ГОСУДАРСТВЕННЫЙ СТАНДАРТ РОССИЙСКОЙ ФЕДЕРАЦИИ

Государственная система обеспечения единства измерений

ТЕРМОПАРЫ

Номинальные статические характеристики преобразования

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ГОСУДАРСТВЕННЫЙ СТАНДАРТ РОССИЙСКОЙ ФЕДЕРАЦИИ

Государственная система обеспечения единства измерений

ТЕРМОПАРЫ

Номинальные статические характеристики преобразования

State system for ensuring the uniformity of measurements.
Thermocouples. Nominal static characteristics of conversion

Дата введения 2002—07—01

1 Область применения

Настоящий стандарт устанавливает номинальные статические характеристики (НСХ) преобразования термопар.

Стандарт гармонизирован с Международной температурной шкалой 1990 года (МТШ — 90) по [1] — [4].

Настоящий стандарт применяют при разработке нормативных и технических документов, распространяющихся на термопары.

2 Определения, обозначения и сокращения

2.1 В настоящем стандарте применяются следующие термины с соответствующими определениями:

термопара: Два проводника из разнородных материалов, соединенных на одном конце и образующих часть устройства, использующего термоэлектрический эффект для измерений температуры;

НСХ термопары: Номинально приписываемая термопаре данного типа зависимость ТЭДС от температуры рабочего конца и при постоянно заданной температуре свободных концов, выраженная в милливольтах;

диапазон преобразований температур термопары: Интервал температур термопары, в котором выполняется преобразование температур в ТЭДС;

допускаемое отклонение от НСХ: Максимально возможное отклонение ТЭДС термопары от номинального значения, удовлетворяющее техническим требованиям на термопару.

2.1 В настоящем стандарте применяются следующие обозначения и сокращения:

Обозначение типа термопары по [4]	Обозначение промышленного термопреобразователя
R	ТПП (Платина — 13 % родий/платина)
S	ТПП (Платина — 10 % родий/платина)
B	ТПР (Платина — 30 % родий/платина — 6 % родий)
J	ТЖК [Железо/медь — никель (железо/константан)]
T	ТМК [Медь/медь — никель (медь/константан)]
E	ТХКн [Никель — хром/медь — никель (хромель/константан)]
K	ТХА [Никель — хром/никель — алюминий (хромель/алюмель)]
N	ТНН [Никель — хром — кремний/никель — кремний (нихросил/нисил)]
A(A-1, A-2, A-3)	ТВР (Вольфрам — рений/вольфрам — рений)
L	ТХК (Хромель/копель)
M	ТМК (Медь/копель)

НСХ — номинальные статические характеристики;

ТЭДС — термоэлектродвижущая сила.

Издание официальное

3 Общие положения

3.1 В настоящем стандарте НСХ преобразования термопар типов R, S, B, J, T, E, K, N, указанных в [1], и термопар типов A, L, M, применяемых в России, представлены значениями ТЭДС в зависимости от температур их рабочих концов при температуре свободных концов 0 °С.

3.2 Значения ТЭДС термопар в зависимости от температур их рабочих концов при температуре свободных концов 0 °С, рассчитаны по полиномам, аппроксимирующим эти зависимости.

3.3 Полиномы, аппроксимирующие НСХ преобразования типов термопар, и полиномы, аппроксимирующие обратную зависимость НСХ преобразования типов термопар (разности температур концов термопар от их ТЭДС для указанных в 3.1 типов термопар и соответствующих температурных диапазонов), приведены в приложении А.

3.4 Погрешность расчета значений ТЭДС по приведенным полиномам не превышает одной единицы в последней значащей цифре приведенных в таблицах настоящего стандарта значений ТЭДС.

3.5 Химический состав термоэлектродного материала термопар, ТЭДС которых приведена в таблицах настоящего стандарта, приведен в приложении Б.

3.6 Пределы допускаемых отклонений ТЭДС термопар от номинальных значений статических характеристик в температурном эквиваленте приведены в приложении В.

4 Значения ТЭДС термопар типов R, S, B, J, T, E, K, N, A, L, M

4.1 Значения ТЭДС термопар типов R, S, B, J, T, E, K, N, A-1, A-2, A-3, L, M в зависимости от температур их рабочих концов при температуре свободных концов 0°С приведены в таблицах 1—13.

Таблица 1 — Значения ТЭДС для термопары типа R (платина — 13 % родий/платина)

ТЭДС в мВ при температуре свободного конца 0 °С											
Температура рабочего конца, °С	0	1	2	3	4	5	6	7	8	9	10
—50	—0,226										
—40	—0,188	—0,192	—0,196	—0,200	—0,204	—0,208	—0,211	—0,215	—0,219	—0,223	—0,226
—30	—0,145	—0,150	—0,154	—0,158	—0,163	—0,167	—0,171	—0,175	—0,180	—0,184	—0,188
—20	—0,100	—0,105	—0,109	—0,114	—0,119	—0,123	—0,128	—0,132	—0,137	—0,141	—0,145
—10	—0,051	—0,056	—0,061	—0,066	—0,071	—0,076	—0,081	—0,086	—0,091	—0,095	—0,100
0	0,000	—0,005	—0,011	—0,016	—0,021	—0,026	—0,031	—0,036	—0,041	—0,046	—0,051
0	0,000	0,005	0,011	0,016	0,021	0,027	0,032	0,038	0,043	0,049	0,054
10	0,054	0,060	0,065	0,071	0,077	0,082	0,088	0,094	0,100	0,105	0,111
20	0,111	0,117	0,123	0,129	0,135	0,141	0,147	0,153	0,159	0,165	0,171
30	0,171	0,177	0,183	0,189	0,195	0,201	0,207	0,214	0,220	0,226	0,232
40	0,232	0,239	0,245	0,251	0,258	0,264	0,271	0,277	0,284	0,290	0,296
50	0,296	0,303	0,310	0,316	0,323	0,329	0,336	0,343	0,349	0,356	0,363
60	0,363	0,369	0,376	0,383	0,390	0,397	0,403	0,410	0,417	0,424	0,431
70	0,431	0,438	0,445	0,452	0,459	0,466	0,473	0,480	0,487	0,494	0,501
80	0,501	0,508	0,516	0,523	0,530	0,537	0,544	0,552	0,559	0,566	0,573
90	0,573	0,581	0,588	0,595	0,603	0,610	0,618	0,625	0,632	0,640	0,647

Продолжение таблицы 1

ТЭДС в мВ при температуре свободного конца 0 °С											
Температура рабочего конца, °С	0	1	2	3	4	5	6	7	8	9	10
100	0,647	0,655	0,662	0,670	0,677	0,685	0,693	0,700	0,708	0,715	0,723
110	0,723	0,731	0,738	0,746	0,754	0,761	0,769	0,777	0,785	0,792	0,800
120	0,800	0,808	0,816	0,824	0,832	0,839	0,847	0,855	0,863	0,871	0,879
130	0,879	0,887	0,895	0,903	0,911	0,919	0,927	0,935	0,943	0,951	0,959
140	0,959	0,967	0,976	0,984	0,992	1,000	1,008	1,016	1,025	1,033	1,041
150	1,041	1,049	1,058	1,066	1,074	1,082	1,091	1,099	1,107	1,116	1,124
160	1,124	1,132	1,141	1,149	1,158	1,166	1,175	1,183	1,191	1,200	1,208
170	1,208	1,217	1,225	1,234	1,242	1,251	1,260	1,268	1,277	1,285	1,294
180	1,294	1,303	1,311	1,320	1,329	1,337	1,346	1,355	1,363	1,372	1,381
190	1,381	1,389	1,398	1,407	1,416	1,424	1,433	1,442	1,451	1,460	1,469
200	1,469	1,477	1,486	1,495	1,504	1,513	1,522	1,531	1,540	1,549	1,558
210	1,558	1,567	1,575	1,584	1,593	1,602	1,611	1,620	1,629	1,639	1,648
220	1,648	1,657	1,666	1,675	1,684	1,693	1,702	1,711	1,720	1,729	1,739
230	1,739	1,748	1,757	1,766	1,775	1,784	1,794	1,803	1,812	1,821	1,831
240	1,831	1,840	1,849	1,858	1,868	1,877	1,886	1,895	1,905	1,914	1,923
250	1,923	1,933	1,942	1,951	1,961	1,970	1,980	1,989	1,998	2,008	2,017
260	2,017	2,027	2,036	2,046	2,055	2,064	2,074	2,083	2,093	2,102	2,112
270	2,112	2,121	2,131	2,140	2,150	2,159	2,169	2,179	2,188	2,198	2,207
280	2,207	2,217	2,226	2,236	2,246	2,255	2,265	2,275	2,284	2,294	2,304
290	2,304	2,313	2,323	2,333	2,342	2,352	2,362	2,371	2,381	2,391	2,401
300	2,401	2,410	2,420	2,430	2,440	2,449	2,459	2,469	2,479	2,488	2,498
310	2,498	2,508	2,518	2,528	2,538	2,547	2,557	2,567	2,577	2,587	2,597
320	2,597	2,607	2,617	2,626	2,636	2,646	2,656	2,666	2,676	2,686	2,696
330	2,696	2,706	2,716	2,726	2,736	2,746	2,756	2,766	2,776	2,786	2,796
340	2,796	2,806	2,816	2,826	2,836	2,846	2,856	2,866	2,876	2,886	2,896
350	2,896	2,906	2,916	2,926	2,937	2,947	2,957	2,967	2,977	2,987	2,997
360	2,997	3,007	3,018	3,028	3,038	3,048	3,058	3,068	3,079	3,089	3,099
370	3,099	3,109	3,119	3,130	3,140	3,150	3,160	3,171	3,181	3,191	3,201
380	3,201	3,212	3,222	3,232	3,242	3,253	3,263	3,273	3,284	3,294	3,304
390	3,304	3,315	3,325	3,335	3,346	3,356	3,366	3,377	3,387	3,397	3,408
400	3,408	3,418	3,428	3,439	3,449	3,460	3,470	3,480	3,491	3,501	3,512
410	3,512	3,522	3,533	3,543	3,553	3,564	3,574	3,585	3,595	3,606	3,616
420	3,616	3,627	3,637	3,648	3,658	3,669	3,679	3,690	3,700	3,711	3,721
430	3,721	3,732	3,742	3,753	3,764	3,774	3,785	3,795	3,806	3,816	3,827
440	3,827	3,838	3,848	3,859	3,869	3,880	3,891	3,901	3,912	3,922	3,933

Продолжение таблицы 1

ТЭДС в мВ при температуре свободного конца 0 °С											
Температура рабочего конца, °С	0	1	2	3	4	5	6	7	8	9	10
450	3,933	3,944	3,954	3,965	3,976	3,986	3,997	4,008	4,018	4,029	4,040
460	4,040	4,050	4,061	4,072	4,083	4,093	4,104	4,115	4,125	4,136	4,147
470	4,147	4,158	4,168	4,179	4,190	4,201	4,211	4,222	4,233	4,244	4,255
480	4,255	4,265	4,276	4,287	4,298	4,309	4,319	4,330	4,341	4,352	4,363
490	4,363	4,373	4,384	4,395	4,406	4,417	4,428	4,439	4,449	4,460	4,471
500	4,471	4,482	4,493	4,504	4,515	4,526	4,537	4,548	4,558	4,569	4,580
510	4,580	4,591	4,602	4,613	4,624	4,635	4,646	4,657	4,668	4,679	4,690
520	4,690	4,701	4,712	4,723	4,734	4,745	4,756	4,767	4,778	4,789	4,800
530	4,800	4,811	4,822	4,833	4,844	4,855	4,866	4,877	4,888	4,899	4,910
540	4,910	4,922	4,933	4,944	4,955	4,966	4,977	4,988	4,999	5,010	5,021
550	5,021	5,033	5,044	5,055	5,066	5,077	5,088	5,099	5,111	5,122	5,133
560	5,133	5,144	5,155	5,166	5,178	5,189	5,200	5,211	5,222	5,234	5,245
570	5,245	5,256	5,267	5,278	5,290	5,301	5,312	5,323	5,335	5,346	5,357
580	5,357	5,368	5,380	5,391	5,402	5,414	5,425	5,436	5,447	5,459	5,470
590	5,470	5,481	5,493	5,504	5,515	5,527	5,538	5,549	5,561	5,572	5,583
600	5,583	5,595	5,606	5,618	5,629	5,640	5,652	5,663	5,674	5,686	5,697
610	5,697	5,709	5,720	5,731	5,743	5,754	5,766	5,777	5,789	5,800	5,811
620	5,811	5,823	5,834	5,846	5,857	5,869	5,880	5,892	5,903	5,915	5,926
630	5,926	5,938	5,949	5,961	5,972	5,984	5,995	6,007	6,018	6,030	6,041
640	6,041	6,053	6,065	6,076	6,088	6,099	6,111	6,122	6,134	6,146	6,157
650	6,157	6,169	6,180	6,192	6,204	6,215	6,227	6,238	6,250	6,262	6,273
660	6,273	6,285	6,297	6,308	6,320	6,332	6,343	6,355	6,367	6,378	6,390
670	6,390	6,402	6,413	6,425	6,437	6,448	6,460	6,472	6,484	6,495	6,507
680	6,507	6,519	6,531	6,542	6,554	6,566	6,578	6,589	6,601	6,613	6,625
690	6,625	6,636	6,648	6,660	6,672	6,684	6,695	6,707	6,719	6,731	6,743
700	6,743	6,755	6,766	6,778	6,790	6,802	6,814	6,826	6,837	6,849	6,861
710	6,861	6,873	6,885	6,897	6,909	6,921	6,933	6,944	6,956	6,968	6,980
720	6,980	6,992	7,004	7,016	7,028	7,040	7,052	7,064	7,076	7,088	7,100
730	7,100	7,112	7,124	7,136	7,148	7,160	7,172	7,184	7,196	7,208	7,220
740	7,220	7,232	7,244	7,256	7,268	7,280	7,292	7,304	7,316	7,328	7,340
750	7,340	7,352	7,364	7,376	7,389	7,401	7,413	7,425	7,437	7,449	7,461
760	7,461	7,473	7,485	7,498	7,510	7,522	7,534	7,546	7,558	7,570	7,583
770	7,583	7,595	7,607	7,619	7,631	7,643	7,656	7,668	7,680	7,692	7,704
780	7,704	7,717	7,729	7,741	7,753	7,766	7,778	7,790	7,802	7,815	7,827
790	7,827	7,839	7,851	7,864	7,876	7,888	7,901	7,913	7,925	7,937	7,950

Продолжение таблицы 1

ТЭДС в мВ при температуре свободного конца 0 °С											
Температура рабочего конца, °С	0	1	2	3	4	5	6	7	8	9	10
800	7,950	7,962	7,974	7,987	7,999	8,011	8,024	8,036	8,048	8,061	8,073
810	8,073	8,085	8,098	8,110	8,123	8,135	8,147	8,160	8,172	8,185	8,197
820	8,197	8,209	8,222	8,234	8,247	8,259	8,272	8,284	8,296	8,309	8,321
830	8,321	8,334	8,346	8,359	8,371	8,384	8,396	8,409	8,421	8,434	8,446
840	8,446	8,459	8,471	8,484	8,496	8,509	8,521	8,534	8,546	8,559	8,571
850	8,571	8,584	8,596	8,609	8,622	8,634	8,647	8,659	8,672	8,685	8,697
860	8,697	8,710	8,722	8,735	8,748	8,760	8,773	8,785	8,798	8,811	8,823
870	8,823	8,836	8,849	8,861	8,874	8,887	8,899	8,912	8,925	8,937	8,950
880	8,950	8,963	8,975	8,988	9,001	9,014	9,026	9,039	9,052	9,064	9,077
890	9,077	9,090	9,103	9,115	9,128	9,141	9,154	9,166	9,179	9,192	9,205
900	9,205	9,218	9,230	9,243	9,256	9,269	9,282	9,294	9,307	9,320	9,333
910	9,333	9,346	9,359	9,371	9,384	9,397	9,410	9,423	9,436	9,449	9,461
920	9,461	9,474	9,487	9,500	9,513	9,526	9,539	9,552	9,565	9,577	9,590
930	9,590	9,603	9,616	9,629	9,642	9,655	9,668	9,681	9,694	9,707	9,720
940	9,720	9,733	9,746	9,759	9,772	9,785	9,798	9,811	9,824	9,837	9,850
950	9,850	9,863	9,876	9,889	9,902	9,915	9,928	9,941	9,954	9,967	9,980
960	9,980	9,993	10,006	10,019	10,032	10,045	10,059	10,072	10,085	10,098	10,111
970	10,111	10,124	10,137	10,150	10,163	10,176	10,190	10,203	10,216	10,229	10,242
980	10,242	10,255	10,268	10,282	10,295	10,308	10,321	10,334	10,347	10,361	10,374
990	10,374	10,387	10,400	10,413	10,427	10,440	10,453	10,466	10,479	10,493	10,506
1000	10,506	10,519	10,532	10,546	10,559	10,572	10,585	10,599	10,612	10,625	10,638
1010	10,638	10,652	10,665	10,678	10,692	10,705	10,718	10,731	10,745	10,758	10,771
1020	10,771	10,785	10,798	10,811	10,825	10,838	10,851	10,865	10,878	10,891	10,905
1030	10,905	10,918	10,931	10,945	10,958	10,972	10,985	10,998	11,012	11,025	11,038
1040	11,038	11,052	11,065	11,079	11,092	11,106	11,119	11,132	11,146	11,159	11,173
1050	11,173	11,186	11,200	11,213	11,226	11,240	11,253	11,267	11,280	11,294	11,307
1060	11,307	11,321	11,334	11,348	11,361	11,375	11,388	11,402	11,415	11,429	11,442
1070	11,442	11,456	11,469	11,483	11,496	11,510	11,524	11,537	11,551	11,564	11,578
1080	11,578	11,591	11,605	11,618	11,632	11,646	11,659	11,673	11,686	11,700	11,714
1090	11,714	11,727	11,741	11,754	11,768	11,782	11,795	11,809	11,822	11,836	11,850
1100	11,850	11,863	11,877	11,891	11,904	11,918	11,931	11,945	11,959	11,972	11,986
1110	11,986	12,000	12,013	12,027	12,041	12,054	12,068	12,082	12,096	12,109	12,123
1120	12,123	12,137	12,150	12,164	12,178	12,191	12,205	12,219	12,233	12,246	12,260
1130	12,260	12,274	12,288	12,301	12,315	12,329	12,342	12,356	12,370	12,384	12,397
1140	12,397	12,411	12,425	12,439	12,453	12,466	12,480	12,494	12,508	12,521	12,535

Продолжение таблицы 1

ТЭДС в мВ при температуре свободного конца 0 °С											
Температура рабочего конца, °С	0	1	2	3	4	5	6	7	8	9	10
1150	12,535	12,549	12,563	12,577	12,590	12,604	12,618	12,632	12,646	12,659	12,673
1160	12,673	12,687	12,701	12,715	12,729	12,742	12,756	12,770	12,784	12,798	12,812
1170	12,812	12,825	12,839	12,853	12,867	12,881	12,895	12,909	12,922	12,936	12,950
1180	12,950	12,964	12,978	12,992	13,006	13,019	13,033	13,047	13,061	13,075	13,089
1190	13,089	13,103	13,117	13,131	13,145	13,158	13,172	13,186	13,200	13,214	13,228
1200	13,228	13,242	13,256	13,270	13,284	13,298	13,311	13,325	13,339	13,353	13,367
1210	13,367	13,381	13,395	13,409	13,423	13,437	13,451	13,465	13,479	13,493	13,507
1220	13,507	13,521	13,535	13,549	13,563	13,577	13,590	13,604	13,618	13,632	13,646
1230	13,646	13,660	13,674	13,688	13,702	13,716	13,730	13,744	13,758	13,772	13,786
1240	13,786	13,800	13,814	13,828	13,842	13,856	13,870	13,884	13,898	13,912	13,926
1250	13,926	13,940	13,954	13,968	13,982	13,996	14,010	14,024	14,038	14,052	14,066
1260	14,066	14,081	14,095	14,109	14,123	14,137	14,151	14,165	14,179	14,193	14,207
1270	14,207	14,221	14,235	14,249	14,263	14,277	14,291	14,305	14,319	14,333	14,347
1280	14,347	14,361	14,375	14,390	14,404	14,418	14,432	14,446	14,460	14,474	14,488
1290	14,488	14,502	14,516	14,530	14,544	14,558	14,572	14,586	14,601	14,615	14,629
1300	14,629	14,643	14,657	14,671	14,685	14,699	14,713	14,727	14,741	14,755	14,770
1310	14,770	14,784	14,798	14,812	14,826	14,840	14,854	14,868	14,882	14,896	14,911
1320	14,911	14,925	14,939	14,953	14,967	14,981	14,995	15,009	15,023	15,037	15,052
1330	15,052	15,066	15,080	15,094	15,108	15,122	15,136	15,150	15,164	15,179	15,193
1340	15,193	15,207	15,221	15,235	15,249	15,263	15,277	15,291	15,306	15,320	15,334
1350	15,334	15,348	15,362	15,376	15,390	15,404	15,419	15,433	15,447	15,461	15,475
1360	15,475	15,489	15,503	15,517	15,531	15,546	15,560	15,574	15,588	15,602	15,616
1370	15,616	15,630	15,645	15,659	15,673	15,687	15,701	15,715	15,729	15,743	15,758
1380	15,758	15,772	15,786	15,800	15,814	15,828	15,842	15,856	15,871	15,885	15,899
1390	15,899	15,913	15,927	15,941	15,955	15,969	15,984	15,998	16,012	16,026	16,040
1400	16,040	16,054	16,068	16,082	16,097	16,111	16,125	16,139	16,153	16,167	16,181
1410	16,181	16,196	16,210	16,224	16,238	16,252	16,266	16,280	16,294	16,309	16,323
1420	16,323	16,337	16,351	16,365	16,379	16,393	16,407	16,422	16,436	16,450	16,464
1430	16,464	16,478	16,492	16,506	16,520	16,534	16,549	16,563	16,577	16,591	16,605
1440	16,605	16,619	16,633	16,647	16,662	16,676	16,690	16,704	16,718	16,732	16,746
1450	16,746	16,760	16,774	16,789	16,803	16,817	16,831	16,845	16,859	16,873	16,887
1460	16,887	16,901	16,915	16,930	16,944	16,958	16,972	16,986	17,000	17,014	17,028
1470	17,028	17,042	17,056	17,071	17,085	17,099	17,113	17,127	17,141	17,155	17,169
1480	17,169	17,183	17,197	17,211	17,225	17,240	17,254	17,268	17,282	17,296	17,310
1490	17,310	17,324	17,338	17,352	17,366	17,380	17,394	17,408	17,423	17,437	17,451

