.294	6.335	6.375	6.415	6.455	6.495	6.535	6.575
160	6.575	6.616	6.656	6.696	6.736	6.776	6.816	6.856	6.896	6.936	6.976
170	6.976	7.016	7.056	7.096	7.136	7.176	7.216	7.255	7.295	7.335	7.375
180	7.375	7.415	7.455	7.495	7.535	7.575	7.615	7.655	7.695	7.734	7.774
190	7.774	7.814	7.854	7.894	7.934	7.974	8.014	8.054	8.094	8.134	8.174
200	8.174	8.214	8.254	8.294	8.334	8.374	8.414	8.454	8.494	8.534	8.574
210	8.574	8.614	8.654	8.694	8.734	8.774	8.814	8.855	8.895	8.935	8.975
220	8.975	9.015	9.056	9.096	9.136	9.176	9.217	9.257	9.297	9.338	9.378
230	9.378	9.418	9.459	9.499	9.539	9.580	9.620	9.661	9.701	9.742	9.782
240	9.782	9.823	9.863	9.904	9.945	9.985	10.026	10.067	10.107	10.148	10.189
250	10.189	10.229	10.270	10.311	10.352	10.392	10.433	10.474	10.515	10.556	10.597
260	10.597	10.637	10.678	10.719	10.760	10.801	10.842	10.883	10.924	10.965	11.006
270	11.006	11.047	11.088	11.129	11.170	11.212	11.253	11.294	11.335	11.376	11.417
280	11.417	11.459	11.500	11.541	11.582	11.623	11.665	11.706	11.747	11.789	11.830
290	11.830	11.871	11.913	11.954	11.995	12.037	12.078	12.119	12.161	12.202	12.244
300	12.244	12.285	12.327	12.368	12.410	12.451	12.493	12.534	12.576	12.617	12.659
310	12.659	12.700	12.742	12.783	12.825	12.867	12.908	12.950	12.992	13.033	13.075
320	13.075	13.116	13.158	13.200	13.242	13.283	13.325	13.367	13.408	13.450	13.492
330	13.492	13.534	13.575	13.617	13.659	13.701	13.742	13.784	13.826	13.868	13.910
340	13.910	13.952	13.993	14.035	14.077	14.119	14.161	14.203	14.245	14.286	14.328
350	14.328	14.370	14.412	14.454	14.496	14.538	14.580	14.622	14.664	14.706	14.748
360	14.748	14.790	14.832	14.874	14.916	14.958	15.000	15.042	15.084	15.126	15.168
370	15.168	15.210	15.252	15.294	15.336	15.378	15.420	15.462	15.505	15.547	15.589
380	15.589	15.631	15.673	15.715	15.757	15.799	15.842	15.884	15.926	15.968	16.010
390	16.010	16.052	16.095	16.137	16.179	16.221	16.263	16.306	16.348	16.390	16.432
400	16.432	16.475	16.517	16.559	16.601	16.644	16.686	16.728	16.770	16.813	16.855
410	16.855	16.897	16.940	16.982	17.024	17.067	17.109	17.151	17.194	17.236	17.278
420	17.278	17.321	17.363	17.405	17.448	17.490	17.532	17.575	17.617	17.660	17.702
430	17.702	17.744	17.787	17.829	17.872	17.914	17.957	17.999	18.041	18.084	18.126
440	18.126	18.169	18.211	18.254	18.296	18.339	18.381	18.424	18.466	18.509	18.551
450	18.551	18.594	18.636	18.678	18.721	18.764	18.806	18.849	18.891	18.934	18.976
460	18.976	19.019	19.061	19.104	19.146	19.189	19.231	19.274	19.316	19.359	19.402
470	19.402	19.444	19.487	19.529	19.572	19.614	19.657	19.700	19.742	19.785	19.827
480	19.827	19.870	19.912	19.955	19.998	20.040	20.083	20.125	20.168	20.211	20.253
490	20.253	20.296	20.339	20.381	20.424	20.466	20.509	20.552	20.594	20.637	20.679
500	20.679	20.722	20.765	20.807	20.850	20.893	20.935	20.978	21.021	21.063	21.106

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Siła elektromotoryczna emf [mV] w funkcji temperatury. Norma PN-EN 60584-1.