Окончание таблицы 1

ТЭДС в мВ при температуре свободного конца 0 °С											
Температура рабочего конца, °С	0	1	2	3	4	5	6	7	8	9	10
1500	17,451	17,465	17,479	17,493	17,507	17,521	17,535	17,549	17,563	17,577	17,591
1510	17,591	17,605	17,619	17,633	17,647	17,661	17,676	17,690	17,704	17,718	17,732
1520	17,732	17,746	17,760	17,774	17,788	17,802	17,816	17,830	17,844	17,858	17,872
1530	17,872	17,886	17,900	17,914	17,928	17,942	17,956	17,970	17,984	17,998	18,012
1540	18,012	18,026	18,040	18,054	18,068	18,082	18,096	18,110	18,124	18,138	18,152
1550	18,152	18,166	18,180	18,194	18,208	18,222	18,236	18,250	18,264	18,278	18,292
1560	18,292	18,306	18,320	18,334	18,348	18,362	18,376	18,390	18,404	18,417	18,431
1570	18,431	18,445	18,459	18,473	18,487	18,501	18,515	18,529	18,543	18,557	18,571
1580	18,571	18,585	18,599	18,613	18,627	18,640	18,654	18,668	18,682	18,696	18,710
1590	18,710	18,724	18,738	18,752	18,766	18,779	18,793	18,807	18,821	18,835	18,849
1600	18,849	18,863	18,877	18,891	18,904	18,918	18,932	18,946	18,960	18,974	18,988
1610	18,988	19,002	19,015	19,029	19,043	19,057	19,071	19,085	19,098	19,112	19,126
1620	19,126	19,140	19,154	19,168	19,181	19,195	19,209	19,223	19,237	19,250	19,264
1630	19,264	19,278	19,292	19,306	19,319	19,333	19,347	19,361	19,375	19,388	19,402
1640	19,402	19,416	19,430	19,444	19,457	19,471	19,485	19,499	19,512	19,526	19,540
1650	19,540	19,554	19,567	19,581	19,595	19,609	19,622	19,636	19,650	19,663	19,677
1660	19,677	19,691	19,705	19,718	19,732	19,746	19,759	19,773	19,787	19,800	19,814
1670	19,814	19,828	19,841	19,855	19,869	19,882	19,896	19,910	19,923	19,937	19,951
1680	19,951	19,964	19,978	19,992	20,005	20,019	20,032	20,046	20,060	20,073	20,087
1690	20,087	20,100	20,114	20,127	20,141	20,154	20,168	20,181	20,195	20,208	20,222
1700	20,222	20,235	20,249	20,262	20,275	20,289	20,302	20,316	20,329	20,342	20,356
1710	20,356	20,369	20,382	20,396	20,409	20,422	20,436	20,449	20,462	20,475	20,488
1720	20,488	20,502	20,515	20,528	20,541	20,554	20,567	20,581	20,594	20,607	20,620
1730	20,620	20,633	20,646	20,659	20,672	20,685	20,698	20,711	20,724	20,736	20,749
1740	20,749	20,762	20,775	20,788	20,801	20,813	20,826	20,839	20,852	20,864	20,877
1750	20,877	20,890	20,902	20,915	20,928	20,940	20,953	20,965	20,978	20,990	21,003
1760	21,003	21,015	21,027	21,040	21,052	21,065	21,077	21,089	21,101		

Таблица 2 — Значения ТЭДС для термопары типа S (платина — 10 % родий/платина)

ТЭДС в мВ при температуре свободного конца 0 °С											
Температура рабочего конца, °С	0	1	2	3	4	5	6	7	8	9	10
—50	—0,236										
—40	—0,194	—0,199	—0,203	—0,207	—0,211	—0,215	—0,219	—0,224	—0,228	—0,232	—0,236
—30	—0,150	—0,155	—0,159	—0,164	—0,168	—0,173	—0,177	—0,181	—0,186	—0,190	—0,194
—20	—0,103	—0,108	—0,113	—0,117	—0,122	—0,127	—0,132	—0,136	—0,141	—0,146	—0,150
—10	—0,053	—0,058	—0,063	—0,068	—0,073	—0,078	—0,083	—0,088	—0,093	—0,098	—0,103
0	0,000	—0,005	—0,011	—0,016	—0,021	—0,027	—0,032	—0,037	—0,042	—0,048	—0,053
0	0,000	0,005	0,011	0,016	0,022	0,027	0,033	0,038	0,044	0,050	0,055
10	0,055	0,061	0,067	0,072	0,078	0,084	0,090	0,095	0,101	0,107	0,113
20	0,113	0,119	0,125	0,131	0,137	0,143	0,149	0,155	0,161	0,167	0,173
30	0,173	0,179	0,185	0,191	0,197	0,204	0,210	0,216	0,222	0,229	0,235
40	0,235	0,241	0,248	0,254	0,260	0,267	0,273	0,280	0,286	0,292	0,299
50	0,299	0,305	0,312	0,319	0,325	0,332	0,338	0,345	0,352	0,358	0,365
60	0,365	0,372	0,378	0,385	0,392	0,399	0,405	0,412	0,419	0,426	0,433
70	0,433	0,440	0,446	0,453	0,460	0,467	0,474	0,481	0,488	0,495	0,502
80	0,502	0,509	0,516	0,523	0,530	0,538	0,545	0,552	0,559	0,566	0,573
90	0,573	0,580	0,588	0,595	0,602	0,609	0,617	0,624	0,631	0,639	0,646
100	0,646	0,653	0,661	0,668	0,675	0,683	0,690	0,698	0,705	0,713	0,720
110	0,720	0,727	0,735	0,743	0,750	0,758	0,765	0,773	0,780	0,788	0,795
120	0,795	0,803	0,811	0,818	0,826	0,834	0,841	0,849	0,857	0,865	0,872
130	0,872	0,880	0,888	0,896	0,903	0,911	0,919	0,927	0,935	0,942	0,950
140	0,950	0,958	0,966	0,974	0,982	0,990	0,998	1,006	1,013	1,021	1,029
150	1,029	1,037	1,045	1,053	1,061	1,069	1,077	1,085	1,094	1,102	1,110
160	1,110	1,118	1,126	1,134	1,142	1,150	1,158	1,167	1,175	1,183	1,191
170	1,191	1,199	1,207	1,216	1,224	1,232	1,240	1,249	1,257	1,265	1,273
180	1,273	1,282	1,290	1,298	1,307	1,315	1,323	1,332	1,340	1,348	1,357
190	1,357	1,365	1,373	1,382	1,390	1,399	1,407	1,415	1,424	1,432	1,441
200	1,441	1,449	1,458	1,466	1,475	1,483	1,492	1,500	1,509	1,517	1,526
210	1,526	1,534	1,543	1,551	1,560	1,569	1,577	1,586	1,594	1,603	1,612
220	1,612	1,620	1,629	1,638	1,646	1,655	1,663	1,672	1,681	1,690	1,698
230	1,698	1,707	1,716	1,724	1,733	1,742	1,751	1,759	1,768	1,777	1,786
240	1,786	1,794	1,803	1,812	1,821	1,829	1,838	1,847	1,856	1,865	1,874
250	1,874	1,882	1,891	1,900	1,909	1,918	1,927	1,936	1,944	1,953	1,962
260	1,962	1,971	1,980	1,989	1,998	2,007	2,016	2,025	2,034	2,043	2,052
270	2,052	2,061	2,070	2,078	2,087	2,096	2,105	2,114	2,123	2,132	2,141
280	2,141	2,151	2,160	2,169	2,178	2,187	2,196	2,205	2,214	2,223	2,232
290	2,232	2,241	2,250	2,259	2,268	2,277	2,287	2,296	2,305	2,314	2,323

Продолжение таблицы 2

ТЭДС в мВ при температуре свободного конца 0 °С											
Температура рабочего конца, °С	0	1	2	3	4	5	6	7	8	9	10
300	2,323	2,332	2,341	2,350	2,360	2,369	2,378	2,387	2,396	2,405	2,415
310	2,415	2,424	2,433	2,442	2,451	2,461	2,470	2,479	2,488	2,497	2,507
320	2,507	2,516	2,525	2,534	2,544	2,553	2,562	2,571	2,581	2,590	2,599
330	2,599	2,609	2,618	2,627	2,636	2,646	2,655	2,664	2,674	2,683	2,692
340	2,692	2,702	2,711	2,720	2,730	2,739	2,748	2,758	2,767	2,776	2,786
350	2,786	2,795	2,805	2,814	2,823	2,833	2,842	2,851	2,861	2,870	2,880
360	2,880	2,889	2,899	2,908	2,917	2,927	2,936	2,946	2,955	2,965	2,974
370	2,974	2,983	2,993	3,002	3,012	3,021	3,031	3,040	3,050	3,059	3,069
380	3,069	3,078	3,088	3,097	3,107	3,116	3,126	3,135	3,145	3,154	3,164
390	3,164	3,173	3,183	3,192	3,202	3,212	3,221	3,231	3,240	3,250	3,259
400	3,259	3,269	3,279	3,288	3,298	3,307	3,317	3,326	3,336	3,346	3,355
410	3,355	3,365	3,374	3,384	3,394	3,403	3,413	3,423	3,432	3,442	3,451
420	3,451	3,461	3,471	3,480	3,490	3,500	3,509	3,519	3,529	3,538	3,548
430	3,548	3,558	3,567	3,577	3,587	3,596	3,606	3,616	3,626	3,635	3,645
440	3,645	3,655	3,664	3,674	3,684	3,694	3,703	3,713	3,723	3,732	3,742
450	3,742	3,752	3,762	3,771	3,781	3,791	3,801	3,810	3,820	3,830	3,840
460	3,840	3,850	3,859	3,869	3,879	3,889	3,898	3,908	3,918	3,928	3,938
470	3,938	3,947	3,957	3,967	3,977	3,987	3,997	4,006	4,016	4,026	4,036
480	4,036	4,046	4,056	4,065	4,075	4,085	4,095	4,105	4,115	4,125	4,134
490	4,134	4,144	4,154	4,164	4,174	4,184	4,194	4,204	4,213	4,223	4,233
500	4,233	4,243	4,253	4,263	4,273	4,283	4,293	4,303	4,313	4,323	4,332
510	4,332	4,342	4,352	4,362	4,372	4,382	4,392	4,402	4,412	4,422	4,432
520	4,432	4,442	4,452	4,462	4,472	4,482	4,492	4,502	4,512	4,522	4,532
530	4,532	4,542	4,552	4,562	4,572	4,582	4,592	4,602	4,612	4,622	4,632
540	4,632	4,642	4,652	4,662	4,672	4,682	4,692	4,702	4,712	4,722	4,732
550	4,732	4,742	4,752	4,762	4,772	4,782	4,793	4,803	4,813	4,823	4,833
560	4,833	4,843	4,853	4,863	4,873	4,883	4,893	4,904	4,914	4,924	4,934
570	4,934	4,944	4,954	4,964	4,974	4,984	4,995	5,005	5,015	5,025	5,035
580	5,035	5,045	5,055	5,066	5,076	5,086	5,096	5,106	5,116	5,127	5,137
590	5,137	5,147	5,157	5,167	5,178	5,188	5,198	5,208	5,218	5,228	5,239
600	5,239	5,249	5,259	5,269	5,280	5,290	5,300	5,310	5,320	5,331	5,341
610	5,341	5,351	5,361	5,372	5,382	5,392	5,402	5,413	5,423	5,433	5,443
620	5,443	5,454	5,464	5,474	5,485	5,495	5,505	5,515	5,526	5,536	5,546
630	5,546	5,557	5,567	5,577	5,588	5,598	5,608	5,618	5,629	5,639	5,649
640	5,649	5,660	5,670	5,680	5,691	5,701	5,712	5,722	5,732	5,743	5,753

Продолжение таблицы 2

ТЭДС в мВ при температуре свободного конца 0 °С											
Температура рабочего конца, °С	0	1	2	3	4	5	6	7	8	9	10
650	5,753	5,763	5,774	5,784	5,794	5,805	5,815	5,826	5,836	5,846	5,857
660	5,857	5,867	5,878	5,888	5,898	5,909	5,919	5,930	5,940	5,950	5,961
670	5,961	5,971	5,982	5,992	6,003	6,013	6,024	6,034	6,044	6,055	6,065
680	6,065	6,076	6,086	6,097	6,107	6,118	6,128	6,139	6,149	6,160	6,170
690	6,170	6,181	6,191	6,202	6,212	6,223	6,233	6,244	6,254	6,265	6,275
700	6,275	6,286	6,296	6,307	6,317	6,328	6,338	6,349	6,360	6,370	6,381
710	6,381	6,391	6,402	6,412	6,423	6,434	6,444	6,455	6,465	6,476	6,486
720	6,486	6,497	6,508	6,518	6,529	6,539	6,550	6,561	6,571	6,582	6,593
730	6,593	6,603	6,614	6,624	6,635	6,646	6,656	6,667	6,678	6,688	6,699
740	6,699	6,710	6,720	6,731	6,742	6,752	6,763	6,774	6,784	6,795	6,806
750	6,806	6,817	6,827	6,838	6,849	6,859	6,870	6,881	6,892	6,902	6,913
760	6,913	6,924	6,934	6,945	6,956	6,967	6,977	6,988	6,999	7,010	7,020
770	7,020	7,031	7,042	7,053	7,064	7,074	7,085	7,096	7,107	7,117	7,128
780	7,128	7,139	7,150	7,161	7,172	7,182	7,193	7,204	7,215	7,226	7,236
790	7,236	7,247	7,258	7,269	7,280	7,291	7,302	7,312	7,323	7,334	7,345
800	7,345	7,356	7,367	7,378	7,388	7,399	7,410	7,421	7,432	7,443	7,454
810	7,454	7,465	7,476	7,487	7,497	7,508	7,519	7,530	7,541	7,552	7,563
820	7,563	7,574	7,585	7,596	7,607	7,618	7,629	7,640	7,651	7,662	7,673
830	7,673	7,684	7,695	7,706	7,717	7,728	7,739	7,750	7,761	7,772	7,783
840	7,783	7,794	7,805	7,816	7,827	7,838	7,849	7,860	7,871	7,882	7,893
850	7,893	7,904	7,915	7,926	7,937	7,948	7,959	7,970	7,981	7,992	8,003
860	8,003	8,014	8,026	8,037	8,048	8,059	8,070	8,081	8,092	8,103	8,114
870	8,114	8,125	8,137	8,148	8,159	8,170	8,181	8,192	8,203	8,214	8,226
880	8,226	8,237	8,248	8,259	8,270	8,281	8,293	8,304	8,315	8,326	8,337
890	8,337	8,348	8,360	8,371	8,382	8,393	8,404	8,416	8,427	8,438	8,449
900	8,449	8,460	8,472	8,483	8,494	8,505	8,517	8,528	8,539	8,550	8,562
910	8,562	8,573	8,584	8,595	8,607	8,618	8,629	8,640	8,652	8,663	8,674
920	8,674	8,685	8,697	8,708	8,719	8,731	8,742	8,753	8,765	8,776	8,787
930	8,787	8,798	8,810	8,821	8,832	8,844	8,855	8,866	8,878	8,889	8,900
940	8,900	8,912	8,923	8,935	8,946	8,957	8,969	8,980	8,991	9,003	9,014
950	9,014	9,025	9,037	9,048	9,060	9,071	9,082	9,094	9,105	9,117	9,128
960	9,128	9,139	9,151	9,162	9,174	9,185	9,197	9,208	9,219	9,231	9,242
970	9,242	9,254	9,265	9,277	9,288	9,300	9,311	9,323	9,334	9,345	9,357
980	9,357	9,368	9,380	9,391	9,403	9,414	9,426	9,437	9,449	9,460	9,472
990	9,472	9,483	9,495	9,506	9,518	9,529	9,541	9,552	9,564	9,576	9,587

Продолжение таблицы 2

ТЭДС в мВ при температуре свободного конца 0 °С											
Температура рабочего конца, °С	0	1	2	3	4	5	6	7	8	9	10
1000	9,587	9,599	9,610	9,622	9,633	9,645	9,656	9,668	9,680	9,691	9,703
1010	9,703	9,714	9,726	9,737	9,749	9,761	9,772	9,784	9,795	9,807	9,819
1020	9,819	9,830	9,842	9,853	9,865	9,877	9,888	9,900	9,911	9,923	9,935
1030	9,935	9,946	9,958	9,970	9,981	9,993	10,005	10,016	10,028	10,040	10,051
1040	10,051	10,063	10,075	10,086	10,098	10,110	10,121	10,133	10,145	10,156	10,168
1050	10,168	10,180	10,191	10,203	10,215	10,227	10,238	10,250	10,262	10,273	10,285
1060	10,285	10,297	10,309	10,320	10,332	10,344	10,356	10,367	10,379	10,391	10,403
1070	10,403	10,414	10,426	10,438	10,450	10,461	10,473	10,485	10,497	10,509	10,520
1080	10,520	10,532	10,544	10,556	10,567	10,579	10,591	10,603	10,615	10,626	10,638
1090	10,638	10,650	10,662	10,674	10,686	10,697	10,709	10,721	10,733	10,745	10,757
1100	10,757	10,768	10,780	10,792	10,804	10,816	10,828	10,839	10,851	10,863	10,875
1110	10,875	10,887	10,899	10,911	10,922	10,934	10,946	10,958	10,970	10,982	10,994
1120	10,994	11,006	11,017	11,029	11,041	11,053	11,065	11,077	11,089	11,101	11,113
1130	11,113	11,125	11,136	11,148	11,160	11,172	11,184	11,196	11,208	11,220	11,232
1140	11,232	11,244	11,256	11,268	11,280	11,291	11,303	11,315	11,327	11,339	11,351
1150	11,351	11,363	11,375	11,387	11,399	11,411	11,423	11,435	11,447	11,459	11,471
1160	11,471	11,483	11,495	11,507	11,519	11,531	11,542	11,554	11,566	11,578	11,590
1170	11,590	11,602	11,614	11,626	11,638	11,650	11,662	11,674	11,686	11,698	11,710
1180	11,710	11,722	11,734	11,746	11,758	11,770	11,782	11,794	11,806	11,818	11,830
1190	11,830	11,842	11,854	11,866	11,878	11,890	11,902	11,914	11,926	11,939	11,951
1200	11,951	11,963	11,975	11,987	11,999	12,011	12,023	12,035	12,047	12,059	12,071
1210	12,071	12,083	12,095	12,107	12,119	12,131	12,143	12,155	12,167	12,179	12,191
1220	12,191	12,203	12,216	12,228	12,240	12,252	12,264	12,276	12,288	12,300	12,312
1230	12,312	12,324	12,336	12,348	12,360	12,372	12,384	12,397	12,409	12,421	12,433
1240	12,433	12,445	12,457	12,469	12,481	12,493	12,505	12,517	12,529	12,542	12,554
1250	12,554	12,566	12,578	12,590	12,602	12,614	12,626	12,638	12,650	12,662	12,675
1260	12,675	12,687	12,699	12,711	12,723	12,735	12,747	12,759	12,771	12,783	12,796
1270	12,796	12,808	12,820	12,832	12,844	12,856	12,868	12,880	12,892	12,905	12,917
1280	12,917	12,929	12,941	12,953	12,965	12,977	12,989	13,001	13,014	13,026	13,038
1290	13,038	13,050	13,062	13,074	13,086	13,098	13,111	13,123	13,135	13,147	13,159
1300	13,159	13,171	13,183	13,195	13,208	13,220	13,232	13,244	13,256	13,268	13,280
1310	13,280	13,292	13,305	13,317	13,329	13,341	13,353	13,365	13,377	13,390	13,402
1320	13,402	13,414	13,426	13,438	13,450	13,462	13,474	13,487	13,499	13,511	13,523
1330	13,523	13,535	13,547	13,559	13,572	13,584	13,596	13,608	13,620	13,632	13,644
1340	13,644	13,657	13,669	13,681	13,693	13,705	13,717	13,729	13,742	13,754	13,766

Продолжение таблицы 2

ТЭДС в мВ при температуре свободного конца 0 °С											
Температура рабочего конца, °С	0	1	2	3	4	5	6	7	8	9	10
1350	13,766	13,778	13,790	13,802	13,814	13,826	13,839	13,851	13,863	13,875	13,887
1360	13,887	13,899	13,911	13,924	13,936	13,948	13,960	13,972	13,984	13,996	14,009
1370	14,009	14,021	14,033	14,045	14,057	14,069	14,081	14,094	14,106	14,118	14,130
1380	14,130	14,142	14,154	14,166	14,178	14,191	14,203	14,215	14,227	14,239	14,251
1390	14,251	14,263	14,276	14,288	14,300	14,312	14,324	14,336	14,348	14,360	14,373
1400	14,373	14,385	14,397	14,409	14,421	14,433	14,445	14,457	14,470	14,482	14,494
1410	14,494	14,506	14,518	14,530	14,542	14,554	14,567	14,579	14,591	14,603	14,615
1420	14,615	14,627	14,639	14,651	14,664	14,676	14,688	14,700	14,712	14,724	14,736
1430	14,736	14,748	14,760	14,773	14,785	14,797	14,809	14,821	14,833	14,845	14,857
1440	14,857	14,869	14,881	14,894	14,906	14,918	14,930	14,942	14,954	14,966	14,978
1450	14,978	14,990	15,002	15,015	15,027	15,039	15,051	15,063	15,075	15,087	15,099
1460	15,099	15,111	15,123	15,135	15,148	15,160	15,172	15,184	15,196	15,208	15,220
1470	15,220	15,232	15,244	15,256	15,268	15,280	15,292	15,304	15,317	15,329	15,341
1480	15,341	15,353	15,365	15,377	15,389	15,401	15,413	15,425	15,437	15,449	15,461
1490	15,461	15,473	15,485	15,497	15,509	15,521	15,534	15,546	15,558	15,570	15,582
1500	15,582	15,594	15,606	15,618	15,630	15,642	15,654	15,666	15,678	15,690	15,702
1510	15,702	15,714	15,726	15,738	15,750	15,762	15,774	15,786	15,798	15,810	15,822
1520	15,822	15,834	15,846	15,858	15,870	15,882	15,894	15,906	15,918	15,930	15,942
1530	15,942	15,954	15,966	15,978	15,990	16,002	16,014	16,026	16,038	16,050	16,062
1540	16,062	16,074	16,086	16,098	16,110	16,122	16,134	16,146	16,158	16,170	16,182
1550	16,182	16,194	16,205	16,217	16,229	16,241	16,253	16,265	16,277	16,289	16,301
1560	16,301	16,313	16,325	16,337	16,349	16,361	16,373	16,385	16,396	16,408	16,420
1570	16,420	16,432	16,444	16,456	16,468	16,480	16,492	16,504	16,516	16,527	16,539
1580	16,539	16,551	16,563	16,575	16,587	16,599	16,611	16,623	16,634	16,646	16,658
1590	16,658	16,670	16,682	16,694	16,706	16,718	16,729	16,741	16,753	16,765	16,777
1600	16,777	16,789	16,801	16,812	16,824	16,836	16,848	16,860	16,872	16,883	16,895
1610	16,895	16,907	16,919	16,931	16,943	16,954	16,966	16,978	16,990	17,002	17,013
1620	17,013	17,025	17,037	17,049	17,061	17,072	17,084	17,096	17,108	17,120	17,131
1630	17,131	17,143	17,155	17,167	17,178	17,190	17,202	17,214	17,225	17,237	17,249
1640	17,249	17,261	17,272	17,284	17,296	17,308	17,319	17,331	17,343	17,355	17,366
1650	17,366	17,378	17,390	17,401	17,413	17,425	17,437	17,448	17,460	17,472	17,483
1660	17,483	17,495	17,507	17,518	17,530	17,542	17,553	17,565	17,577	17,588	17,600
1670	17,600	17,612	17,623	17,635	17,647	17,658	17,670	17,682	17,693	17,705	17,717
1680	17,717	17,728	17,740	17,751	17,763	17,775	17,786	17,798	17,809	17,821	17,832
1690	17,832	17,844	17,855	17,867	17,878	17,890	17,901	17,913	17,924	17,936	17,947

Окончание таблицы 2

ТЭДС в мВ при температуре свободного конца 0 °С											
Температура рабочего конца, °С	0	1	2	3	4	5	6	7	8	9	10
1700	17,947	17,959	17,970	17,982	17,993	18,004	18,016	18,027	18,039	18,050	18,061
1710	18,061	18,073	18,084	18,095	18,107	18,118	18,129	18,140	18,152	18,163	18,174
1720	18,174	18,185	18,196	18,208	18,219	18,230	18,241	18,252	18,263	18,274	18,285
1730	18,285	18,297	18,308	18,319	18,330	18,341	18,352	18,362	18,373	18,384	18,395
1740	18,395	18,406	18,417	18,428	18,439	18,449	18,460	18,471	18,482	18,493	18,503
1750	18,503	18,514	18,525	18,535	18,546	18,557	18,567	18,578	18,588	18,599	18,609
1760	18,609	18,620	18,630	18,641	18,651	18,661	18,672	18,682	18,693		

Таблица 3 — Значения ТЭДС для термопары типа В (платина — 30 % родий/платина — 6 % родий)

ТЭДС в мВ при температуре свободного конца 0 °С											
Температура рабочего конца, °С	0	1	2	3	4	5	6	7	8	9	10
0	0,000	0,000	0,000	—0,001	—0,001	—0,001	—0,001	—0,001	—0,002	—0,002	—0,002
10	—0,002	—0,002	—0,002	—0,002	—0,002	—0,002	—0,002	—0,002	—0,003	—0,003	—0,003
20	—0,003	—0,003	—0,003	—0,003	—0,003	—0,002	—0,002	—0,002	—0,002	—0,002	—0,002
30	—0,002	—0,002	—0,002	—0,002	—0,002	—0,001	—0,001	—0,001	—0,001	—0,001	0,000
40	0,000	0,000	0,000	0,000	0,000	0,001	0,001	0,001	0,002	0,002	0,002
50	0,002	0,003	0,003	0,003	0,004	0,004	0,004	0,005	0,005	0,006	0,006
60	0,006	0,007	0,007	0,008	0,008	0,009	0,009	0,010	0,010	0,011	0,011
70	0,011	0,012	0,012	0,013	0,014	0,014	0,015	0,015	0,016	0,017	0,017
80	0,017	0,018	0,019	0,020	0,020	0,021	0,022	0,022	0,023	0,024	0,025
90	0,025	0,026	0,026	0,027	0,028	0,029	0,030	0,031	0,031	0,032	0,033
100	0,033	0,034	0,035	0,036	0,037	0,038	0,039	0,040	0,041	0,042	0,043
110	0,043	0,044	0,045	0,046	0,047	0,048	0,049	0,050	0,051	0,052	0,053
120	0,053	0,055	0,056	0,057	0,058	0,059	0,060	0,062	0,063	0,064	0,065
130	0,065	0,066	0,068	0,069	0,070	0,072	0,073	0,074	0,075	0,077	0,078
140	0,078	0,079	0,081	0,082	0,084	0,085	0,086	0,088	0,089	0,091	0,092
150	0,092	0,094	0,095	0,096	0,098	0,099	0,101	0,102	0,104	0,106	0,107
160	0,107	0,109	0,110	0,112	0,113	0,115	0,117	0,118	0,120	0,122	0,123
170	0,123	0,125	0,127	0,128	0,130	0,132	0,134	0,135	0,137	0,139	0,141
180	0,141	0,142	0,144	0,146	0,148	0,150	0,151	0,153	0,155	0,157	0,159
190	0,159	0,161	0,163	0,165	0,166	0,168	0,170	0,172	0,174	0,176	0,178

Продолжение таблицы 3

ТЭДС в мВ при температуре свободного конца 0 °С											
Температура рабочего конца, °С	0	1	2	3	4	5	6	7	8	9	10
200	0,178	0,180	0,182	0,184	0,186	0,188	0,190	0,192	0,195	0,197	0,199
210	0,199	0,201	0,203	0,205	0,207	0,209	0,212	0,214	0,216	0,218	0,220
220	0,220	0,222	0,225	0,227	0,229	0,231	0,234	0,236	0,238	0,241	0,243
230	0,243	0,245	0,248	0,250	0,252	0,255	0,257	0,259	0,262	0,264	0,267
240	0,267	0,269	0,271	0,274	0,276	0,279	0,281	0,284	0,286	0,289	0,291
250	0,291	0,294	0,296	0,299	0,301	0,304	0,307	0,309	0,312	0,314	0,317
260	0,317	0,320	0,322	0,325	0,328	0,330	0,333	0,336	0,338	0,341	0,344
270	0,344	0,347	0,349	0,352	0,355	0,358	0,360	0,363	0,366	0,369	0,372
280	0,372	0,375	0,377	0,380	0,383	0,386	0,389	0,392	0,395	0,398	0,401
290	0,401	0,404	0,407	0,410	0,413	0,416	0,419	0,422	0,425	0,428	0,431
300	0,431	0,434	0,437	0,440	0,443	0,446	0,449	0,452	0,455	0,458	0,462
310	0,462	0,465	0,468	0,471	0,474	0,478	0,481	0,484	0,487	0,490	0,494
320	0,494	0,497	0,500	0,503	0,507	0,510	0,513	0,517	0,520	0,523	0,527
330	0,527	0,530	0,533	0,537	0,540	0,544	0,547	0,550	0,554	0,557	0,561
340	0,561	0,564	0,568	0,571	0,575	0,578	0,582	0,585	0,589	0,592	0,596
350	0,596	0,599	0,603	0,607	0,610	0,614	0,617	0,621	0,625	0,628	0,632
360	0,632	0,636	0,639	0,643	0,647	0,650	0,654	0,658	0,662	0,665	0,669
370	0,669	0,673	0,677	0,680	0,684	0,688	0,692	0,696	0,700	0,703	0,707
380	0,707	0,711	0,715	0,719	0,723	0,727	0,731	0,735	0,738	0,742	0,746
390	0,746	0,750	0,754	0,758	0,762	0,766	0,770	0,774	0,778	0,782	0,787
400	0,787	0,791	0,795	0,799	0,803	0,807	0,811	0,815	0,819	0,824	0,828
410	0,828	0,832	0,836	0,840	0,844	0,849	0,853	0,857	0,861	0,866	0,870
420	0,870	0,874	0,878	0,883	0,887	0,891	0,896	0,900	0,904	0,909	0,913
430	0,913	0,917	0,922	0,926	0,930	0,935	0,939	0,944	0,948	0,953	0,957
440	0,957	0,961	0,966	0,970	0,975	0,979	0,984	0,988	0,993	0,997	1,002
450	1,002	1,007	1,011	1,016	1,020	1,025	1,030	1,034	1,039	1,043	1,048
460	1,048	1,053	1,057	1,062	1,067	1,071	1,076	1,081	1,086	1,090	1,095
470	1,095	1,100	1,105	1,109	1,114	1,119	1,124	1,129	1,133	1,138	1,143
480	1,143	1,148	1,153	1,158	1,163	1,167	1,172	1,177	1,182	1,187	1,192
490	1,192	1,197	1,202	1,207	1,212	1,217	1,222	1,227	1,232	1,237	1,242
500	1,242	1,247	1,252	1,257	1,262	1,267	1,272	1,277	1,282	1,288	1,293
510	1,293	1,298	1,303	1,308	1,313	1,318	1,324	1,329	1,334	1,339	1,344
520	1,344	1,350	1,355	1,360	1,365	1,371	1,376	1,381	1,387	1,392	1,397
530	1,397	1,402	1,408	1,413	1,418	1,424	1,429	1,435	1,440	1,445	1,451
540	1,451	1,456	1,462	1,467	1,472	1,478	1,483	1,489	1,494	1,500	1,505

Продолжение таблицы 3

ТЭДС в мВ при температуре свободного конца 0 °С											
Температура рабочего конца, °С	0	1	2	3	4	5	6	7	8	9	10
550	1,505	1,511	1,516	1,522	1,527	1,533	1,539	1,544	1,550	1,555	1,561
560	1,561	1,566	1,572	1,578	1,583	1,589	1,595	1,600	1,606	1,612	1,617
570	1,617	1,623	1,629	1,634	1,640	1,646	1,652	1,657	1,663	1,669	1,675
580	1,675	1,680	1,686	1,692	1,698	1,704	1,709	1,715	1,721	1,727	1,733
590	1,733	1,739	1,745	1,750	1,756	1,762	1,768	1,774	1,780	1,786	1,792
600	1,792	1,798	1,804	1,810	1,816	1,822	1,828	1,834	1,840	1,846	1,852
610	1,852	1,858	1,864	1,870	1,876	1,882	1,888	1,894	1,901	1,907	1,913
620	1,913	1,919	1,925	1,931	1,937	1,944	1,950	1,956	1,962	1,968	1,975
630	1,975	1,981	1,987	1,993	1,999	2,006	2,012	2,018	2,025	2,031	2,037
640	2,037	2,043	2,050	2,056	2,062	2,069	2,075	2,082	2,088	2,094	2,101
650	2,101	2,107	2,113	2,120	2,126	2,133	2,139	2,146	2,152	2,158	2,165
660	2,165	2,171	2,178	2,184	2,191	2,197	2,204	2,210	2,217	2,224	2,230
670	2,230	2,237	2,243	2,250	2,256	2,263	2,270	2,276	2,283	2,289	2,296
680	2,296	2,303	2,309	2,316	2,323	2,329	2,336	2,343	2,350	2,356	2,363
690	2,363	2,370	2,376	2,383	2,390	2,397	2,403	2,410	2,417	2,424	2,431
700	2,431	2,437	2,444	2,451	2,458	2,465	2,472	2,479	2,485	2,492	2,499
710	2,499	2,506	2,513	2,520	2,527	2,534	2,541	2,548	2,555	2,562	2,569
720	2,569	2,576	2,583	2,590	2,597	2,604	2,611	2,618	2,625	2,632	2,639
730	2,639	2,646	2,653	2,660	2,667	2,674	2,681	2,688	2,696	2,703	2,710
740	2,710	2,717	2,724	2,731	2,738	2,746	2,753	2,760	2,767	2,775	2,782
750	2,782	2,789	2,796	2,803	2,811	2,818	2,825	2,833	2,840	2,847	2,854
760	2,854	2,862	2,869	2,876	2,884	2,891	2,898	2,906	2,913	2,921	2,928
770	2,928	2,935	2,943	2,950	2,958	2,965	2,973	2,980	2,987	2,995	3,002
780	3,002	3,010	3,017	3,025	3,032	3,040	3,047	3,055	3,062	3,070	3,078
790	3,078	3,085	3,093	3,100	3,108	3,116	3,123	3,131	3,138	3,146	3,154
800	3,154	3,161	3,169	3,177	3,184	3,192	3,200	3,207	3,215	3,223	3,230
810	3,230	3,238	3,246	3,254	3,261	3,269	3,277	3,285	3,292	3,300	3,308
820	3,308	3,316	3,324	3,331	3,339	3,347	3,355	3,363	3,371	3,379	3,386
830	3,386	3,394	3,402	3,410	3,418	3,426	3,434	3,442	3,450	3,458	3,466
840	3,466	3,474	3,482	3,490	3,498	3,506	3,514	3,522	3,530	3,538	3,546
850	3,546	3,554	3,562	3,570	3,578	3,586	3,594	3,602	3,610	3,618	3,626
860	3,626	3,634	3,643	3,651	3,659	3,667	3,675	3,683	3,692	3,700	3,708
870	3,708	3,716	3,724	3,732	3,741	3,749	3,757	3,765	3,774	3,782	3,790
880	3,790	3,798	3,807	3,815	3,823	3,832	3,840	3,848	3,857	3,865	3,873
890	3,873	3,882	3,890	3,898	3,907	3,915	3,923	3,932	3,940	3,949	3,957

Продолжение таблицы 3

ТЭДС в мВ при температуре свободного конца 0 °С											
Температура рабочего конца, °С	0	1	2	3	4	5	6	7	8	9	10
900	3,957	3,965	3,974	3,982	3,991	3,999	4,008	4,016	4,024	4,033	4,041
910	4,041	4,050	4,058	4,067	4,075	4,084	4,093	4,101	4,110	4,118	4,127
920	4,127	4,135	4,144	4,152	4,161	4,170	4,178	4,187	4,195	4,204	4,213
930	4,213	4,221	4,230	4,239	4,247	4,256	4,265	4,273	4,282	4,291	4,299
940	4,299	4,308	4,317	4,326	4,334	4,343	4,352	4,360	4,369	4,378	4,387
950	4,387	4,396	4,404	4,413	4,422	4,431	4,440	4,448	4,457	4,466	4,475
960	4,475	4,484	4,493	4,501	4,510	4,519	4,528	4,537	4,546	4,555	4,564
970	4,564	4,573	4,582	4,591	4,599	4,608	4,617	4,626	4,635	4,644	4,653
980	4,653	4,662	4,671	4,680	4,689	4,698	4,707	4,716	4,725	4,734	4,743
990	4,743	4,753	4,762	4,771	4,780	4,789	4,798	4,807	4,816	4,825	4,834
1000	4,834	4,843	4,853	4,862	4,871	4,880	4,889	4,898	4,908	4,917	4,926
1010	4,926	4,935	4,944	4,954	4,963	4,972	4,981	4,990	5,000	5,009	5,018
1020	5,018	5,027	5,037	5,046	5,055	5,065	5,074	5,083	5,092	5,102	5,111
1030	5,111	5,120	5,130	5,139	5,148	5,158	5,167	5,176	5,186	5,195	5,205
1040	5,205	5,214	5,223	5,233	5,242	5,252	5,261	5,270	5,280	5,289	5,299
1050	5,299	5,308	5,318	5,327	5,337	5,346	5,356	5,365	5,375	5,384	5,394
1060	5,394	5,403	5,413	5,422	5,432	5,441	5,451	5,460	5,470	5,480	5,489
1070	5,489	5,499	5,508	5,518	5,528	5,537	5,547	5,556	5,566	5,576	5,585
1080	5,585	5,595	5,605	5,614	5,624	5,634	5,643	5,653	5,663	5,672	5,682
1090	5,682	5,692	5,702	5,711	5,721	5,731	5,740	5,750	5,760	5,770	5,780
1100	5,780	5,789	5,799	5,809	5,819	5,828	5,838	5,848	5,858	5,868	5,878
1110	5,878	5,887	5,897	5,907	5,917	5,927	5,937	5,947	5,956	5,966	5,976
1120	5,976	5,986	5,996	6,006	6,016	6,026	6,036	6,046	6,055	6,065	6,075
1130	6,075	6,085	6,095	6,105	6,115	6,125	6,135	6,145	6,155	6,165	6,175
1140	6,175	6,185	6,195	6,205	6,215	6,225	6,235	6,245	6,256	6,266	6,276
1150	6,276	6,286	6,296	6,306	6,316	6,326	6,336	6,346	6,356	6,367	6,377
1160	6,377	6,387	6,397	6,407	6,417	6,427	6,438	6,448	6,458	6,468	6,478
1170	6,478	6,488	6,499	6,509	6,519	6,529	6,539	6,550	6,560	6,570	6,580
1180	6,580	6,591	6,601	6,611	6,621	6,632	6,642	6,652	6,663	6,673	6,683
1190	6,683	6,693	6,704	6,714	6,724	6,735	6,745	6,755	6,766	6,776	6,786
1200	6,786	6,797	6,807	6,818	6,828	6,838	6,849	6,859	6,869	6,880	6,890
1210	6,890	6,901	6,911	6,922	6,932	6,942	6,953	6,963	6,974	6,984	6,995
1220	6,995	7,005	7,016	7,026	7,037	7,047	7,058	7,068	7,079	7,089	7,100
1230	7,100	7,110	7,121	7,131	7,142	7,152	7,163	7,173	7,184	7,194	7,205
1240	7,205	7,216	7,226	7,237	7,247	7,258	7,269	7,279	7,290	7,300	7,311

Продолжение таблицы 3

ТЭДС в мВ при температуре свободного конца 0 °С											
Температура рабочего конца, °С	0	1	2	3	4	5	6	7	8	9	10
1250	7,311	7,322	7,332	7,343	7,353	7,364	7,375	7,385	7,396	7,407	7,417
1260	7,417	7,428	7,439	7,449	7,460	7,471	7,482	7,492	7,503	7,514	7,524
1270	7,524	7,535	7,546	7,557	7,567	7,578	7,589	7,600	7,610	7,621	7,632
1280	7,632	7,643	7,653	7,664	7,675	7,686	7,697	7,707	7,718	7,729	7,740
1290	7,740	7,751	7,761	7,772	7,783	7,794	7,805	7,816	7,827	7,837	7,848
1300	7,848	7,859	7,870	7,881	7,892	7,903	7,914	7,924	7,935	7,946	7,957
1310	7,957	7,968	7,979	7,990	8,001	8,012	8,023	8,034	8,045	8,056	8,066
1320	8,066	8,077	8,088	8,099	8,110	8,121	8,132	8,143	8,154	8,165	8,176
1330	8,176	8,187	8,198	8,209	8,220	8,231	8,242	8,253	8,264	8,275	8,286
1340	8,286	8,298	8,309	8,320	8,331	8,342	8,353	8,364	8,375	8,386	8,397
1350	8,397	8,408	8,419	8,430	8,441	8,453	8,464	8,475	8,486	8,497	8,508
1360	8,508	8,519	8,530	8,542	8,553	8,564	8,575	8,586	8,597	8,608	8,620
1370	8,620	8,631	8,642	8,653	8,664	8,675	8,687	8,698	8,709	8,720	8,731
1380	8,731	8,743	8,754	8,765	8,776	8,787	8,799	8,810	8,821	8,832	8,844
1390	8,844	8,855	8,866	8,877	8,889	8,900	8,911	8,922	8,934	8,945	8,956
1400	8,956	8,967	8,979	8,990	9,001	9,013	9,024	9,035	9,047	9,058	9,069
1410	9,069	9,080	9,092	9,103	9,114	9,126	9,137	9,148	9,160	9,171	9,182
1420	9,182	9,194	9,205	9,216	9,228	9,239	9,251	9,262	9,273	9,285	9,296
1430	9,296	9,307	9,319	9,330	9,342	9,353	9,364	9,376	9,387	9,398	9,410
1440	9,410	9,421	9,433	9,444	9,456	9,467	9,478	9,490	9,501	9,513	9,524
1450	9,524	9,536	9,547	9,558	9,570	9,581	9,593	9,604	9,616	9,627	9,639
1460	9,639	9,650	9,662	9,673	9,684	9,696	9,707	9,719	9,730	9,742	9,753
1470	9,753	9,765	9,776	9,788	9,799	9,811	9,822	9,834	9,845	9,857	9,868
1480	9,868	9,880	9,891	9,903	9,914	9,926	9,937	9,949	9,961	9,972	9,984
1490	9,984	9,995	10,007	10,018	10,030	10,041	10,053	10,064	10,076	10,088	10,099
1500	10,099	10,111	10,122	10,134	10,145	10,157	10,168	10,180	10,192	10,203	10,215
1510	10,215	10,226	10,238	10,249	10,261	10,273	10,284	10,296	10,307	10,319	10,331
1520	10,331	10,342	10,354	10,365	10,377	10,389	10,400	10,412	10,423	10,435	10,447
1530	10,447	10,458	10,470	10,482	10,493	10,505	10,516	10,528	10,540	10,551	10,563
1540	10,563	10,575	10,586	10,598	10,609	10,621	10,633	10,644	10,656	10,668	10,679
1550	10,679	10,691	10,703	10,714	10,726	10,738	10,749	10,761	10,773	10,784	10,796
1560	10,796	10,808	10,819	10,831	10,843	10,854	10,866	10,877	10,889	10,901	10,913
1570	10,913	10,924	10,936	10,948	10,959	10,971	10,983	10,994	11,006	11,018	11,029
1580	11,029	11,041	11,053	11,064	11,076	11,088	11,099	11,111	11,123	11,134	11,146
1590	11,146	11,158	11,169	11,181	11,193	11,205	11,216	11,228	11,240	11,251	11,263