°C	0	1	2	3	4	5	6	7	8	9	10
510	21.106	21.148	21.191	21.234	21.276	21.319	21.362	21.404	21.447	21.490	21.532
520	21.532	21.575	21.618	21.660	21.703	21.746	21.788	21.831	21.873	21.916	21.959
530	21.959	22.001	22.044	22.087	22.129	22.172	22.215	22.257	22.300	22.343	22.385
540	22.385	22.428	22.471	22.513	22.556	22.598	22.641	22.684	22.726	22.769	22.812
550	22.812	22.854	22.897	22.940	22.982	23.025	23.067	23.110	23.153	23.195	23.238
560	23.238	23.281	23.323	23.366	23.408	23.451	23.494	23.536	23.579	23.621	23.664
570	23.664	23.707	23.749	23.792	23.834	23.877	23.920	23.962	24.005	24.047	24.090
580	24.090	24.132	24.175	24.218	24.260	24.303	24.345	24.388	24.430	24.473	24.515
590	24.515	24.558	24.601	24.643	24.686	24.728	24.771	24.813	24.856	24.898	24.941
600	24.941	24.983	25.026	25.068	25.111	25.153	25.196	25.238	25.281	25.323	25.366
610	25.366	25.408	25.450	25.493	25.535	25.578	25.620	25.663	25.705	25.748	25.790
620	25.790	25.832	25.875	25.917	25.960	26.002	26.044	26.087	26.129	26.171	26.214
630	26.214	26.256	26.299	26.341	26.383	26.426	26.468	26.510	26.553	26.595	26.637
640	26.637	26.680	26.722	26.764	26.806	26.849	26.891	26.933	26.976	27.018	27.060
650	27.060	27.102	27.145	27.187	27.229	27.271	27.313	27.356	27.398	27.440	27.482
660	27.482	27.524	27.567	27.609	27.651	27.693	27.735	27.777	27.820	27.862	27.904
670	27.904	27.946	27.988	28.030	28.072	28.114	28.156	28.198	28.241	28.283	28.325
680	28.325	28.367	28.409	28.451	28.493	28.535	28.577	28.619	28.661	28.703	28.745
690	28.745	28.787	28.829	28.871	28.913	28.955	28.997	29.038	29.080	29.122	29.164
700	29.164	29.206	29.248	29.290	29.332	29.374	29.415	29.457	29.499	29.541	29.583
710	29.583	29.625	29.666	29.708	29.750	29.792	29.834	29.875	29.917	29.959	30.001
720	30.001	30.042	30.084	30.126	30.167	30.209	30.251	30.292	30.334	30.376	30.417
730	30.417	30.459	30.501	30.542	30.584	30.626	30.667	30.709	30.750	30.792	30.833
740	30.833	30.875	30.917	30.958	31.000	31.041	31.083	31.124	31.166	31.207	31.249
750	31.249	31.290	31.332	31.373	31.414	31.456	31.497	31.539	31.580	31.622	31.663
760	31.663	31.704	31.746	31.787	31.828	31.870	31.911	31.952	31.994	32.035	32.076
770	32.076	32.118	32.159	32.200	32.241	32.283	32.324	32.365	32.406	32.447	32.489
780	32.489	32.530	32.571	32.612	32.653	32.694	32.736	32.777	32.818	32.859	32.900
790	32.900	32.941	32.982	33.023	33.064	33.105	33.147	33.188	33.229	33.270	33.311
800	33.311	33.352	33.393	33.434	33.475	33.515	33.556	33.597	33.638	33.679	33.720
810	33.720	33.761	33.802	33.843	33.884	33.924	33.965	34.006	34.047	34.088	34.129
820	34.129	34.169	34.210	34.251	34.292	34.333	34.373	34.414	34.455	34.495	34.536
830	34.536	34.577	34.618	34.658	34.699	34.740	34.780	34.821	34.862	34.902	34.943
840	34.943	34.983	35.024	35.065	35.105	35.146	35.186	35.227	35.267	35.308	35.348
850	35.348	35.389	35.429	35.470	35.510	35.551	35.591	35.632	35.672	35.712	35.753
860	35.753	35.793	35.834	35.874	35.914	35.955	35.995	36.035	36.076	36.116	36.156
870	36.156	36.197	36.237	36.277	36.318	36.358	36.398	36.438	36.479	36.519	36.559
880	36.559	36.599	36.639	36.680	36.720	36.760	36.800	36.840	36.880	36.920	36.961
890	36.961	37.001	37.041	37.081	37.121	37.161	37.201	37.241	37.281	37.321	37.361

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Siła elektromotoryczna emf [mV] w funkcji temperatury. Norma PN-EN 60584-1.