Окончание таблицы 3

ТЭДС в мВ при температуре свободного конца 0 °С											
Температура рабочего конца, °С	0	1	2	3	4	5	6	7	8	9	10
1600	11,263	11,275	11,286	11,298	11,310	11,321	11,333	11,345	11,357	11,368	11,380
1610	11,380	11,392	11,403	11,415	11,427	11,438	11,450	11,462	11,474	11,485	11,497
1620	11,497	11,509	11,520	11,532	11,544	11,555	11,567	11,579	11,591	11,602	11,614
1630	11,614	11,626	11,637	11,649	11,661	11,673	11,684	11,696	11,708	11,719	11,731
1640	11,731	11,743	11,754	11,766	11,778	11,790	11,801	11,813	11,825	11,836	11,848
1650	11,848	11,860	11,871	11,883	11,895	11,907	11,918	11,930	11,942	11,953	11,965
1660	11,965	11,977	11,988	12,000	12,012	12,024	12,035	12,047	12,059	12,070	12,082
1670	12,082	12,094	12,105	12,117	12,129	12,141	12,152	12,164	12,176	12,187	12,199
1680	12,199	12,211	12,222	12,234	12,246	12,257	12,269	12,281	12,292	12,304	12,316
1690	12,316	12,327	12,339	12,351	12,363	12,374	12,386	12,398	12,409	12,421	12,433
1700	12,433	12,444	12,456	12,468	12,479	12,491	12,503	12,514	12,526	12,538	12,549
1710	12,549	12,561	12,572	12,584	12,596	12,607	12,619	12,631	12,642	12,654	12,666
1720	12,666	12,677	12,689	12,701	12,712	12,724	12,736	12,747	12,759	12,770	12,782
1730	12,782	12,794	12,805	12,817	12,829	12,840	12,852	12,863	12,875	12,887	12,898
1740	12,898	12,910	12,921	12,933	12,945	12,956	12,968	12,980	12,991	13,003	13,014
1750	13,014	13,026	13,037	13,049	13,061	13,072	13,084	13,095	13,107	13,119	13,130
1760	13,130	13,142	13,153	13,165	13,176	13,188	13,200	13,211	13,223	13,234	13,246
1770	13,246	13,257	13,269	13,280	13,292	13,304	13,315	13,327	13,338	13,350	13,361
1780	13,361	13,373	13,384	13,396	13,407	13,419	13,430	13,442	13,453	13,465	13,476
1790	13,476	13,488	13,499	13,511	13,522	13,534	13,545	13,557	13,568	13,580	13,591
1800	13,591	13,603	13,614	13,626	13,637	13,649	13,660	13,672	13,683	13,694	13,706
1810	13,706	13,717	13,729	13,740	13,752	13,763	13,775	13,786	13,797	13,809	13,820
1820	13,820										

Таблица 4 — Значения ТЭДС для термопары типа J (железо/медь — никель)

ТЭДС в мВ при температуре свободного конца 0 °С											
Температура рабочего конца, °С	0	1	2	3	4	5	6	7	8	9	10
—210	—8,095										
—200	—7,890	—7,912	—7,934	—7,955	—7,976	—7,996	—8,017	—8,037	—8,057	—8,076	—8,095
—190	—7,659	—7,683	—7,707	—7,731	—7,755	—7,778	—7,801	—7,824	—7,846	—7,868	—7,890
—180	—7,403	—7,429	—7,456	—7,482	—7,508	—7,534	—7,559	—7,585	—7,610	—7,634	—7,659
—170	—7,123	—7,152	—7,181	—7,209	—7,237	—7,265	—7,293	—7,321	—7,348	—7,376	—7,403
—160	—6,821	—6,853	—6,883	—6,914	—6,944	—6,975	—7,005	—7,035	—7,064	—7,094	—7,123
—150	—6,500	—6,533	—6,566	—6,598	—6,631	—6,663	—6,695	—6,727	—6,759	—6,790	—6,821

Продолжение таблицы 4

ТЭДС в мВ при температуре свободного конца 0 °С											
Температура рабочего конца, °С	0	1	2	3	4	5	6	7	8	9	10
—140	—6,159	—6,194	—6,229	—6,263	—6,298	—6,332	—6,366	—6,400	—6,433	—6,467	—6,500
—130	—5,801	—5,838	—5,874	—5,910	—5,946	—5,982	—6,018	—6,054	—6,089	—6,124	—6,159
—120	—5,426	—5,465	—5,503	—5,541	—5,578	—5,616	—5,653	—5,690	—5,727	—5,764	—5,801
—110	—5,037	—5,076	—5,116	—5,155	—5,194	—5,233	—5,272	—5,311	—5,350	—5,388	—5,426
—100	—4,633	—4,674	—4,714	—4,755	—4,796	—4,836	—4,877	—4,917	—4,957	—4,997	—5,037
—90	—4,215	—4,257	—4,300	—4,342	—4,384	—4,425	—4,467	—4,509	—4,550	—4,591	—4,633
—80	—3,786	—3,829	—3,872	—3,916	—3,959	—4,002	—4,045	—4,088	—4,130	—4,173	—4,215
—70	—3,344	—3,389	—3,434	—3,478	—3,522	—3,566	—3,610	—3,654	—3,698	—3,742	—3,786
—60	—2,893	—2,938	—2,984	—3,029	—3,075	—3,120	—3,165	—3,210	—3,255	—3,300	—3,344
—50	—2,431	—2,478	—2,524	—2,571	—2,617	—2,663	—2,709	—2,755	—2,801	—2,847	—2,893
—40	—1,961	—2,008	—2,055	—2,103	—2,150	—2,197	—2,244	—2,291	—2,338	—2,385	—2,431
—30	—1,482	—1,530	—1,578	—1,626	—1,674	—1,722	—1,770	—1,818	—1,865	—1,913	—1,961
—20	—0,995	—1,044	—1,093	—1,142	—1,190	—1,239	—1,288	—1,336	—1,385	—1,433	—1,482
—10	—0,501	—0,550	—0,600	—0,650	—0,699	—0,749	—0,798	—0,847	—0,896	—0,946	—0,995
0	0,000	—0,050	—0,101	—0,151	—0,201	—0,251	—0,301	—0,351	—0,401	—0,451	—0,501
0	0,000	0,050	0,101	0,151	0,202	0,253	0,303	0,354	0,405	0,456	0,507
10	0,507	0,558	0,609	0,660	0,711	0,762	0,814	0,865	0,916	0,968	1,019
20	1,019	1,071	1,122	1,174	1,226	1,277	1,329	1,381	1,433	1,485	1,537
30	1,537	1,589	1,641	1,693	1,745	1,797	1,849	1,902	1,954	2,006	2,059
40	2,059	2,111	2,164	2,216	2,269	2,322	2,374	2,427	2,480	2,532	2,585
50	2,585	2,638	2,691	2,744	2,797	2,850	2,903	2,956	3,009	3,062	3,116
60	3,116	3,169	3,222	3,275	3,329	3,382	3,436	3,489	3,543	3,596	3,650
70	3,650	3,703	3,757	3,810	3,864	3,918	3,971	4,025	4,079	4,133	4,187
80	4,187	4,240	4,294	4,348	4,402	4,456	4,510	4,564	4,618	4,672	4,726
90	4,726	4,781	4,835	4,889	4,943	4,997	5,052	5,106	5,160	5,215	5,269
100	5,269	5,323	5,378	5,432	5,487	5,541	5,595	5,650	5,705	5,759	5,814
110	5,814	5,868	5,923	5,977	6,032	6,087	6,141	6,196	6,251	6,306	6,360
120	6,360	6,415	6,470	6,525	6,579	6,634	6,689	6,744	6,799	6,854	6,909
130	6,909	6,964	7,019	7,074	7,129	7,184	7,239	7,294	7,349	7,404	7,459
140	7,459	7,514	7,569	7,624	7,679	7,734	7,789	7,844	7,900	7,955	8,010
150	8,010	8,065	8,120	8,175	8,231	8,286	8,341	8,396	8,452	8,507	8,562
160	8,562	8,618	8,673	8,728	8,783	8,839	8,894	8,949	9,005	9,060	9,115
170	9,115	9,171	9,226	9,282	9,337	9,392	9,448	9,503	9,559	9,614	9,669
180	9,669	9,725	9,780	9,836	9,891	9,947	10,002	10,057	10,113	10,168	10,224
190	10,224	10,279	10,335	10,390	10,446	10,501	10,557	10,612	10,668	10,723	10,779

Продолжение таблицы 4

ТЭДС в мВ при температуре свободного конца 0 °С											
Температура рабочего конца, °С	0	1	2	3	4	5	6	7	8	9	10
200	10,779	10,834	10,890	10,945	11,001	11,056	11,112	11,167	11,223	11,278	11,334
210	11,334	11,389	11,445	11,501	11,556	11,612	11,667	11,723	11,778	11,834	11,889
220	11,889	11,945	12,000	12,056	12,111	12,167	12,222	12,278	12,334	12,389	12,445
230	12,445	12,500	12,556	12,611	12,667	12,722	12,778	12,833	12,889	12,944	13,000
240	13,000	13,056	13,111	13,167	13,222	13,278	13,333	13,389	13,444	13,500	13,555
250	13,555	13,611	13,666	13,722	13,777	13,833	13,888	13,944	13,999	14,055	14,110
260	14,110	14,166	14,221	14,277	14,332	14,388	14,443	14,499	14,554	14,609	14,665
270	14,665	14,720	14,776	14,831	14,887	14,942	14,998	15,053	15,109	15,164	15,219
280	15,219	15,275	15,330	15,386	15,441	15,496	15,552	15,607	15,663	15,718	15,773
290	15,773	15,829	15,884	15,940	15,995	16,050	16,106	16,161	16,216	16,272	16,327
300	16,327	16,383	16,438	16,493	16,549	16,604	16,659	16,715	16,770	16,825	16,881
310	16,881	16,936	16,991	17,046	17,102	17,157	17,212	17,268	17,323	17,378	17,434
320	17,434	17,489	17,544	17,599	17,655	17,710	17,765	17,820	17,876	17,931	17,986
330	17,986	18,041	18,097	18,152	18,207	18,262	18,318	18,373	18,428	18,483	18,538
340	18,538	18,594	18,649	18,704	18,759	18,814	18,870	18,925	18,980	19,035	19,090
350	19,090	19,146	19,201	19,256	19,311	19,366	19,422	19,477	19,532	19,587	19,642
360	19,642	19,697	19,753	19,808	19,863	19,918	19,973	20,028	20,083	20,139	20,194
370	20,194	20,249	20,304	20,359	20,414	20,469	20,525	20,580	20,635	20,690	20,745
380	20,745	20,800	20,855	20,911	20,966	21,021	21,076	21,131	21,186	21,241	21,297
390	21,297	21,352	21,407	21,462	21,517	21,572	21,627	21,683	21,738	21,793	21,848
400	21,848	21,903	21,958	22,014	22,069	22,124	22,179	22,234	22,289	22,345	22,400
410	22,400	22,455	22,510	22,565	22,620	22,676	22,731	22,786	22,841	22,896	22,952
420	22,952	23,007	23,062	23,117	23,172	23,228	23,283	23,338	23,393	23,449	23,504
430	23,504	23,559	23,614	23,670	23,725	23,780	23,835	23,891	23,946	24,001	24,057
440	24,057	24,112	24,167	24,223	24,278	24,333	24,389	24,444	24,499	24,555	24,610
450	24,610	24,665	24,721	24,776	24,832	24,887	24,943	24,998	25,053	25,109	25,164
460	25,164	25,220	25,275	25,331	25,386	25,442	25,497	25,553	25,608	25,664	25,720
470	25,720	25,775	25,831	25,886	25,942	25,998	26,053	26,109	26,165	26,220	26,276
480	26,276	26,332	26,387	26,443	26,499	26,555	26,610	26,666	26,722	26,778	26,834
490	26,834	26,889	26,945	27,001	27,057	27,113	27,169	27,225	27,281	27,337	27,393
500	27,393	27,449	27,505	27,561	27,617	27,673	27,729	27,785	27,841	27,897	27,953
510	27,953	28,010	28,066	28,122	28,178	28,234	28,291	28,347	28,403	28,460	28,516
520	28,516	28,572	28,629	28,685	28,741	28,798	28,854	28,911	28,967	29,024	29,080
530	29,080	29,137	29,194	29,250	29,307	29,363	29,420	29,477	29,534	29,590	29,647
540	29,647	29,704	29,761	29,818	29,874	29,931	29,988	30,045	30,102	30,159	30,216

Продолжение таблицы 4

ТЭДС в мВ при температуре свободного конца 0 °С											
Температура рабочего конца, °С	0	1	2	3	4	5	6	7	8	9	10
550	30,216	30,273	30,330	30,387	30,444	30,502	30,559	30,616	30,673	30,730	30,788
560	30,788	30,845	30,902	30,960	31,017	31,074	31,132	31,189	31,247	31,304	31,362
570	31,362	31,419	31,477	31,535	31,592	31,650	31,708	31,766	31,823	31,881	31,939
580	31,939	31,997	32,055	32,113	32,171	32,229	32,287	32,345	32,403	32,461	32,519
590	32,519	32,577	32,636	32,694	32,752	32,810	32,869	32,927	32,985	33,044	33,102
600	33,102	33,161	33,219	33,278	33,337	33,395	33,454	33,513	33,571	33,630	33,689
610	33,689	33,748	33,807	33,866	33,925	33,984	34,043	34,102	34,161	34,220	34,279
620	34,279	34,338	34,397	34,457	34,516	34,575	34,635	34,694	34,754	34,813	34,873
630	34,873	34,932	34,992	35,051	35,111	35,171	35,230	35,290	35,350	35,410	35,470
640	35,470	35,530	35,590	35,650	35,710	35,770	35,830	35,890	35,950	36,010	36,071
650	36,071	36,131	36,191	36,252	36,312	36,373	36,433	36,494	36,554	36,615	36,675
660	36,675	36,736	36,797	36,858	36,918	36,979	37,040	37,101	37,162	37,223	37,284
670	37,284	37,345	37,406	37,467	37,528	37,590	37,651	37,712	37,773	37,835	37,896
680	37,896	37,958	38,019	38,081	38,142	38,204	38,265	38,327	38,389	38,450	38,512
690	38,512	38,574	38,636	38,698	38,760	38,822	38,884	38,946	39,008	39,070	39,132
700	39,132	39,194	39,256	39,318	39,381	39,443	39,505	39,568	39,630	39,693	39,755
710	39,755	39,818	39,880	39,943	40,005	40,068	40,131	40,193	40,256	40,319	40,382
720	40,382	40,445	40,508	40,570	40,633	40,696	40,759	40,822	40,886	40,949	41,012
730	41,012	41,075	41,138	41,201	41,265	41,328	41,391	41,455	41,518	41,581	41,645
740	41,645	41,708	41,772	41,835	41,899	41,962	42,026	42,090	42,153	42,217	42,281
750	42,281	42,344	42,408	42,472	42,536	42,599	42,663	42,727	42,791	42,855	42,919
760	42,919	42,983	43,047	43,111	43,175	43,239	43,303	43,367	43,431	43,495	43,559
770	43,559	43,624	43,688	43,752	43,817	43,881	43,945	44,010	44,074	44,139	44,203
780	44,203	44,267	44,332	44,396	44,461	44,525	44,590	44,655	44,719	44,784	44,848
790	44,848	44,913	44,977	45,042	45,107	45,171	45,236	45,301	45,365	45,430	45,494
800	45,494	45,559	45,624	45,688	45,753	45,818	45,882	45,947	46,011	46,076	46,141
810	46,141	46,205	46,270	46,334	46,399	46,464	46,528	46,593	46,657	46,722	46,786
820	46,786	46,851	46,915	46,980	47,044	47,109	47,173	47,238	47,302	47,367	47,431
830	47,431	47,495	47,560	47,624	47,688	47,753	47,817	47,881	47,946	48,010	48,074
840	48,074	48,138	48,202	48,267	48,331	48,395	48,459	48,523	48,587	48,651	48,715
850	48,715	48,779	48,843	48,907	48,971	49,034	49,098	49,162	49,226	49,290	49,353
860	49,353	49,417	49,481	49,544	49,608	49,672	49,735	49,799	49,862	49,926	49,989
870	49,989	50,052	50,116	50,179	50,243	50,306	50,369	50,432	50,495	50,559	50,622
880	50,622	50,685	50,748	50,811	50,874	50,937	51,000	51,063	51,126	51,188	51,251
890	51,251	51,314	51,377	51,439	51,502	51,565	51,627	51,690	51,752	51,815	51,877

Окончание таблицы 4

ТЭДС в мВ при температуре свободного конца 0 °С											
Температура рабочего конца, °С	0	1	2	3	4	5	6	7	8	9	10
900	51,877	51,940	52,002	52,064	52,127	52,189	52,251	52,314	52,376	52,438	52,500
910	52,500	52,562	52,624	52,686	52,748	52,810	52,872	52,934	52,996	53,057	53,119
920	53,119	53,181	53,243	53,304	53,366	53,427	53,489	53,550	53,612	53,673	53,735
930	53,735	53,796	53,857	53,919	53,980	54,041	54,102	54,164	54,225	54,286	54,347
940	54,347	54,408	54,469	54,530	54,591	54,652	54,713	54,773	54,834	54,895	54,956
950	54,956	55,016	55,077	55,138	55,198	55,259	55,319	55,380	55,440	55,501	55,561
960	55,561	55,622	55,682	55,742	55,803	55,863	55,923	55,983	56,043	56,104	56,164
970	56,164	56,224	56,284	56,344	56,404	56,464	56,524	56,584	56,643	56,703	56,763
980	56,763	56,823	56,883	56,942	57,002	57,062	57,121	57,181	57,240	57,300	57,360
990	57,360	57,419	57,479	57,538	57,597	57,657	57,716	57,776	57,835	57,894	57,953
1000	57,953	58,013	58,072	58,131	58,190	58,249	58,309	58,368	58,427	58,486	58,545
1010	58,545	58,604	58,663	58,722	58,781	58,840	58,899	58,957	59,016	59,075	59,134
1020	59,134	59,193	59,252	59,310	59,369	59,428	59,487	59,545	59,604	59,663	59,721
1030	59,721	59,780	59,838	59,897	59,956	60,014	60,073	60,131	60,190	60,248	60,307
1040	60,307	60,365	60,423	60,482	60,540	60,599	60,657	60,715	60,774	60,832	60,890
1050	60,890	60,949	61,007	61,065	61,123	61,182	61,240	61,298	61,356	61,415	61,473
1060	61,473	61,531	61,589	61,647	61,705	61,763	61,822	61,880	61,938	61,996	62,054
1070	62,054	62,112	62,170	62,228	62,286	62,344	62,402	62,460	62,518	62,576	62,634
1080	62,634	62,692	62,750	62,808	62,866	62,924	62,982	63,040	63,098	63,156	63,214
1090	63,214	63,271	63,329	63,387	63,445	63,503	63,561	63,619	63,677	63,734	63,792
1100	63,792	63,850	63,908	63,966	64,024	64,081	64,139	64,197	64,255	64,313	64,370
1110	64,370	64,428	64,486	64,544	64,602	64,659	64,717	64,775	64,833	64,890	64,948
1120	64,948	65,006	65,064	65,121	65,179	65,237	65,295	65,352	65,410	65,468	65,525
1130	65,525	65,583	65,641	65,699	65,756	65,814	65,872	65,929	65,987	66,045	66,102
1140	66,102	66,160	66,218	66,275	66,333	66,391	66,448	66,506	66,564	66,621	66,679
1150	66,679	66,737	66,794	66,852	66,910	66,967	67,025	67,082	67,140	67,198	67,255
1160	67,255	67,313	67,370	67,428	67,486	67,543	67,601	67,658	67,716	67,773	67,831
1170	67,831	67,888	67,946	68,003	68,061	68,119	68,176	68,234	68,291	68,348	68,406
1180	68,406	68,463	68,521	68,578	68,636	68,693	68,751	68,808	68,865	68,923	68,980
1190	68,980	69,037	69,095	69,152	69,209	69,267	69,324	69,381	69,439	69,496	69,553
1200	69,553										

Таблица 5 — Значения ТЭДС для термопары типа Т (медь/медь — никель)