°C	0	1	2	3	4	5	6	7	8	9	10
900	37.361	37.401	37.441	37.481	37.521	37.561	37.601	37.641	37.681	37.721	37.761
910	37.761	37.801	37.840	37.880	37.920	37.960	38.000	38.040	38.080	38.119	38.159
920	38.159	38.199	38.239	38.279	38.318	38.358	38.398	38.438	38.477	38.517	38.557
930	38.557	38.596	38.636	38.676	38.715	38.755	38.795	38.834	38.874	38.914	38.953
940	38.953	38.993	39.032	39.072	39.112	39.151	39.191	39.230	39.270	39.309	39.349
950	39.349	39.388	39.428	39.467	39.507	39.546	39.586	39.625	39.664	39.704	39.743
960	39.743	39.783	39.822	39.861	39.901	39.940	39.979	40.019	40.058	40.097	40.137
970	40.137	40.176	40.215	40.254	40.294	40.333	40.372	40.411	40.451	40.490	40.529
980	40.529	40.568	40.607	40.647	40.686	40.725	40.764	40.803	40.842	40.881	40.920
990	40.920	40.960	40.999	41.038	41.077	41.116	41.155	41.194	41.233	41.272	41.311
1000	41.311	41.350	41.389	41.428	41.467	41.506	41.545	41.583	41.622	41.661	41.700
1010	41.700	41.739	41.778	41.817	41.856	41.894	41.933	41.972	42.011	42.050	42.088
1020	42.088	42.127	42.166	42.205	42.243	42.282	42.321	42.359	42.398	42.437	42.475
1030	42.475	42.514	42.553	42.591	42.630	42.669	42.707	42.746	42.784	42.823	42.862
1040	42.862	42.900	42.939	42.977	43.016	43.054	43.093	43.131	43.170	43.208	43.246
1050	43.246	43.285	43.323	43.362	43.400	43.439	43.477	43.515	43.554	43.592	43.630
1060	43.630	43.669	43.707	43.745	43.783	43.822	43.860	43.898	43.937	43.975	44.013
1070	44.013	44.051	44.089	44.128	44.166	44.204	44.242	44.280	44.318	44.356	44.394
1080	44.394	44.433	44.471	44.509	44.547	44.585	44.623	44.661	44.699	44.737	44.775
1090	44.775	44.813	44.851	44.889	44.927	44.965	45.002	45.040	45.078	45.116	45.154
1100	45.154	45.192	45.230	45.267	45.305	45.343	45.381	45.419	45.456	45.494	45.532
1110	45.532	45.570	45.607	45.645	45.683	45.720	45.758	45.796	45.833	45.871	45.908
1120	45.908	45.946	45.984	46.021	46.059	46.096	46.134	46.171	46.209	46.246	46.284
1130	46.284	46.321	46.359	46.396	46.434	46.471	46.508	46.546	46.583	46.621	46.658
1140	46.658	46.695	46.733	46.770	46.807	46.844	46.882	46.919	46.956	46.993	47.031
1150	47.031	47.068	47.105	47.142	47.179	47.217	47.254	47.291	47.328	47.365	47.402
1160	47.402	47.439	47.476	47.513	47.550	47.587	47.624	47.661	47.698	47.735	47.772
1170	47.772	47.809	47.846	47.883	47.920	47.957	47.993	48.030	48.067	48.104	48.141
1180	48.141	48.177	48.214	48.251	48.288	48.324	48.361	48.398	48.434	48.471	48.508
1190	48.508	48.544	48.581	48.618	48.654	48.691	48.727	48.764	48.800	48.837	48.873
1200	48.873	48.910	48.946	48.983	49.019	49.056	49.092	49.129	49.165	49.201	49.238
1210	49.238	49.274	49.310	49.347	49.383	49.419	49.455	49.492	49.528	49.564	49.600
1220	49.600	49.636	49.673	49.709	49.745	49.781	49.817	49.853	49.889	49.925	49.961
1230	49.961	49.997	50.033	50.069	50.105	50.141	50.177	50.213	50.249	50.285	50.321
1240	50.321	50.357	50.393	50.429	50.464	50.500	50.536	50.572	50.608	50.643	50.679
1250	50.679	50.715	50.750	50.786	50.822	50.858	50.893	50.929	50.964	51.000	51.036
1260	51.036	51.071	51.107	51.142	51.178	51.213	51.249	51.284	51.320	51.355	51.390
1270	51.390	51.426	51.461	51.497	51.532	51.567	51.603	51.638	51.673	51.708	51.744
1280	51.744	51.779	51.814	51.849	51.885	51.920	51.955	51.990	52.025	52.060	52.095

### Charakterystyka termometryczna termopar typu K ( NiCr-Ni )

Siła elektromotoryczna emf [mV] w funkcji temperatury. Norma PN-EN 60584-1.

°C	0	1	2	3	4	5	6	7	8	9	10
1290	52.095	52.130	52.166	52.201	52.236	52.271	52.306	52.341	52.376	52.411	52.445
1300	52.445	52.480	52.515	52.550	52.585	52.620	52.655	52.690	52.724	52.759	52.794
1310	52.794	52.829	52.864	52.898	52.933	52.968	53.002	53.037	53.072	53.106	53.141
1320	53.141	53.176	53.210	53.245	53.279	53.314	53.348	53.383	53.417	53.452	53.486
1330	53.486	53.521	53.555	53.590	53.624	53.659	53.693	53.727	53.762	53.796	53.830
1340	53.830	53.865	53.899	53.933	53.968	54.002	54.036	54.070	54.105	54.139	54.173
1350	54.173	54.207	54.241	54.275	54.310	54.344	54.378	54.412	54.446	54.480	54.514
1360	54.514	54.548	54.582	54.616	54.650	54.684	54.718	54.752	54.786	54.820	54.854
1370	54.854	54.888	54.922								