ТЭДС в мВ при температуре свободного конца 0 °С											
Температура рабочего конца, °С	0	1	2	3	4	5	6	7	8	9	10
—270	—6,258										
—260	—6,232	—6,236	—6,239	—6,242	—6,245	—6,248	—6,251	—6,253	—6,255	—6,256	—6,258
—250	—6,180	—6,187	—6,193	—6,198	—6,204	—6,209	—6,214	—6,219	—6,223	—6,228	—6,232
—240	—6,105	—6,114	—6,122	—6,130	—6,138	—6,146	—6,153	—6,160	—6,167	—6,174	—6,180
—230	—6,007	—6,017	—6,028	—6,038	—6,049	—6,059	—6,068	—6,078	—6,087	—6,096	—6,105
—220	—5,888	—5,901	—5,914	—5,926	—5,938	—5,950	—5,962	—5,973	—5,985	—5,996	—6,007
—210	—5,753	—5,767	—5,782	—5,795	—5,809	—5,823	—5,836	—5,850	—5,863	—5,876	—5,888
—200	—5,603	—5,619	—5,634	—5,650	—5,665	—5,680	—5,695	—5,710	—5,724	—5,739	—5,753
—190	—5,439	—5,456	—5,473	—5,489	—5,506	—5,523	—5,539	—5,555	—5,571	—5,587	—5,603
—180	—5,261	—5,279	—5,297	—5,316	—5,334	—5,351	—5,369	—5,387	—5,404	—5,421	—5,439
—170	—5,070	—5,089	—5,109	—5,128	—5,148	—5,167	—5,186	—5,205	—5,224	—5,242	—5,261
—160	—4,865	—4,886	—4,907	—4,928	—4,949	—4,969	—4,989	—5,010	—5,030	—5,050	—5,070
—150	—4,648	—4,671	—4,693	—4,715	—4,737	—4,759	—4,780	—4,802	—4,823	—4,844	—4,865
—140	—4,419	—4,443	—4,466	—4,489	—4,512	—4,535	—4,558	—4,581	—4,604	—4,626	—4,648
—130	—4,177	—4,202	—4,226	—4,251	—4,275	—4,300	—4,324	—4,348	—4,372	—4,395	—4,419
—120	—3,923	—3,949	—3,975	—4,000	—4,026	—4,052	—4,077	—4,102	—4,127	—4,152	—4,177
—110	—3,657	—3,684	—3,711	—3,738	—3,765	—3,791	—3,818	—3,844	—3,871	—3,897	—3,923
—100	—3,379	—3,407	—3,435	—3,463	—3,491	—3,519	—3,547	—3,574	—3,602	—3,629	—3,657
—90	—3,089	—3,118	—3,148	—3,177	—3,206	—3,235	—3,264	—3,293	—3,322	—3,350	—3,379
—80	—2,788	—2,818	—2,849	—2,879	—2,910	—2,940	—2,970	—3,000	—3,030	—3,059	—3,089
—70	—2,476	—2,507	—2,539	—2,571	—2,602	—2,633	—2,664	—2,695	—2,726	—2,757	—2,788
—60	—2,153	—2,186	—2,218	—2,251	—2,283	—2,316	—2,348	—2,380	—2,412	—2,444	—2,476
—50	—1,819	—1,853	—1,887	—1,920	—1,954	—1,987	—2,021	—2,054	—2,087	—2,120	—2,153
—40	—1,475	—1,510	—1,545	—1,579	—1,614	—1,648	—1,683	—1,717	—1,751	—1,785	—1,819
—30	—1,121	—1,157	—1,192	—1,228	—1,264	—1,299	—1,335	—1,370	—1,405	—1,440	—1,475
—20	—0,757	—0,794	—0,830	—0,867	—0,904	—0,940	—0,976	—1,013	—1,049	—1,085	—1,121
—10	—0,383	—0,421	—0,459	—0,496	—0,534	—0,571	—0,608	—0,646	—0,683	—0,720	—0,757
0	0,000	—0,039	—0,077	—0,116	—0,154	—0,193	—0,231	—0,269	—0,307	—0,345	—0,383
0	0,000	0,039	0,078	0,117	0,156	0,195	0,234	0,273	0,312	0,352	0,391
10	0,391	0,431	0,470	0,510	0,549	0,589	0,629	0,669	0,709	0,749	0,790
20	0,790	0,830	0,870	0,911	0,951	0,992	1,033	1,074	1,114	1,155	1,196
30	1,196	1,238	1,279	1,320	1,362	1,403	1,445	1,486	1,528	1,570	1,612
40	1,612	1,654	1,696	1,738	1,780	1,823	1,865	1,908	1,950	1,993	2,036

Окончание таблицы 5

ТЭДС в мВ при температуре свободного конца 0 °С											
Температура рабочего конца, °С	0	1	2	3	4	5	6	7	8	9	10
50	2,036	2,079	2,122	2,165	2,208	2,251	2,294	2,338	2,381	2,425	2,468
60	2,468	2,512	2,556	2,600	2,643	2,687	2,732	2,776	2,820	2,864	2,909
70	2,909	2,953	2,998	3,043	3,087	3,132	3,177	3,222	3,267	3,312	3,358
80	3,358	3,403	3,448	3,494	3,539	3,585	3,631	3,677	3,722	3,768	3,814
90	3,814	3,860	3,907	3,953	3,999	4,046	4,092	4,138	4,185	4,232	4,279
100	4,279	4,325	4,372	4,419	4,466	4,513	4,561	4,608	4,655	4,702	4,750
110	4,750	4,798	4,845	4,893	4,941	4,988	5,036	5,084	5,132	5,180	5,228
120	5,228	5,277	5,325	5,373	5,422	5,470	5,519	5,567	5,616	5,665	5,714
130	5,714	5,763	5,812	5,861	5,910	5,959	6,008	6,057	6,107	6,156	6,206
140	6,206	6,255	6,305	6,355	6,404	6,454	6,504	6,554	6,604	6,654	6,704
150	6,704	6,754	6,805	6,855	6,905	6,956	7,006	7,057	7,107	7,158	7,209
160	7,209	7,260	7,310	7,361	7,412	7,463	7,515	7,566	7,617	7,668	7,720
170	7,720	7,771	7,823	7,874	7,926	7,977	8,029	8,081	8,133	8,185	8,237
180	8,237	8,289	8,341	8,393	8,445	8,497	8,550	8,602	8,654	8,707	8,759
190	8,759	8,812	8,865	8,917	8,970	9,023	9,076	9,129	9,182	9,235	9,288
200	9,288	9,341	9,395	9,448	9,501	9,555	9,608	9,662	9,715	9,769	9,822
210	9,822	9,876	9,930	9,984	10,038	10,092	10,146	10,200	10,254	10,308	10,362
220	10,362	10,417	10,471	10,525	10,580	10,634	10,689	10,743	10,798	10,853	10,907
230	10,907	10,962	11,017	11,072	11,127	11,182	11,237	11,292	11,347	11,403	11,458
240	11,458	11,513	11,569	11,624	11,680	11,735	11,791	11,846	11,902	11,958	12,013
250	12,013	12,069	12,125	12,181	12,237	12,293	12,349	12,405	12,461	12,518	12,574
260	12,574	12,630	12,687	12,743	12,799	12,856	12,912	12,969	13,026	13,082	13,139
270	13,139	13,196	13,253	13,310	13,366	13,423	13,480	13,537	13,595	13,652	13,709
280	13,709	13,766	13,823	13,881	13,938	13,995	14,053	14,110	14,168	14,226	14,283
290	14,283	14,341	14,399	14,456	14,514	14,572	14,630	14,688	14,746	14,804	14,862
300	14,862	14,920	14,978	15,036	15,095	15,153	15,211	15,270	15,328	15,386	15,445
310	15,445	15,503	15,562	15,621	15,679	15,738	15,797	15,856	15,914	15,973	16,032
320	16,032	16,091	16,150	16,209	16,268	16,327	16,387	16,446	16,505	16,564	16,624
330	16,624	16,683	16,742	16,802	16,861	16,921	16,980	17,040	17,100	17,159	17,219
340	17,219	17,279	17,339	17,399	17,458	17,518	17,578	17,638	17,698	17,759	17,819
350	17,819	17,879	17,939	17,999	18,060	18,120	18,180	18,241	18,301	18,362	18,422
360	18,422	18,483	18,543	18,604	18,665	18,725	18,786	18,847	18,908	18,969	19,030
370	19,030	19,091	19,152	19,213	19,274	19,335	19,396	19,457	19,518	19,579	19,641
380	19,641	19,702	19,763	19,825	19,886	19,947	20,009	20,070	20,132	20,193	20,255
390	20,255	20,317	20,378	20,440	20,502	20,563	20,625	20,687	20,748	20,810	20,872
400	20,872										

Таблица 6 — Значения ТЭДС для термопары типа Е (никель — хром/медь — никель)

ТЭДС в мВ при температуре свободного конца 0 °С											
Температура рабочего конца, °С	0	1	2	3	4	5	6	7	8	9	10
—270	—9,835										
—260	—9,797	—9,802	—9,808	—9,813	—9,817	—9,821	—9,825	—9,828	—9,831	—9,833	—9,835
—250	—9,718	—9,728	—9,737	—9,746	—9,754	—9,762	—9,770	—9,777	—9,784	—9,790	—9,797
—240	—9,604	—9,617	—9,630	—9,642	—9,654	—9,666	—9,677	—9,688	—9,698	—9,709	—9,718
—230	—9,455	—9,471	—9,487	—9,503	—9,519	—9,534	—9,548	—9,563	—9,577	—9,591	—9,604
—220	—9,274	—9,293	—9,313	—9,331	—9,350	—9,368	—9,386	—9,404	—9,421	—9,438	—9,455
—210	—9,063	—9,085	—9,107	—9,129	—9,151	—9,172	—9,193	—9,214	—9,234	—9,254	—9,274
—200	—8,825	—8,850	—8,874	—8,899	—8,923	—8,947	—8,971	—8,994	—9,017	—9,040	—9,063
—190	—8,561	—8,588	—8,616	—8,643	—8,669	—8,696	—8,722	—8,748	—8,774	—8,799	—8,825
—180	—8,273	—8,303	—8,333	—8,362	—8,391	—8,420	—8,449	—8,477	—8,505	—8,533	—8,561
—170	—7,963	—7,995	—8,027	—8,059	—8,090	—8,121	—8,152	—8,183	—8,213	—8,243	—8,273
—160	—7,632	—7,666	—7,700	—7,733	—7,767	—7,800	—7,833	—7,866	—7,899	—7,931	—7,963
—150	—7,279	—7,315	—7,351	—7,387	—7,423	—7,458	—7,493	—7,528	—7,563	—7,597	—7,632
—140	—6,907	—6,945	—6,983	—7,021	—7,058	—7,096	—7,133	—7,170	—7,206	—7,243	—7,279
—130	—6,516	—6,556	—6,596	—6,636	—6,675	—6,714	—6,753	—6,792	—6,831	—6,869	—6,907
—120	—6,107	—6,149	—6,191	—6,232	—6,273	—6,314	—6,355	—6,396	—6,436	—6,476	—6,516
—110	—5,681	—5,724	—5,767	—5,810	—5,853	—5,896	—5,939	—5,981	—6,023	—6,065	—6,107
—100	—5,237	—5,282	—5,327	—5,372	—5,417	—5,461	—5,505	—5,549	—5,593	—5,637	—5,681
—90	—4,777	—4,824	—4,871	—4,917	—4,963	—5,009	—5,055	—5,101	—5,147	—5,192	—5,237
—80	—4,302	—4,350	—4,398	—4,446	—4,494	—4,542	—4,589	—4,636	—4,684	—4,731	—4,777
—70	—3,811	—3,861	—3,911	—3,960	—4,009	—4,058	—4,107	—4,156	—4,205	—4,254	—4,302
—60	—3,306	—3,357	—3,408	—3,459	—3,510	—3,561	—3,611	—3,661	—3,711	—3,761	—3,811
—50	—2,787	—2,840	—2,892	—2,944	—2,996	—3,048	—3,100	—3,152	—3,204	—3,255	—3,306
—40	—2,255	—2,309	—2,362	—2,416	—2,469	—2,523	—2,576	—2,629	—2,682	—2,735	—2,787
—30	—1,709	—1,765	—1,820	—1,874	—1,929	—1,984	—2,038	—2,093	—2,147	—2,201	—2,255
—20	—1,152	—1,208	—1,264	—1,320	—1,376	—1,432	—1,488	—1,543	—1,599	—1,654	—1,709
—10	—0,582	—0,639	—0,697	—0,754	—0,811	—0,868	—0,925	—0,982	—1,039	—1,095	—1,152
0	0,000	—0,059	—0,117	—0,176	—0,234	—0,292	—0,350	—0,408	—0,466	—0,524	—0,582
0	0,000	0,059	0,118	0,176	0,235	0,294	0,354	0,413	0,472	0,532	0,591
10	0,591	0,651	0,711	0,770	0,830	0,890	0,950	1,010	1,071	1,131	1,192
20	1,192	1,252	1,313	1,373	1,434	1,495	1,556	1,617	1,678	1,740	1,801
30	1,801	1,862	1,924	1,986	2,047	2,109	2,171	2,233	2,295	2,357	2,420
40	2,420	2,482	2,545	2,607	2,670	2,733	2,795	2,858	2,921	2,984	3,048

Продолжение таблицы 6

ТЭДС в мВ при температуре свободного конца 0 °С											
Температура рабочего конца, °С	0	1	2	3	4	5	6	7	8	9	10
50	3,048	3,111	3,174	3,238	3,301	3,365	3,429	3,492	3,556	3,620	3,685
60	3,685	3,749	3,813	3,877	3,942	4,006	4,071	4,136	4,200	4,265	4,330
70	4,330	4,395	4,460	4,526	4,591	4,656	4,722	4,788	4,853	4,919	4,985
80	4,985	5,051	5,117	5,183	5,249	5,315	5,382	5,448	5,514	5,581	5,648
90	5,648	5,714	5,781	5,848	5,915	5,982	6,049	6,117	6,184	6,251	6,319
100	6,319	6,386	6,454	6,522	6,590	6,658	6,725	6,794	6,862	6,930	6,998
110	6,998	7,066	7,135	7,203	7,272	7,341	7,409	7,478	7,547	7,616	7,685
120	7,685	7,754	7,823	7,892	7,962	8,031	8,101	8,170	8,240	8,309	8,379
130	8,379	8,449	8,519	8,589	8,659	8,729	8,799	8,869	8,940	9,010	9,081
140	9,081	9,151	9,222	9,292	9,363	9,434	9,505	9,576	9,647	9,718	9,789
150	9,789	9,860	9,931	10,003	10,074	10,145	10,217	10,288	10,360	10,432	10,503
160	10,503	10,575	10,647	10,719	10,791	10,863	10,935	11,007	11,080	11,152	11,224
170	11,224	11,297	11,369	11,442	11,514	11,587	11,660	11,733	11,805	11,878	11,951
180	11,951	12,024	12,097	12,170	12,243	12,317	12,390	12,463	12,537	12,610	12,684
190	12,684	12,757	12,831	12,904	12,978	13,052	13,126	13,199	13,273	13,347	13,421
200	13,421	13,495	13,569	13,644	13,718	13,792	13,866	13,941	14,015	14,090	14,164
210	14,164	14,239	14,313	14,388	14,463	14,537	14,612	14,687	14,762	14,837	14,912
220	14,912	14,987	15,062	15,137	15,212	15,287	15,362	15,438	15,513	15,588	15,664
230	15,664	15,739	15,815	15,890	15,966	16,041	16,117	16,193	16,269	16,344	16,420
240	16,420	16,496	16,572	16,648	16,724	16,800	16,876	16,952	17,028	17,104	17,181
250	17,181	17,257	17,333	17,409	17,486	17,562	17,639	17,715	17,792	17,868	17,945
260	17,945	18,021	18,098	18,175	18,252	18,328	18,405	18,482	18,559	18,636	18,713
270	18,713	18,790	18,867	18,944	19,021	19,098	19,175	19,252	19,330	19,407	19,484
280	19,484	19,561	19,639	19,716	19,794	19,871	19,948	20,026	20,103	20,181	20,259
290	20,259	20,336	20,414	20,492	20,569	20,647	20,725	20,803	20,880	20,958	21,036
300	21,036	21,114	21,192	21,270	21,348	21,426	21,504	21,582	21,660	21,739	21,817
310	21,817	21,895	21,973	22,051	22,130	22,208	22,286	22,365	22,443	22,522	22,600
320	22,600	22,678	22,757	22,835	22,914	22,993	23,071	23,150	23,228	23,307	23,386
330	23,386	23,464	23,543	23,622	23,701	23,780	23,858	23,937	24,016	24,095	24,174
340	24,174	24,253	24,332	24,411	24,490	24,569	24,648	24,727	24,806	24,885	24,964
350	24,964	25,044	25,123	25,202	25,281	25,360	25,440	25,519	25,598	25,678	25,757
360	25,757	25,836	25,916	25,995	26,075	26,154	26,233	26,313	26,392	26,472	26,552
370	26,552	26,631	26,711	26,790	26,870	26,950	27,029	27,109	27,189	27,268	27,348
380	27,348	27,428	27,507	27,587	27,667	27,747	27,827	27,907	27,986	28,066	28,146
390	28,146	28,226	28,306	28,386	28,466	28,546	28,626	28,706	28,786	28,866	28,946

Продолжение таблицы 6

ТЭДС в мВ при температуре свободного конца 0 °С											
Температура рабочего конца, °С	0	1	2	3	4	5	6	7	8	9	10
400	28,946	29,026	29,106	29,186	29,266	29,346	29,427	29,507	29,587	29,667	29,747
410	29,747	29,827	29,908	29,988	30,068	30,148	30,229	30,309	30,389	30,470	30,550
420	30,550	30,630	30,711	30,791	30,871	30,952	31,032	31,112	31,193	31,273	31,354
430	31,354	31,434	31,515	31,595	31,676	31,756	31,837	31,917	31,998	32,078	32,159
440	32,159	32,239	32,320	32,400	32,481	32,562	32,642	32,723	32,803	32,884	32,965
450	32,965	33,045	33,126	33,207	33,287	33,368	33,449	33,529	33,610	33,691	33,772
460	33,772	33,852	33,933	34,014	34,095	34,175	34,256	34,337	34,418	34,498	34,579
470	34,579	34,660	34,741	34,822	34,902	34,983	35,064	35,145	35,226	35,307	35,387
480	35,387	35,468	35,549	35,630	35,711	35,792	35,873	35,954	36,034	36,115	36,196
490	36,196	36,277	36,358	36,439	36,520	36,601	36,682	36,763	36,843	36,924	37,005
500	37,005	37,086	37,167	37,248	37,329	37,410	37,491	37,572	37,653	37,734	37,815
510	37,815	37,896	37,977	38,058	38,139	38,220	38,300	38,381	38,462	38,543	38,624
520	38,624	38,705	38,786	38,867	38,948	39,029	39,110	39,191	39,272	39,353	39,434
530	39,434	39,515	39,596	39,677	39,758	39,839	39,920	40,001	40,082	40,163	40,243
540	40,243	40,324	40,405	40,486	40,567	40,648	40,729	40,810	40,891	40,972	41,053
550	41,053	41,134	41,215	41,296	41,377	41,457	41,538	41,619	41,700	41,781	41,862
560	41,862	41,943	42,024	42,105	42,185	42,266	42,347	42,428	42,509	42,590	42,671
570	42,671	42,751	42,832	42,913	42,994	43,075	43,156	43,236	43,317	43,398	43,479
580	43,479	43,560	43,640	43,721	43,802	43,883	43,963	44,044	44,125	44,206	44,286
590	44,286	44,367	44,448	44,529	44,609	44,690	44,771	44,851	44,932	45,013	45,093
600	45,093	45,174	45,255	45,335	45,416	45,497	45,577	45,658	45,738	45,819	45,900
610	45,900	45,980	46,061	46,141	46,222	46,302	46,383	46,463	46,544	46,624	46,705
620	46,705	46,785	46,866	46,946	47,027	47,107	47,188	47,268	47,349	47,429	47,509
630	47,509	47,590	47,670	47,751	47,831	47,911	47,992	48,072	48,152	48,233	48,313
640	48,313	48,393	48,474	48,554	48,634	48,715	48,795	48,875	48,955	49,035	49,116
650	49,116	49,196	49,276	49,356	49,436	49,517	49,597	49,677	49,757	49,837	49,917
660	49,917	49,997	50,077	50,157	50,238	50,318	50,398	50,478	50,558	50,638	50,718
670	50,718	50,798	50,878	50,958	51,038	51,118	51,197	51,277	51,357	51,437	51,517
680	51,517	51,597	51,677	51,757	51,837	51,916	51,996	52,076	52,156	52,236	52,315
690	52,315	52,395	52,475	52,555	52,634	52,714	52,794	52,873	52,953	53,033	53,112
700	53,112	53,192	53,272	53,351	53,431	53,510	53,590	53,670	53,749	53,829	53,908
710	53,908	53,988	54,067	54,147	54,226	54,306	54,385	54,465	54,544	54,624	54,703
720	54,703	54,782	54,862	54,941	55,021	55,100	55,179	55,259	55,338	55,417	55,497
730	55,497	55,576	55,655	55,734	55,814	55,893	55,972	56,051	56,131	56,210	56,289
740	56,289	56,368	56,447	56,526	56,606	56,685	56,764	56,843	56,922	57,001	57,080

Окончание таблицы 6

ТЭДС в мВ при температуре свободного конца 0 °С											
Температура рабочего конца, °С	0	1	2	3	4	5	6	7	8	9	10
750	57,080	57,159	57,238	57,317	57,396	57,475	57,554	57,633	57,712	57,791	57,870
760	57,870	57,949	58,028	58,107	58,186	58,265	58,343	58,422	58,501	58,580	58,659
770	58,659	58,738	58,816	58,895	58,974	59,053	59,131	59,210	59,289	59,367	59,446
780	59,446	59,525	59,604	59,682	59,761	59,839	59,918	59,997	60,075	60,154	60,232
790	60,232	60,311	60,390	60,468	60,547	60,625	60,704	60,782	60,860	60,939	61,017
800	61,017	61,096	61,174	61,253	61,331	61,409	61,488	61,566	61,644	61,723	61,801
810	61,801	61,879	61,958	62,036	62,114	62,192	62,271	62,349	62,427	62,505	62,583
820	62,583	62,662	62,740	62,818	62,896	62,974	63,052	63,130	63,208	63,286	63,364
830	63,364	63,442	63,520	63,598	63,676	63,754	63,832	63,910	63,988	64,066	64,144
840	64,144	64,222	64,300	64,377	64,455	64,533	64,611	64,689	64,766	64,844	64,922
850	64,922	65,000	65,077	65,155	65,233	65,310	65,388	65,465	65,543	65,621	65,698
860	65,698	65,776	65,853	65,931	66,008	66,086	66,163	66,241	66,318	66,396	66,473
870	66,473	66,550	66,628	66,705	66,782	66,860	66,937	67,014	67,092	67,169	67,246
880	67,246	67,323	67,400	67,478	67,555	67,632	67,709	67,786	67,863	67,940	68,017
890	68,017	68,094	68,171	68,248	68,325	68,402	68,479	68,556	68,633	68,710	68,787
900	68,787	68,863	68,940	69,017	69,094	69,171	69,247	69,324	69,401	69,477	69,554
910	69,554	69,631	69,707	69,784	69,860	69,937	70,013	70,090	70,166	70,243	70,319
920	70,319	70,396	70,472	70,548	70,625	70,701	70,777	70,854	70,930	71,006	71,082
930	71,082	71,159	71,235	71,311	71,387	71,463	71,539	71,615	71,692	71,768	71,844
940	71,844	71,920	71,996	72,072	72,147	72,223	72,299	72,375	72,451	72,527	72,603
950	72,603	72,678	72,754	72,830	72,906	72,981	73,057	73,133	73,208	73,284	73,360
960	73,360	73,435	73,511	73,586	73,662	73,738	73,813	73,889	73,964	74,040	74,115
970	74,115	74,190	74,266	74,341	74,417	74,492	74,567	74,643	74,718	74,793	74,869
980	74,869	74,944	75,019	75,095	75,170	75,245	75,320	75,395	75,471	75,546	75,621
990	75,621	75,696	75,771	75,847	75,922	75,997	76,072	76,147	76,223	76,298	76,373
1000	76,373										

Таблица 7 — Значения ТЭДС для термопары типа K (никель — хром/никель — алюминий)

ТЭДС в мВ при температуре свободного конца 0 °С											
Температура рабочего конца, °С	0	1	2	3	4	5	6	7	8	9	10
—270	—6,458										
—260	—6,441	—6,444	—6,446	—6,448	—6,450	—6,452	—6,453	—6,455	—6,456	—6,457	—6,458
—250	—6,404	—6,408	—6,413	—6,417	—6,421	—6,425	—6,429	—6,432	—6,435	—6,438	—6,441

Продолжение таблицы 7

ТЭДС в мВ при температуре свободного конца 0 °С											
Температура рабочего конца, °С	0	1	2	3	4	5	6	7	8	9	10
—240	—6,344	—6,351	—6,358	—6,364	—6,370	—6,377	—6,382	—6,388	—6,393	—6,399	—6,404
—230	—6,262	—6,271	—6,280	—6,289	—6,297	—6,306	—6,314	—6,322	—6,329	—6,337	—6,344
—220	—6,158	—6,170	—6,181	—6,192	—6,202	—6,213	—6,223	—6,233	—6,243	—6,252	—6,262
—210	—6,035	—6,048	—6,061	—6,074	—6,087	—6,099	—6,111	—6,123	—6,135	—6,147	—6,158
—200	—5,891	—5,907	—5,922	—5,936	—5,951	—5,965	—5,980	—5,994	—6,007	—6,021	—6,035
—190	—5,730	—5,747	—5,763	—5,780	—5,797	—5,813	—5,829	—5,845	—5,861	—5,876	—5,891
—180	—5,550	—5,569	—5,588	—5,606	—5,624	—5,642	—5,660	—5,678	—5,695	—5,713	—5,730
—170	—5,354	—5,374	—5,395	—5,415	—5,435	—5,454	—5,474	—5,493	—5,512	—5,531	—5,550
—160	—5,141	—5,163	—5,185	—5,207	—5,228	—5,250	—5,271	—5,292	—5,313	—5,333	—5,354
—150	—4,913	—4,936	—4,960	—4,983	—5,006	—5,029	—5,052	—5,074	—5,097	—5,119	—5,141
—140	—4,669	—4,694	—4,719	—4,744	—4,768	—4,793	—4,817	—4,841	—4,865	—4,889	—4,913
—130	—4,411	—4,437	—4,463	—4,490	—4,516	—4,542	—4,567	—4,593	—4,618	—4,644	—4,669
—120	—4,138	—4,166	—4,194	—4,221	—4,249	—4,276	—4,303	—4,330	—4,357	—4,384	—4,411
—110	—3,852	—3,882	—3,911	—3,939	—3,968	—3,997	—4,025	—4,054	—4,082	—4,110	—4,138
—100	—3,554	—3,584	—3,614	—3,645	—3,675	—3,705	—3,734	—3,764	—3,794	—3,823	—3,852
—90	—3,243	—3,274	—3,306	—3,337	—3,368	—3,400	—3,431	—3,462	—3,492	—3,523	—3,554
—80	—2,920	—2,953	—2,986	—3,018	—3,050	—3,083	—3,115	—3,147	—3,179	—3,211	—3,243
—70	—2,587	—2,620	—2,654	—2,688	—2,721	—2,755	—2,788	—2,821	—2,854	—2,887	—2,920
—60	—2,243	—2,278	—2,312	—2,347	—2,382	—2,416	—2,450	—2,485	—2,519	—2,553	—2,587
—50	—1,889	—1,925	—1,961	—1,996	—2,032	—2,067	—2,103	—2,138	—2,173	—2,208	—2,243
—40	—1,527	—1,564	—1,600	—1,637	—1,673	—1,709	—1,745	—1,782	—1,818	—1,854	—1,889
—30	—1,156	—1,194	—1,231	—1,268	—1,305	—1,343	—1,380	—1,417	—1,453	—1,490	—1,527
—20	—0,778	—0,816	—0,854	—0,892	—0,930	—0,968	—1,006	—1,043	—1,081	—1,119	—1,156
—10	—0,392	—0,431	—0,470	—0,508	—0,547	—0,586	—0,624	—0,663	—0,701	—0,739	—0,778
0	0,000	—0,039	—0,079	—0,118	—0,157	—0,197	—0,236	—0,275	—0,314	—0,353	—0,392
0	0,000	0,039	0,079	0,119	0,158	0,198	0,238	0,277	0,317	0,357	0,397
10	0,397	0,437	0,477	0,517	0,557	0,597	0,637	0,677	0,718	0,758	0,798
20	0,798	0,838	0,879	0,919	0,960	1,000	1,041	1,081	1,122	1,163	1,203
30	1,203	1,244	1,285	1,326	1,366	1,407	1,448	1,489	1,530	1,571	1,612
40	1,612	1,653	1,694	1,735	1,776	1,817	1,858	1,899	1,941	1,982	2,023
50	2,023	2,064	2,106	2,147	2,188	2,230	2,271	2,312	2,354	2,395	2,436
60	2,436	2,478	2,519	2,561	2,602	2,644	2,685	2,727	2,768	2,810	2,851
70	2,851	2,893	2,934	2,976	3,017	3,059	3,100	3,142	3,184	3,225	3,267
80	3,267	3,308	3,350	3,391	3,433	3,474	3,516	3,557	3,599	3,640	3,682
90	3,682	3,723	3,765	3,806	3,848	3,889	3,931	3,972	4,013	4,055	4,096

Продолжение таблицы 7

ТЭДС в мВ при температуре свободного конца 0 °С											
Температура рабочего конца, °С	0	1	2	3	4	5	6	7	8	9	10
100	4,096	4,138	4,179	4,220	4,262	4,303	4,344	4,385	4,427	4,468	4,509
110	4,509	4,550	4,591	4,633	4,674	4,715	4,756	4,797	4,838	4,879	4,920
120	4,920	4,961	5,002	5,043	5,084	5,124	5,165	5,206	5,247	5,288	5,328
130	5,328	5,369	5,410	5,450	5,491	5,532	5,572	5,613	5,653	5,694	5,735
140	5,735	5,775	5,815	5,856	5,896	5,937	5,977	6,017	6,058	6,098	6,138
150	6,138	6,179	6,219	6,259	6,299	6,339	6,380	6,420	6,460	6,500	6,540
160	6,540	6,580	6,620	6,660	6,701	6,741	6,781	6,821	6,861	6,901	6,941
170	6,941	6,981	7,021	7,060	7,100	7,140	7,180	7,220	7,260	7,300	7,340
180	7,340	7,380	7,420	7,460	7,500	7,540	7,579	7,619	7,659	7,699	7,739
190	7,739	7,779	7,819	7,859	7,899	7,939	7,979	8,019	8,059	8,099	8,138
200	8,138	8,178	8,218	8,258	8,298	8,338	8,378	8,418	8,458	8,499	8,539
210	8,539	8,579	8,619	8,659	8,699	8,739	8,779	8,819	8,860	8,900	8,940
220	8,940	8,980	9,020	9,061	9,101	9,141	9,181	9,222	9,262	9,302	9,343
230	9,343	9,383	9,423	9,464	9,504	9,545	9,585	9,626	9,666	9,707	9,747
240	9,747	9,788	9,828	9,869	9,909	9,950	9,991	10,031	10,072	10,113	10,153
250	10,153	10,194	10,235	10,276	10,316	10,357	10,398	10,439	10,480	10,520	10,561
260	10,561	10,602	10,643	10,684	10,725	10,766	10,807	10,848	10,889	10,930	10,971
270	10,971	11,012	11,053	11,094	11,135	11,176	11,217	11,259	11,300	11,341	11,382
280	11,382	11,423	11,465	11,506	11,547	11,588	11,630	11,671	11,712	11,753	11,795
290	11,795	11,836	11,877	11,919	11,960	12,001	12,043	12,084	12,126	12,167	12,209
300	12,209	12,250	12,291	12,333	12,374	12,416	12,457	12,499	12,540	12,582	12,624
310	12,624	12,665	12,707	12,748	12,790	12,831	12,873	12,915	12,956	12,998	13,040
320	13,040	13,081	13,123	13,165	13,206	13,248	13,290	13,331	13,373	13,415	13,457
330	13,457	13,498	13,540	13,582	13,624	13,665	13,707	13,749	13,791	13,833	13,874
340	13,874	13,916	13,958	14,000	14,042	14,084	14,126	14,167	14,209	14,251	14,293
350	14,293	14,335	14,377	14,419	14,461	14,503	14,545	14,587	14,629	14,671	14,713
360	14,713	14,755	14,797	14,839	14,881	14,923	14,965	15,007	15,049	15,091	15,133
370	15,133	15,175	15,217	15,259	15,301	15,343	15,385	15,427	15,469	15,511	15,554
380	15,554	15,596	15,638	15,680	15,722	15,764	15,806	15,849	15,891	15,933	15,975
390	15,975	16,017	16,059	16,102	16,144	16,186	16,228	16,270	16,313	16,355	16,397
400	16,397	16,439	16,482	16,524	16,566	16,608	16,651	16,693	16,735	16,778	16,820
410	16,820	16,862	16,904	16,947	16,989	17,031	17,074	17,116	17,158	17,201	17,243
420	17,243	17,285	17,328	17,370	17,413	17,455	17,497	17,540	17,582	17,624	17,667
430	17,667	17,709	17,752	17,794	17,837	17,879	17,921	17,964	18,006	18,049	18,091
440	18,091	18,134	18,176	18,218	18,261	18,303	18,346	18,388	18,431	18,473	18,516

Продолжение таблицы 7

ТЭДС в мВ при температуре свободного конца 0 °С											
Температура рабочего конца, °С	0	1	2	3	4	5	6	7	8	9	10
450	18,516	18,558	18,601	18,643	18,686	18,728	18,771	18,813	18,856	18,898	18,941
460	18,941	18,983	19,026	19,068	19,111	19,154	19,196	19,239	19,281	19,324	19,366
470	19,366	19,409	19,451	19,494	19,537	19,579	19,622	19,664	19,707	19,750	19,792
480	19,792	19,835	19,877	19,920	19,962	20,005	20,048	20,090	20,133	20,175	20,218
490	20,218	20,261	20,303	20,346	20,389	20,431	20,474	20,516	20,559	20,602	20,644
500	20,644	20,687	20,730	20,772	20,815	20,857	20,900	20,943	20,985	21,028	21,071
510	21,071	21,113	21,156	21,199	21,241	21,284	21,326	21,369	21,412	21,454	21,497
520	21,497	21,540	21,582	21,625	21,668	21,710	21,753	21,796	21,838	21,881	21,924
530	21,924	21,966	22,009	22,052	22,094	22,137	22,179	22,222	22,265	22,307	22,350
540	22,350	22,393	22,435	22,478	22,521	22,563	22,606	22,649	22,691	22,734	22,776
550	22,776	22,819	22,862	22,904	22,947	22,990	23,032	23,075	23,117	23,160	23,203
560	23,203	23,245	23,288	23,331	23,373	23,416	23,458	23,501	23,544	23,586	23,629
570	23,629	23,671	23,714	23,757	23,799	23,842	23,884	23,927	23,970	24,012	24,055
580	24,055	24,097	24,140	24,182	24,225	24,267	24,310	24,353	24,395	24,438	24,480
590	24,480	24,523	24,565	24,608	24,650	24,693	24,735	24,778	24,820	24,863	24,905
600	24,905	24,948	24,990	25,033	25,075	25,118	25,160	25,203	25,245	25,288	25,330
610	25,330	25,373	25,415	25,458	25,500	25,543	25,585	25,627	25,670	25,712	25,755
620	25,755	25,797	25,840	25,882	25,924	25,967	26,009	26,052	26,094	26,136	26,179
630	26,179	26,221	26,263	26,306	26,348	26,390	26,433	26,475	26,517	26,560	26,602
640	26,602	26,644	26,687	26,729	26,771	26,814	26,856	26,898	26,940	26,983	27,025
650	27,025	27,067	27,109	27,152	27,194	27,236	27,278	27,320	27,363	27,405	27,447
660	27,447	27,489	27,531	27,574	27,616	27,658	27,700	27,742	27,784	27,826	27,869
670	27,869	27,911	27,953	27,995	28,037	28,079	28,121	28,163	28,205	28,247	28,289
680	28,289	28,332	28,374	28,416	28,458	28,500	28,542	28,584	28,626	28,668	28,710
690	28,710	28,752	28,794	28,835	28,877	28,919	28,961	29,003	29,045	29,087	29,129
700	29,129	29,171	29,213	29,255	29,297	29,338	29,380	29,422	29,464	29,506	29,548
710	29,548	29,589	29,631	29,673	29,715	29,757	29,798	29,840	29,882	29,924	29,965
720	29,965	30,007	30,049	30,090	30,132	30,174	30,216	30,257	30,299	30,341	30,382
730	30,382	30,424	30,466	30,507	30,549	30,590	30,632	30,674	30,715	30,757	30,798
740	30,798	30,840	30,881	30,923	30,964	31,006	31,047	31,089	31,130	31,172	31,213
750	31,213	31,255	31,296	31,338	31,379	31,421	31,462	31,504	31,545	31,586	31,628
760	31,628	31,669	31,710	31,752	31,793	31,834	31,876	31,917	31,958	32,000	32,041
770	32,041	32,082	32,124	32,165	32,206	32,247	32,289	32,330	32,371	32,412	32,453
780	32,453	32,495	32,536	32,577	32,618	32,659	32,700	32,742	32,783	32,824	32,865
790	32,865	32,906	32,947	32,988	33,029	33,070	33,111	33,152	33,193	33,234	33,275

Продолжение таблицы 7

ТЭДС в мВ при температуре свободного конца 0 °С											
Температура рабочего конца, °С	0	1	2	3	4	5	6	7	8	9	10
800	33,275	33,316	33,357	33,398	33,439	33,480	33,521	33,562	33,603	33,644	33,685
810	33,685	33,726	33,767	33,808	33,848	33,889	33,930	33,971	34,012	34,053	34,093
820	34,093	34,134	34,175	34,216	34,257	34,297	34,338	34,379	34,420	34,460	34,501
830	34,501	34,542	34,582	34,623	34,664	34,704	34,745	34,786	34,826	34,867	34,908
840	34,908	34,948	34,989	35,029	35,070	35,110	35,151	35,192	35,232	35,273	35,313
850	35,313	35,354	35,394	35,435	35,475	35,516	35,556	35,596	35,637	35,677	35,718
860	35,718	35,758	35,798	35,839	35,879	35,920	35,960	36,000	36,041	36,081	36,121
870	36,121	36,162	36,202	36,242	36,282	36,323	36,363	36,403	36,443	36,484	36,524
880	36,524	36,564	36,604	36,644	36,685	36,725	36,765	36,805	36,845	36,885	36,925
890	36,925	36,965	37,006	37,046	37,086	37,126	37,166	37,206	37,246	37,286	37,326
900	37,326	37,366	37,406	37,446	37,486	37,526	37,566	37,606	37,646	37,686	37,725
910	37,725	37,765	37,805	37,845	37,885	37,925	37,965	38,005	38,044	38,084	38,124
920	38,124	38,164	38,204	38,243	38,283	38,323	38,363	38,402	38,442	38,482	38,522
930	38,522	38,561	38,601	38,641	38,680	38,720	38,760	38,799	38,839	38,878	38,918
940	38,918	38,958	38,997	39,037	39,076	39,116	39,155	39,195	39,235	39,274	39,314
950	39,314	39,353	39,393	39,432	39,471	39,511	39,550	39,590	39,629	39,669	39,708
960	39,708	39,747	39,787	39,826	39,866	39,905	39,944	39,984	40,023	40,062	40,101
970	40,101	40,141	40,180	40,219	40,259	40,298	40,337	40,376	40,415	40,455	40,494
980	40,494	40,533	40,572	40,611	40,651	40,690	40,729	40,768	40,807	40,846	40,885
990	40,885	40,924	40,963	41,002	41,042	41,081	41,120	41,159	41,198	41,237	41,276
1000	41,276	41,315	41,354	41,393	41,431	41,470	41,509	41,548	41,587	41,626	41,665
1010	41,665	41,704	41,743	41,781	41,820	41,859	41,898	41,937	41,976	42,014	42,053
1020	42,053	42,092	42,131	42,169	42,208	42,247	42,286	42,324	42,363	42,402	42,440
1030	42,440	42,479	42,518	42,556	42,595	42,633	42,672	42,711	42,749	42,788	42,826
1040	42,826	42,865	42,903	42,942	42,980	43,019	43,057	43,096	43,134	43,173	43,211
1050	43,211	43,250	43,288	43,327	43,365	43,403	43,442	43,480	43,518	43,557	43,595
1060	43,595	43,633	43,672	43,710	43,748	43,787	43,825	43,863	43,901	43,940	43,978
1070	43,978	44,016	44,054	44,092	44,130	44,169	44,207	44,245	44,283	44,321	44,359
1080	44,359	44,397	44,435	44,473	44,512	44,550	44,588	44,626	44,664	44,702	44,740
1090	44,740	44,778	44,816	44,853	44,891	44,929	44,967	45,005	45,043	45,081	45,119
1100	45,119	45,157	45,194	45,232	45,270	45,308	45,346	45,383	45,421	45,459	45,497
1110	45,497	45,534	45,572	45,610	45,647	45,685	45,723	45,760	45,798	45,836	45,873
1120	45,873	45,911	45,948	45,986	46,024	46,061	46,099	46,136	46,174	46,211	46,249
1130	46,249	46,286	46,324	46,361	46,398	46,436	46,473	46,511	46,548	46,585	46,623
1140	46,623	46,660	46,697	46,735	46,772	46,809	46,847	46,884	46,921	46,958	46,995

Окончание таблицы 7

ТЭДС в мВ при температуре свободного конца 0 °С											
Температура рабочего конца, °С	0	1	2	3	4	5	6	7	8	9	10
1150	46,995	47,033	47,070	47,107	47,144	47,181	47,218	47,256	47,293	47,330	47,367
1160	47,367	47,404	47,441	47,478	47,515	47,552	47,589	47,626	47,663	47,700	47,737
1170	47,737	47,774	47,811	47,848	47,884	47,921	47,958	47,995	48,032	48,069	48,105
1180	48,105	48,142	48,179	48,216	48,252	48,289	48,326	48,363	48,399	48,436	48,473
1190	48,473	48,509	48,546	48,582	48,619	48,656	48,692	48,729	48,765	48,802	48,838
1200	48,838	48,875	48,911	48,948	48,984	49,021	49,057	49,093	49,130	49,166	49,202
1210	49,202	49,239	49,275	49,311	49,348	49,384	49,420	49,456	49,493	49,529	49,565
1220	49,565	49,601	49,637	49,674	49,710	49,746	49,782	49,818	49,854	49,890	49,926
1230	49,926	49,962	49,998	50,034	50,070	50,106	50,142	50,178	50,214	50,250	50,286
1240	50,286	50,322	50,358	50,393	50,429	50,465	50,501	50,537	50,572	50,608	50,644
1250	50,644	50,680	50,715	50,751	50,787	50,822	50,858	50,894	50,929	50,965	51,000
1260	51,000	51,036	51,071	51,107	51,142	51,178	51,213	51,249	51,284	51,320	51,355
1270	51,355	51,391	51,426	51,461	51,497	51,532	51,567	51,603	51,638	51,673	51,708
1280	51,708	51,744	51,779	51,814	51,849	51,885	51,920	51,955	51,990	52,025	52,060
1290	52,060	52,095	52,130	52,165	52,200	52,235	52,270	52,305	52,340	52,375	52,410
1300	52,410	52,445	52,480	52,515	52,550	52,585	52,620	52,654	52,689	52,724	52,759
1310	52,759	52,794	52,828	52,863	52,898	52,932	52,967	53,002	53,037	53,071	53,106
1320	53,106	53,140	53,175	53,210	53,244	53,279	53,313	53,348	53,382	53,417	53,451
1330	53,451	53,486	53,520	53,555	53,589	53,623	53,658	53,692	53,727	53,761	53,795
1340	53,795	53,830	53,864	53,898	53,932	53,967	54,001	54,035	54,069	54,104	54,138
1350	54,138	54,172	54,206	54,240	54,274	54,308	54,343	54,377	54,411	54,445	54,479
1360	54,479	54,513	54,547	54,581	54,615	54,649	54,683	54,717	54,751	54,785	54,819
1370	54,819	54,852	54,886								

Таблица 8 — Значения ТЭДС для термопары типа N (никель — хром — кремний/никель — кремний)

ТЭДС в мВ при температуре свободного конца 0 °С											
Температура рабочего конца, °С	0	1	2	3	4	5	6	7	8	9	10
—270	—4,345										
—260	—4,336	—4,337	—4,339	—4,340	—4,341	—4,342	—4,343	—4,344	—4,344	—4,345	—4,345
—250	—4,313	—4,316	—4,319	—4,321	—4,324	—4,326	—4,328	—4,330	—4,332	—4,334	—4,336
—240	—4,277	—4,281	—4,285	—4,289	—4,293	—4,297	—4,300	—4,304	—4,307	—4,310	—4,313
—230	—4,226	—4,232	—4,238	—4,243	—4,248	—4,254	—4,258	—4,263	—4,268	—4,273	—4,277
—220	—4,162	—4,169	—4,176	—4,183	—4,189	—4,196	—4,202	—4,209	—4,215	—4,221	—4,226
—210	—4,083	—4,091	—4,100	—4,108	—4,116	—4,124	—4,132	—4,140	—4,147	—4,154	—4,162
—200	—3,990	—4,000	—4,010	—4,020	—4,029	—4,038	—4,048	—4,057	—4,066	—4,074	—4,083

Продолжение таблицы 8

ТЭДС в мВ при температуре свободного конца 0 °С											
Температура рабочего конца, °С	0	1	2	3	4	5	6	7	8	9	10
—190	—3,884	—3,896	—3,907	—3,918	—3,928	—3,939	—3,950	—3,960	—3,970	—3,980	—3,990
—180	—3,766	—3,778	—3,790	—3,803	—3,815	—3,827	—3,838	—3,850	—3,862	—3,873	—3,884
—170	—3,634	—3,648	—3,662	—3,675	—3,688	—3,702	—3,715	—3,728	—3,740	—3,753	—3,766
—160	—3,491	—3,506	—3,521	—3,535	—3,550	—3,564	—3,578	—3,593	—3,607	—3,621	—3,634
—150	—3,336	—3,352	—3,368	—3,384	—3,400	—3,415	—3,431	—3,446	—3,461	—3,476	—3,491
—140	—3,171	—3,188	—3,205	—3,221	—3,238	—3,255	—3,271	—3,288	—3,304	—3,320	—3,336
—130	—2,994	—3,012	—3,030	—3,048	—3,066	—3,084	—3,101	—3,119	—3,136	—3,153	—3,171
—120	—2,808	—2,827	—2,846	—2,865	—2,883	—2,902	—2,921	—2,939	—2,958	—2,976	—2,994
—110	—2,612	—2,632	—2,652	—2,672	—2,691	—2,711	—2,730	—2,750	—2,769	—2,789	—2,808
—100	—2,407	—2,428	—2,448	—2,469	—2,490	—2,510	—2,531	—2,551	—2,571	—2,592	—2,612
—90	—2,193	—2,215	—2,237	—2,258	—2,280	—2,301	—2,322	—2,344	—2,365	—2,386	—2,407
—80	—1,972	—1,995	—2,017	—2,039	—2,062	—2,084	—2,106	—2,128	—2,150	—2,172	—2,193
—70	—1,744	—1,767	—1,790	—1,813	—1,836	—1,859	—1,882	—1,905	—1,927	—1,950	—1,972
—60	—1,509	—1,533	—1,557	—1,580	—1,604	—1,627	—1,651	—1,674	—1,698	—1,721	—1,744
—50	—1,269	—1,293	—1,317	—1,341	—1,366	—1,390	—1,414	—1,438	—1,462	—1,485	—1,509
—40	—1,023	—1,048	—1,072	—1,097	—1,122	—1,146	—1,171	—1,195	—1,220	—1,244	—1,269
—30	—0,772	—0,798	—0,823	—0,848	—0,873	—0,898	—0,923	—0,948	—0,973	—0,998	—1,023
—20	—0,518	—0,544	—0,569	—0,595	—0,620	—0,646	—0,671	—0,696	—0,722	—0,747	—0,772
—10	—0,260	—0,286	—0,312	—0,338	—0,364	—0,390	—0,415	—0,441	—0,467	—0,492	—0,518
0	0,000	—0,026	—0,052	—0,078	—0,104	—0,131	—0,157	—0,183	—0,209	—0,234	—0,260
0	0,000	0,026	0,052	0,078	0,104	0,130	0,156	0,182	0,208	0,235	0,261
10	0,261	0,287	0,313	0,340	0,366	0,393	0,419	0,446	0,472	0,499	0,525
20	0,525	0,552	0,578	0,605	0,632	0,659	0,685	0,712	0,739	0,766	0,793
30	0,793	0,820	0,847	0,874	0,901	0,928	0,955	0,983	1,010	1,037	1,065
40	1,065	1,092	1,119	1,147	1,174	1,202	1,229	1,257	1,284	1,312	1,340
50	1,340	1,368	1,395	1,423	1,451	1,479	1,507	1,535	1,563	1,591	1,619
60	1,619	1,647	1,675	1,703	1,732	1,760	1,788	1,817	1,845	1,873	1,902
70	1,902	1,930	1,959	1,988	2,016	2,045	2,074	2,102	2,131	2,160	2,189
80	2,189	2,218	2,247	2,276	2,305	2,334	2,363	2,392	2,421	2,450	2,480
90	2,480	2,509	2,538	2,568	2,597	2,626	2,656	2,685	2,715	2,744	2,774
100	2,774	2,804	2,833	2,863	2,893	2,923	2,953	2,983	3,012	3,042	3,072
110	3,072	3,102	3,133	3,163	3,193	3,223	3,253	3,283	3,314	3,344	3,374
120	3,374	3,405	3,435	3,466	3,496	3,527	3,557	3,588	3,619	3,649	3,680
130	3,680	3,711	3,742	3,772	3,803	3,834	3,865	3,896	3,927	3,958	3,989
140	3,989	4,020	4,051	4,083	4,114	4,145	4,176	4,208	4,239	4,270	4,302

Продолжение таблицы 8

ТЭДС в мВ при температуре свободного конца 0 °С											
Температура рабочего конца, °С	0	1	2	3	4	5	6	7	8	9	10
150	4,302	4,333	4,365	4,396	4,428	4,459	4,491	4,523	4,554	4,586	4,618
160	4,618	4,650	4,681	4,713	4,745	4,777	4,809	4,841	4,873	4,905	4,937
170	4,937	4,969	5,001	5,033	5,066	5,098	5,130	5,162	5,195	5,227	5,259
180	5,259	5,292	5,324	5,357	5,389	5,422	5,454	5,487	5,520	5,552	5,585
190	5,585	5,618	5,650	5,683	5,716	5,749	5,782	5,815	5,847	5,880	5,913
200	5,913	5,946	5,979	6,013	6,046	6,079	6,112	6,145	6,178	6,211	6,245
210	6,245	6,278	6,311	6,345	6,378	6,411	6,445	6,478	6,512	6,545	6,579
220	6,579	6,612	6,646	6,680	6,713	6,747	6,781	6,814	6,848	6,882	6,916
230	6,916	6,949	6,983	7,017	7,051	7,085	7,119	7,153	7,187	7,221	7,255
240	7,255	7,289	7,323	7,357	7,392	7,426	7,460	7,494	7,528	7,563	7,597
250	7,597	7,631	7,666	7,700	7,734	7,769	7,803	7,838	7,872	7,907	7,941
260	7,941	7,976	8,010	8,045	8,080	8,114	8,149	8,184	8,218	8,253	8,288
270	8,288	8,323	8,358	8,392	8,427	8,462	8,497	8,532	8,567	8,602	8,637
280	8,637	8,672	8,707	8,742	8,777	8,812	8,847	8,882	8,918	8,953	8,988
290	8,988	9,023	9,058	9,094	9,129	9,164	9,200	9,235	9,270	9,306	9,341
300	9,341	9,377	9,412	9,448	9,483	9,519	9,554	9,590	9,625	9,661	9,696
310	9,696	9,732	9,768	9,803	9,839	9,875	9,910	9,946	9,982	10,018	10,054
320	10,054	10,089	10,125	10,161	10,197	10,233	10,269	10,305	10,341	10,377	10,413
330	10,413	10,449	10,485	10,521	10,557	10,593	10,629	10,665	10,701	10,737	10,774
340	10,774	10,810	10,846	10,882	10,918	10,955	10,991	11,027	11,064	11,100	11,136
350	11,136	11,173	11,209	11,245	11,282	11,318	11,355	11,391	11,428	11,464	11,501
360	11,501	11,537	11,574	11,610	11,647	11,683	11,720	11,757	11,793	11,830	11,867
370	11,867	11,903	11,940	11,977	12,013	12,050	12,087	12,124	12,160	12,197	12,234
380	12,234	12,271	12,308	12,345	12,382	12,418	12,455	12,492	12,529	12,566	12,603
390	12,603	12,640	12,677	12,714	12,751	12,788	12,825	12,862	12,899	12,937	12,974
400	12,974	13,011	13,048	13,085	13,122	13,159	13,197	13,234	13,271	13,308	13,346
410	13,346	13,383	13,420	13,457	13,495	13,532	13,569	13,607	13,644	13,682	13,719
420	13,719	13,756	13,794	13,831	13,869	13,906	13,944	13,981	14,019	14,056	14,094
430	14,094	14,131	14,169	14,206	14,244	14,281	14,319	14,356	14,394	14,432	14,469
440	14,469	14,507	14,545	14,582	14,620	14,658	14,695	14,733	14,771	14,809	14,846
450	14,846	14,884	14,922	14,960	14,998	15,035	15,073	15,111	15,149	15,187	15,225
460	15,225	15,262	15,300	15,338	15,376	15,414	15,452	15,490	15,528	15,566	15,604
470	15,604	15,642	15,680	15,718	15,756	15,794	15,832	15,870	15,908	15,946	15,984
480	15,984	16,022	16,060	16,099	16,137	16,175	16,213	16,251	16,289	16,327	16,366
490	16,366	16,404	16,442	16,480	16,518	16,557	16,595	16,633	16,671	16,710	16,748

Продолжение таблицы 8

ТЭДС в мВ при температуре свободного конца 0 °С											
Температура рабочего конца, °С	0	1	2	3	4	5	6	7	8	9	10
500	16,748	16,786	16,824	16,863	16,901	16,939	16,978	17,016	17,054	17,093	17,131
510	17,131	17,169	17,208	17,246	17,285	17,323	17,361	17,400	17,438	17,477	17,515
520	17,515	17,554	17,592	17,630	17,669	17,707	17,746	17,784	17,823	17,861	17,900
530	17,900	17,938	17,977	18,016	18,054	18,093	18,131	18,170	18,208	18,247	18,286
540	18,286	18,324	18,363	18,401	18,440	18,479	18,517	18,556	18,595	18,633	18,672
550	18,672	18,711	18,749	18,788	18,827	18,865	18,904	18,943	18,982	19,020	19,059
560	19,059	19,098	19,136	19,175	19,214	19,253	19,292	19,330	19,369	19,408	19,447
570	19,447	19,485	19,524	19,563	19,602	19,641	19,680	19,718	19,757	19,796	19,835
580	19,835	19,874	19,913	19,952	19,990	20,029	20,068	20,107	20,146	20,185	20,224
590	20,224	20,263	20,302	20,341	20,379	20,418	20,457	20,496	20,535	20,574	20,613
600	20,613	20,652	20,691	20,730	20,769	20,808	20,847	20,886	20,925	20,964	21,003
610	21,003	21,042	21,081	21,120	21,159	21,198	21,237	21,276	21,315	21,354	21,393
620	21,393	21,432	21,471	21,510	21,549	21,588	21,628	21,667	21,706	21,745	21,784
630	21,784	21,823	21,862	21,901	21,940	21,979	22,018	22,058	22,097	22,136	22,175
640	22,175	22,214	22,253	22,292	22,331	22,370	22,410	22,449	22,488	22,527	22,566
650	22,566	22,605	22,644	22,684	22,723	22,762	22,801	22,840	22,879	22,919	22,958
660	22,958	22,997	23,036	23,075	23,115	23,154	23,193	23,232	23,271	23,311	23,350
670	23,350	23,389	23,428	23,467	23,507	23,546	23,585	23,624	23,663	23,703	23,742
680	23,742	23,781	23,820	23,860	23,899	23,938	23,977	24,016	24,056	24,095	24,134
690	24,134	24,173	24,213	24,252	24,291	24,330	24,370	24,409	24,448	24,487	24,527
700	24,527	24,566	24,605	24,644	24,684	24,723	24,762	24,801	24,841	24,880	24,919
710	24,919	24,959	24,998	25,037	25,076	25,116	25,155	25,194	25,233	25,273	25,312
720	25,312	25,351	25,391	25,430	25,469	25,508	25,548	25,587	25,626	25,666	25,705
730	25,705	25,744	25,783	25,823	25,862	25,901	25,941	25,980	26,019	26,058	26,098
740	26,098	26,137	26,176	26,216	26,255	26,294	26,333	26,373	26,412	26,451	26,491
750	26,491	26,530	26,569	26,608	26,648	26,687	26,726	26,766	26,805	26,844	26,883
760	26,883	26,923	26,962	27,001	27,041	27,080	27,119	27,158	27,198	27,237	27,276
770	27,276	27,316	27,355	27,394	27,433	27,473	27,512	27,551	27,591	27,630	27,669
780	27,669	27,708	27,748	27,787	27,826	27,866	27,905	27,944	27,983	28,023	28,062
790	28,062	28,101	28,140	28,180	28,219	28,258	28,297	28,337	28,376	28,415	28,455
800	28,455	28,494	28,533	28,572	28,612	28,651	28,690	28,729	28,769	28,808	28,847
810	28,847	28,886	28,926	28,965	29,004	29,043	29,083	29,122	29,161	29,200	29,239
820	29,239	29,279	29,318	29,357	29,396	29,436	29,475	29,514	29,553	29,592	29,632
830	29,632	29,671	29,710	29,749	29,789	29,828	29,867	29,906	29,945	29,985	30,024
840	30,024	30,063	30,102	30,141	30,181	30,220	30,259	30,298	30,337	30,376	30,416

Продолжение таблицы 8

ТЭДС в мВ при температуре свободного конца 0 °С											
Температура рабочего конца, °С	0	1	2	3	4	5	6	7	8	9	10
850	30,416	30,455	30,494	30,533	30,572	30,611	30,651	30,690	30,729	30,768	30,807
860	30,807	30,846	30,886	30,925	30,964	31,003	31,042	31,081	31,120	31,160	31,199
870	31,199	31,238	31,277	31,316	31,355	31,394	31,433	31,473	31,512	31,551	31,590
880	31,590	31,629	31,668	31,707	31,746	31,785	31,824	31,863	31,903	31,942	31,981
890	31,981	32,020	32,059	32,098	32,137	32,176	32,215	32,254	32,293	32,332	32,371
900	32,371	32,410	32,449	32,488	32,527	32,566	32,605	32,644	32,683	32,722	32,761
910	32,761	32,800	32,839	32,878	32,917	32,956	32,995	33,034	33,073	33,112	33,151
920	33,151	33,190	33,229	33,268	33,307	33,346	33,385	33,424	33,463	33,502	33,541
930	33,541	33,580	33,619	33,658	33,697	33,736	33,774	33,813	33,852	33,891	33,930
940	33,930	33,969	34,008	34,047	34,086	34,124	34,163	34,202	34,241	34,280	34,319
950	34,319	34,358	34,396	34,435	34,474	34,513	34,552	34,591	34,629	34,668	34,707
960	34,707	34,746	34,785	34,823	34,862	34,901	34,940	34,979	35,017	35,056	35,095
970	35,095	35,134	35,172	35,211	35,250	35,289	35,327	35,366	35,405	35,444	35,482
980	35,482	35,521	35,560	35,598	35,637	35,676	35,714	35,753	35,792	35,831	35,869
990	35,869	35,908	35,946	35,985	36,024	36,062	36,101	36,140	36,178	36,217	36,256
1000	36,256	36,294	36,333	36,371	36,410	36,449	36,487	36,526	36,564	36,603	36,641
1010	36,641	36,680	36,718	36,757	36,796	36,834	36,873	36,911	36,950	36,988	37,027
1020	37,027	37,065	37,104	37,142	37,181	37,219	37,258	37,296	37,334	37,373	37,411
1030	37,411	37,450	37,488	37,527	37,565	37,603	37,642	37,680	37,719	37,757	37,795
1040	37,795	37,834	37,872	37,911	37,949	37,987	38,026	38,064	38,102	38,141	38,179
1050	38,179	38,217	38,256	38,294	38,332	38,370	38,409	38,447	38,485	38,524	38,562
1060	38,562	38,600	38,638	38,677	38,715	38,753	38,791	38,829	38,868	38,906	38,944
1070	38,944	38,982	39,020	39,059	39,097	39,135	39,173	39,211	39,249	39,287	39,326
1080	39,326	39,364	39,402	39,440	39,478	39,516	39,554	39,592	39,630	39,668	39,706
1090	39,706	39,744	39,783	39,821	39,859	39,897	39,935	39,973	40,011	40,049	40,087
1100	40,087	40,125	40,163	40,201	40,238	40,276	40,314	40,352	40,390	40,428	40,466
1110	40,466	40,504	40,542	40,580	40,618	40,655	40,693	40,731	40,769	40,807	40,845
1120	40,845	40,883	40,920	40,958	40,996	41,034	41,072	41,109	41,147	41,185	41,223
1130	41,223	41,260	41,298	41,336	41,374	41,411	41,449	41,487	41,525	41,562	41,600
1140	41,600	41,638	41,675	41,713	41,751	41,788	41,826	41,864	41,901	41,939	41,976
1150	41,976	42,014	42,052	42,089	42,127	42,164	42,202	42,239	42,277	42,314	42,352
1160	42,352	42,390	42,427	42,465	42,502	42,540	42,577	42,614	42,652	42,689	42,727
1170	42,727	42,764	42,802	42,839	42,877	42,914	42,951	42,989	43,026	43,064	43,101
1180	43,101	43,138	43,176	43,213	43,250	43,288	43,325	43,362	43,399	43,437	43,474
1190	43,474	43,511	43,549	43,586	43,623	43,660	43,698	43,735	43,772	43,809	43,846

Окончание таблицы 8

ТЭДС в мВ при температуре свободного конца 0 °С											
Температура рабочего конца, °С	0	1	2	3	4	5	6	7	8	9	10
1200	43,846	43,884	43,921	43,958	43,995	44,032	44,069	44,106	44,144	44,181	44,218
1210	44,218	44,255	44,292	44,329	44,366	44,403	44,440	44,477	44,514	44,551	44,588
1220	44,588	44,625	44,662	44,699	44,736	44,773	44,810	44,847	44,884	44,921	44,958
1230	44,958	44,995	45,032	45,069	45,105	45,142	45,179	45,216	45,253	45,290	45,326
1240	45,326	45,363	45,400	45,437	45,474	45,510	45,547	45,584	45,621	45,657	45,694
1250	45,694	45,731	45,767	45,804	45,841	45,877	45,914	45,951	45,987	46,024	46,060
1260	46,060	46,097	46,133	46,170	46,207	46,243	46,280	46,316	46,353	46,389	46,425
1270	46,425	46,462	46,498	46,535	46,571	46,608	46,644	46,680	46,717	46,753	46,789
1280	46,789	46,826	46,862	46,898	46,935	46,971	47,007	47,043	47,079	47,116	47,152
1290	47,152	47,188	47,224	47,260	47,296	47,333	47,369	47,405	47,441	47,477	47,513
1300	47,513										

Таблица 9 — Значения ТЭДС для термопары типа А-1 (вольфрам — рений/вольфрам — рений)

ТЭДС в мВ при температуре свободного конца 0 °С											
Температура рабочего конца, °С	0	1	2	3	4	5	6	7	8	9	10
0	0,000	0,013	0,025	0,037	0,049	0,061	0,073	0,085	0,097	0,110	0,122
10	0,122	0,134	0,146	0,159	0,171	0,184	0,196	0,209	0,221	0,234	0,246
20	0,246	0,259	0,271	0,284	0,297	0,310	0,322	0,335	0,348	0,361	0,374
30	0,374	0,386	0,399	0,412	0,425	0,438	0,451	0,464	0,477	0,491	0,504
40	0,504	0,517	0,530	0,543	0,557	0,570	0,583	0,596	0,610	0,623	0,637
50	0,637	0,650	0,664	0,677	0,691	0,704	0,718	0,731	0,745	0,758	0,772
60	0,772	0,786	0,799	0,813	0,827	0,841	0,855	0,868	0,882	0,896	0,910
70	0,910	0,924	0,938	0,952	0,966	0,980	0,994	1,008	1,022	1,036	1,050
80	1,050	1,064	1,078	1,093	1,107	1,121	1,135	1,150	1,164	1,178	1,193
90	1,193	1,207	1,221	1,236	1,250	1,265	1,279	1,293	1,308	1,322	1,337
100	1,337	1,352	1,366	1,381	1,395	1,410	1,425	1,439	1,454	1,469	1,483
110	1,483	1,498	1,513	1,528	1,542	1,557	1,572	1,587	1,602	1,617	1,632
120	1,632	1,647	1,661	1,676	1,691	1,706	1,721	1,736	1,751	1,766	1,782
130	1,782	1,797	1,812	1,827	1,842	1,857	1,872	1,887	1,903	1,918	1,933
140	1,933	1,948	1,964	1,979	1,994	2,009	2,025	2,040	2,055	2,071	2,086

Продолжение таблицы 9

ТЭДС в мВ при температуре свободного конца 0 °С											
Температура рабочего конца, °С	0	1	2	3	4	5	6	7	8	9	10
150	2,086	2,102	2,117	2,132	2,148	2,163	2,179	2,194	2,210	2,225	2,241
160	2,241	2,256	2,272	2,287	2,303	2,319	2,334	2,350	2,365	2,381	2,397
170	2,397	2,412	2,428	2,444	2,459	2,475	2,491	2,507	2,522	2,538	2,554
180	2,554	2,570	2,585	2,601	2,617	2,633	2,649	2,665	2,680	2,696	2,712
190	2,712	2,728	2,744	2,760	2,776	2,792	2,808	2,824	2,840	2,856	2,872
200	2,872	2,888	2,904	2,920	2,936	2,952	2,968	2,984	3,000	3,016	3,032
210	3,032	3,048	3,064	3,081	3,097	3,113	3,129	3,145	3,161	3,177	3,194
220	3,194	3,210	3,226	3,242	3,259	3,275	3,291	3,307	3,324	3,340	3,356
230	3,356	3,372	3,389	3,405	3,421	3,438	3,454	3,470	3,487	3,503	3,519
240	3,519	3,536	3,552	3,568	3,585	3,601	3,618	3,634	3,650	3,667	3,683
250	3,683	3,700	3,716	3,733	3,749	3,766	3,782	3,799	3,815	3,832	3,848
260	3,848	3,865	3,881	3,898	3,914	3,931	3,947	3,964	3,980	3,997	4,013
270	4,013	4,030	4,047	4,063	4,080	4,096	4,113	4,130	4,146	4,163	4,179
280	4,179	4,196	4,213	4,229	4,246	4,263	4,279	4,296	4,313	4,329	4,346
290	4,346	4,363	4,379	4,396	4,413	4,430	4,446	4,463	4,480	4,496	4,513
300	4,513	4,530	4,547	4,563	4,580	4,597	4,614	4,630	4,647	4,664	4,681
310	4,681	4,697	4,714	4,731	4,748	4,765	4,781	4,798	4,815	4,832	4,849
320	4,849	4,866	4,882	4,899	4,916	4,933	4,950	4,967	4,983	5,000	5,017
330	5,017	5,034	5,051	5,068	5,085	5,101	5,118	5,135	5,152	5,169	5,186
340	5,186	5,203	5,220	5,237	5,253	5,270	5,287	5,304	5,321	5,338	5,355
350	5,355	5,372	5,389	5,406	5,423	5,440	5,456	5,473	5,490	5,507	5,524
360	5,524	5,541	5,558	5,575	5,592	5,609	5,626	5,643	5,660	5,677	5,694
370	5,694	5,711	5,728	5,745	5,762	5,779	5,796	5,813	5,830	5,847	5,864
380	5,864	5,881	5,898	5,915	5,932	5,949	5,966	5,983	6,000	6,017	6,034
390	6,034	6,051	6,068	6,085	6,102	6,119	6,136	6,153	6,170	6,187	6,204
400	6,204	6,221	6,238	6,255	6,272	6,289	6,306	6,323	6,340	6,357	6,374
410	6,374	6,391	6,408	6,425	6,442	6,459	6,476	6,493	6,510	6,527	6,544
420	6,544	6,561	6,579	6,596	6,613	6,630	6,647	6,664	6,681	6,698	6,715
430	6,715	6,732	6,749	6,766	6,783	6,800	6,817	6,834	6,851	6,868	6,885
440	6,885	6,902	6,919	6,937	6,954	6,971	6,988	7,005	7,022	7,039	7,056
450	7,056	7,073	7,090	7,107	7,124	7,141	7,158	7,175	7,192	7,209	7,226
460	7,226	7,244	7,261	7,278	7,295	7,312	7,329	7,346	7,363	7,380	7,397
470	7,397	7,414	7,431	7,448	7,465	7,482	7,499	7,516	7,533	7,551	7,568
480	7,568	7,585	7,602	7,619	7,636	7,653	7,670	7,687	7,704	7,721	7,738
490	7,738	7,755	7,772	7,789	7,806	7,823	7,840	7,857	7,874	7,891	7,908

Продолжение таблицы 9

ТЭДС в мВ при температуре свободного конца 0 °С											
Температура рабочего конца, °С	0	1	2	3	4	5	6	7	8	9	10
500	7,908	7,925	7,943	7,960	7,977	7,994	8,011	8,028	8,045	8,062	8,079
510	8,079	8,096	8,113	8,130	8,147	8,164	8,181	8,198	8,215	8,232	8,249
520	8,249	8,266	8,283	8,300	8,317	8,334	8,351	8,368	8,385	8,402	8,419
530	8,419	8,436	8,453	8,470	8,487	8,504	8,521	8,538	8,555	8,572	8,589
540	8,589	8,606	8,623	8,640	8,657	8,674	8,691	8,708	8,725	8,742	8,759
550	8,759	8,776	8,793	8,810	8,827	8,844	8,861	8,878	8,895	8,912	8,929
560	8,929	8,946	8,963	8,980	8,997	9,014	9,031	9,048	9,064	9,081	9,098
570	9,098	9,115	9,132	9,149	9,166	9,183	9,200	9,217	9,234	9,251	9,268
580	9,268	9,285	9,302	9,319	9,336	9,352	9,369	9,386	9,403	9,420	9,437
590	9,437	9,454	9,471	9,488	9,505	9,522	9,538	9,555	9,572	9,589	9,606
600	9,606	9,623	9,640	9,657	9,674	9,691	9,707	9,724	9,741	9,758	9,775
610	9,775	9,792	9,809	9,826	9,842	9,859	9,876	9,893	9,910	9,927	9,944
620	9,944	9,960	9,977	9,994	10,011	10,028	10,045	10,061	10,078	10,095	10,112
630	10,112	10,129	10,146	10,162	10,179	10,196	10,213	10,230	10,247	10,263	10,280
640	10,280	10,297	10,314	10,331	10,347	10,364	10,381	10,398	10,415	10,431	10,448
650	10,448	10,465	10,482	10,498	10,515	10,532	10,549	10,565	10,582	10,599	10,616
660	10,616	10,633	10,649	10,666	10,683	10,700	10,716	10,733	10,750	10,766	10,783
670	10,783	10,800	10,817	10,833	10,850	10,867	10,884	10,900	10,917	10,934	10,950
680	10,950	10,967	10,984	11,001	11,017	11,034	11,051	11,067	11,084	11,101	11,117
690	11,117	11,134	11,151	11,167	11,184	11,201	11,217	11,234	11,251	11,267	11,284
700	11,284	11,301	11,317	11,334	11,351	11,367	11,384	11,400	11,417	11,434	11,450
710	11,450	11,467	11,484	11,500	11,517	11,533	11,550	11,567	11,583	11,600	11,616
720	11,616	11,633	11,650	11,666	11,683	11,699	11,716	11,732	11,749	11,766	11,782
730	11,782	11,799	11,815	11,832	11,848	11,865	11,882	11,898	11,915	11,931	11,948
740	11,948	11,964	11,981	11,997	12,014	12,030	12,047	12,063	12,080	12,096	12,113
750	12,113	12,129	12,146	12,162	12,179	12,195	12,212	12,228	12,245	12,261	12,278
760	12,278	12,294	12,311	12,327	12,344	12,360	12,376	12,393	12,409	12,426	12,442
770	12,442	12,459	12,475	12,492	12,508	12,524	12,541	12,557	12,574	12,590	12,606
780	12,606	12,623	12,639	12,656	12,672	12,688	12,705	12,721	12,738	12,754	12,770
790	12,770	12,787	12,803	12,819	12,836	12,852	12,869	12,885	12,901	12,918	12,934
800	12,934	12,950	12,967	12,983	12,999	13,016	13,032	13,048	13,065	13,081	13,097
810	13,097	13,113	13,130	13,146	13,162	13,179	13,195	13,211	13,228	13,244	13,260
820	13,260	13,276	13,293	13,309	13,325	13,341	13,358	13,374	13,390	13,406	13,423
830	13,423	13,439	13,455	13,471	13,487	13,504	13,520	13,536	13,552	13,569	13,585
840	13,585	13,601	13,617	13,633	13,650	13,666	13,682	13,698	13,714	13,730	13,747

Продолжение таблицы 9

ТЭДС в мВ при температуре свободного конца 0 °С											
Температура рабочего конца, °С	0	1	2	3	4	5	6	7	8	9	10
850	13,747	13,763	13,779	13,795	13,811	13,827	13,843	13,860	13,876	13,892	13,908
860	13,908	13,924	13,940	13,956	13,973	13,989	14,005	14,021	14,037	14,053	14,069
870	14,069	14,085	14,101	14,117	14,133	14,150	14,166	14,182	14,198	14,214	14,230
880	14,230	14,246	14,262	14,278	14,294	14,310	14,326	14,342	14,358	14,374	14,390
890	14,390	14,406	14,422	14,438	14,454	14,470	14,486	14,502	14,518	14,534	14,550
900	14,550	14,566	14,582	14,598	14,614	14,630	14,646	14,662	14,678	14,694	14,710
910	14,710	14,726	14,742	14,757	14,773	14,789	14,805	14,821	14,837	14,853	14,869
920	14,869	14,885	14,901	14,917	14,932	14,948	14,964	14,980	14,996	15,012	15,028
930	15,028	15,043	15,059	15,075	15,091	15,107	15,123	15,139	15,154	15,170	15,186
940	15,186	15,202	15,218	15,233	15,249	15,265	15,281	15,297	15,312	15,328	15,344
950	15,344	15,360	15,376	15,391	15,407	15,423	15,439	15,454	15,470	15,486	15,502
960	15,502	15,517	15,533	15,549	15,564	15,580	15,596	15,612	15,627	15,643	15,659
970	15,659	15,674	15,690	15,706	15,721	15,737	15,753	15,768	15,784	15,800	15,815
980	15,815	15,831	15,847	15,862	15,878	15,894	15,909	15,925	15,940	15,956	15,972
990	15,972	15,987	16,003	16,019	16,034	16,050	16,065	16,081	16,096	16,112	16,128
1000	16,128	16,143	16,159	16,174	16,190	16,205	16,221	16,236	16,252	16,268	16,283
1010	16,283	16,299	16,314	16,330	16,345	16,361	16,376	16,392	16,407	16,423	16,438
1020	16,438	16,454	16,469	16,485	16,500	16,515	16,531	16,546	16,562	16,577	16,593
1030	16,593	16,608	16,624	16,639	16,654	16,670	16,685	16,701	16,716	16,731	16,747
1040	16,747	16,762	16,778	16,793	16,808	16,824	16,839	16,854	16,870	16,885	16,901
1050	16,901	16,916	16,931	16,947	16,962	16,977	16,993	17,008	17,023	17,038	17,054
1060	17,054	17,069	17,084	17,100	17,115	17,130	17,146	17,161	17,176	17,191	17,207
1070	17,207	17,222	17,237	17,252	17,268	17,283	17,298	17,313	17,328	17,344	17,359
1080	17,359	17,374	17,389	17,405	17,420	17,435	17,450	17,465	17,480	17,496	17,511
1090	17,511	17,526	17,541	17,556	17,571	17,587	17,602	17,617	17,632	17,647	17,662
1100	17,662	17,677	17,692	17,708	17,723	17,738	17,753	17,768	17,783	17,798	17,813
1110	17,813	17,828	17,843	17,858	17,873	17,889	17,904	17,919	17,934	17,949	17,964
1120	17,964	17,979	17,994	18,009	18,024	18,039	18,054	18,069	18,084	18,099	18,114
1130	18,114	18,129	18,144	18,159	18,174	18,189	18,203	18,218	18,233	18,248	18,263
1140	18,263	18,278	18,293	18,308	18,323	18,338	18,353	18,368	18,383	18,397	18,412
1150	18,412	18,427	18,442	18,457	18,472	18,487	18,502	18,516	18,531	18,546	18,561
1160	18,561	18,576	18,591	18,605	18,620	18,635	18,650	18,665	18,679	18,694	18,709
1170	18,709	18,724	18,739	18,753	18,768	18,783	18,798	18,812	18,827	18,842	18,857
1180	18,857	18,871	18,886	18,901	18,916	18,930	18,945	18,960	18,974	18,989	19,004
1190	19,004	19,018	19,033	19,048	19,062	19,077	19,092	19,106	19,121	19,136	19,150

Продолжение таблицы 9

ТЭДС в мВ при температуре свободного конца 0 °С											
Температура рабочего конца, °С	0	1	2	3	4	5	6	7	8	9	10
1200	19,150	19,165	19,180	19,194	19,209	19,224	19,238	19,253	19,267	19,282	19,297
1210	19,297	19,311	19,326	19,340	19,355	19,369	19,384	19,399	19,413	19,428	19,442
1220	19,442	19,457	19,471	19,486	19,500	19,515	19,529	19,544	19,558	19,573	19,587
1230	19,587	19,602	19,616	19,631	19,645	19,660	19,674	19,689	19,703	19,717	19,732
1240	19,732	19,746	19,761	19,775	19,790	19,804	19,818	19,833	19,847	19,862	19,876
1250	19,876	19,890	19,905	19,919	19,934	19,948	19,962	19,977	19,991	20,005	20,020
1260	20,020	20,034	20,048	20,063	20,077	20,091	20,106	20,120	20,134	20,149	20,163
1270	20,163	20,177	20,191	20,206	20,220	20,234	20,248	20,263	20,277	20,291	20,305
1280	20,305	20,320	20,334	20,348	20,362	20,377	20,391	20,405	20,419	20,433	20,448
1290	20,448	20,462	20,476	20,490	20,504	20,518	20,533	20,547	20,561	20,575	20,589
1300	20,589	20,603	20,617	20,631	20,646	20,660	20,674	20,688	20,702	20,716	20,730
1310	20,730	20,744	20,758	20,772	20,786	20,801	20,815	20,829	20,843	20,857	20,871
1320	20,871	20,885	20,899	20,913	20,927	20,941	20,955	20,969	20,983	20,997	21,011
1330	21,011	21,025	21,039	21,053	21,067	21,081	21,095	21,108	21,122	21,136	21,150
1340	21,150	21,164	21,178	21,192	21,206	21,220	21,234	21,248	21,262	21,275	21,289
1350	21,289	21,303	21,317	21,331	21,345	21,359	21,372	21,386	21,400	21,414	21,428
1360	21,428	21,442	21,455	21,469	21,483	21,497	21,511	21,524	21,538	21,552	21,566
1370	21,566	21,579	21,593	21,607	21,621	21,634	21,648	21,662	21,676	21,689	21,703
1380	21,703	21,717	21,731	21,744	21,758	21,772	21,785	21,799	21,813	21,826	21,840
1390	21,840	21,854	21,867	21,881	21,895	21,908	21,922	21,936	21,949	21,963	21,976
1400	21,976	21,990	22,004	22,017	22,031	22,044	22,058	22,072	22,085	22,099	22,112
1410	22,112	22,126	22,139	22,153	22,166	22,180	22,194	22,207	22,221	22,234	22,248
1420	22,248	22,261	22,275	22,288	22,302	22,315	22,329	22,342	22,355	22,369	22,382
1430	22,382	22,396	22,409	22,423	22,436	22,450	22,463	22,476	22,490	22,503	22,517
1440	22,517	22,530	22,543	22,557	22,570	22,584	22,597	22,610	22,624	22,637	22,650
1450	22,650	22,664	22,677	22,690	22,704	22,717	22,730	22,744	22,757	22,770	22,784
1460	22,784	22,797	22,810	22,823	22,837	22,850	22,863	22,877	22,890	22,903	22,916
1470	22,916	22,930	22,943	22,956	22,969	22,982	22,996	23,009	23,022	23,035	23,048
1480	23,048	23,062	23,075	23,088	23,101	23,114	23,127	23,141	23,154	23,167	23,180
1490	23,180	23,193	23,206	23,219	23,233	23,246	23,259	23,272	23,285	23,298	23,311
1500	23,311	23,324	23,337	23,350	23,363	23,376	23,390	23,403	23,416	23,429	23,442
1510	23,442	23,455	23,468	23,481	23,494	23,507	23,520	23,533	23,546	23,559	23,572
1520	23,572	23,585	23,598	23,611	23,624	23,637	23,650	23,662	23,675	23,688	23,701
1530	23,701	23,714	23,727	23,740	23,753	23,766	23,779	23,792	23,804	23,817	23,830
1540	23,830	23,843	23,856	23,869	23,882	23,895	23,907	23,920	23,933	23,946	23,959

Продолжение таблицы 9

ТЭДС в мВ при температуре свободного конца 0 °С											
Температура рабочего конца, °С	0	1	2	3	4	5	6	7	8	9	10
1550	23,959	23,971	23,984	23,997	24,010	24,023	24,035	24,048	24,061	24,074	24,087
1560	24,087	24,099	24,112	24,125	24,138	24,150	24,163	24,176	24,189	24,201	24,214
1570	24,214	24,227	24,239	24,252	24,265	24,277	24,290	24,303	24,316	24,328	24,341
1580	24,341	24,353	24,366	24,379	24,391	24,404	24,417	24,429	24,442	24,455	24,467
1590	24,467	24,480	24,492	24,505	24,518	24,530	24,543	24,555	24,568	24,580	24,593
1600	24,593	24,606	24,618	24,631	24,643	24,656	24,668	24,681	24,693	24,706	24,718
1610	24,718	24,731	24,743	24,756	24,768	24,781	24,793	24,806	24,818	24,831	24,843
1620	24,843	24,855	24,868	24,880	24,893	24,905	24,918	24,930	24,942	24,955	24,967
1630	24,967	24,980	24,992	25,004	25,017	25,029	25,041	25,054	25,066	25,079	25,091
1640	25,091	25,103	25,116	25,128	25,140	25,152	25,165	25,177	25,189	25,202	25,214
1650	25,214	25,226	25,239	25,251	25,263	25,275	25,288	25,300	25,312	25,324	25,337
1660	25,337	25,349	25,361	25,373	25,386	25,398	25,410	25,422	25,434	25,447	25,459
1670	25,459	25,471	25,483	25,495	25,507	25,520	25,532	25,544	25,556	25,568	25,580
1680	25,580	25,592	25,605	25,617	25,629	25,641	25,653	25,665	25,677	25,689	25,701
1690	25,701	25,713	25,725	25,738	25,750	25,762	25,774	25,786	25,798	25,810	25,822
1700	25,822	25,834	25,846	25,858	25,870	25,882	25,894	25,906	25,918	25,930	25,942
1710	25,942	25,954	25,966	25,978	25,990	26,002	26,014	26,025	26,037	26,049	26,061
1720	26,061	26,073	26,085	26,097	26,109	26,121	26,133	26,145	26,156	26,168	26,180
1730	26,180	26,192	26,204	26,216	26,228	26,239	26,251	26,263	26,275	26,287	26,299
1740	26,299	26,310	26,322	26,334	26,346	26,357	26,369	26,381	26,393	26,405	26,416
1750	26,416	26,428	26,440	26,452	26,463	26,475	26,487	26,499	26,510	26,522	26,534
1760	26,534	26,545	26,557	26,569	26,580	26,592	26,604	26,615	26,627	26,639	26,650
1770	26,650	26,662	26,674	26,685	26,697	26,709	26,720	26,732	26,743	26,755	26,767
1780	26,767	26,778	26,790	26,801	26,813	26,825	26,836	26,848	26,859	26,871	26,882
1790	26,882	26,894	26,905	26,917	26,929	26,940	26,952	26,963	26,975	26,986	26,998
1800	26,998	27,009	27,021	27,032	27,043	27,055	27,066	27,078	27,089	27,101	27,112
1810	27,112	27,124	27,135	27,146	27,158	27,169	27,181	27,192	27,204	27,215	27,226
1820	27,226	27,238	27,249	27,260	27,272	27,283	27,295	27,306	27,317	27,329	27,340
1830	27,340	27,351	27,363	27,374	27,385	27,396	27,408	27,419	27,430	27,442	27,453
1840	27,453	27,464	27,475	27,487	27,498	27,509	27,520	27,532	27,543	27,554	27,565
1850	27,565	27,577	27,588	27,599	27,610	27,621	27,633	27,644	27,655	27,666	27,677
1860	27,677	27,688	27,700	27,711	27,722	27,733	27,744	27,755	27,766	27,778	27,789
1870	27,789	27,800	27,811	27,822	27,833	27,844	27,855	27,866	27,877	27,888	27,900
1880	27,900	27,911	27,922	27,933	27,944	27,955	27,966	27,977	27,988	27,999	28,010
1890	28,010	28,021	28,032	28,043	28,054	28,065	28,076	28,087	28,098	28,109	28,120

Продолжение таблицы 9

ТЭДС в мВ при температуре свободного конца 0 °С											
Температура рабочего конца, °С	0	1	2	3	4	5	6	7	8	9	10
1900	28,120	28,130	28,141	28,152	28,163	28,174	28,185	28,196	28,207	28,218	28,229
1910	28,229	28,240	28,250	28,261	28,272	28,283	28,294	28,305	28,316	28,327	28,337
1920	28,337	28,348	28,359	28,370	28,381	28,391	28,402	28,413	28,424	28,435	28,445
1930	28,445	28,456	28,467	28,478	28,488	28,499	28,510	28,521	28,531	28,542	28,553
1940	28,553	28,564	28,574	28,585	28,596	28,606	28,617	28,628	28,639	28,649	28,660
1950	28,660	28,671	28,681	28,692	28,702	28,713	28,724	28,734	28,745	28,756	28,766
1960	28,766	28,777	28,787	28,798	28,809	28,819	28,830	28,840	28,851	28,861	28,872
1970	28,872	28,883	28,893	28,904	28,914	28,925	28,935	28,946	28,956	28,967	28,977
1980	28,977	28,988	28,998	29,009	29,019	29,030	29,040	29,051	29,061	29,071	29,082
1990	29,082	29,092	29,103	29,113	29,124	29,134	29,144	29,155	29,165	29,176	29,186
2000	29,186	29,196	29,207	29,217	29,227	29,238	29,248	29,259	29,269	29,279	29,290
2010	29,290	29,300	29,310	29,320	29,331	29,341	29,351	29,362	29,372	29,382	29,392
2020	29,392	29,403	29,413	29,423	29,433	29,444	29,454	29,464	29,474	29,485	29,495
2030	29,495	29,505	29,515	29,525	29,536	29,546	29,556	29,566	29,576	29,586	29,597
2040	29,597	29,607	29,617	29,627	29,637	29,647	29,657	29,667	29,677	29,688	29,698
2050	29,698	29,708	29,718	29,728	29,738	29,748	29,758	29,768	29,778	29,788	29,798
2060	29,798	29,808	29,818	29,828	29,838	29,848	29,858	29,868	29,878	29,888	29,898
2070	29,898	29,908	29,918	29,928	29,938	29,948	29,958	29,968	29,978	29,988	29,998
2080	29,998	30,007	30,017	30,027	30,037	30,047	30,057	30,067	30,077	30,086	30,096
2090	30,096	30,106	30,116	30,126	30,136	30,145	30,155	30,165	30,175	30,185	30,194
2100	30,194	30,204	30,214	30,224	30,234	30,243	30,253	30,263	30,273	30,282	30,292
2110	30,292	30,302	30,311	30,321	30,331	30,341	30,350	30,360	30,370	30,379	30,389
2120	30,389	30,399	30,408	30,418	30,427	30,437	30,447	30,456	30,466	30,476	30,485
2130	30,485	30,495	30,504	30,514	30,524	30,533	30,543	30,552	30,562	30,571	30,581
2140	30,581	30,590	30,600	30,609	30,619	30,629	30,638	30,648	30,657	30,666	30,676
2150	30,676	30,685	30,695	30,704	30,714	30,723	30,733	30,742	30,752	30,761	30,770
2160	30,770	30,780	30,789	30,799	30,808	30,817	30,827	30,836	30,846	30,855	30,864
2170	30,864	30,874	30,883	30,892	30,902	30,911	30,920	30,930	30,939	30,948	30,957
2180	30,957	30,967	30,976	30,985	30,995	31,004	31,013	31,022	31,032	31,041	31,050
2190	31,050	31,059	31,069	31,078	31,087	31,096	31,105	31,115	31,124	31,133	31,142
2200	31,142	31,151	31,160	31,170	31,179	31,188	31,197	31,206	31,215	31,224	31,233
2210	31,233	31,243	31,252	31,261	31,270	31,279	31,288	31,297	31,306	31,315	31,324
2220	31,324	31,333	31,342	31,351	31,360	31,369	31,378	31,387	31,396	31,405	31,414
2230	31,414	31,423	31,432	31,441	31,450	31,459	31,468	31,477	31,486	31,495	31,504
2240	31,504	31,513	31,522	31,530	31,539	31,548	31,557	31,566	31,575	31,584	31,593

Окончание таблицы 9

ТЭДС в мВ при температуре свободного конца 0 °С											
Температура рабочего конца, °С	0	1	2	3	4	5	6	7	8	9	10
2250	31,593	31,601	31,610	31,619	31,628	31,637	31,646	31,654	31,663	31,672	31,681
2260	31,681	31,690	31,698	31,707	31,716	31,725	31,734	31,742	31,751	31,760	31,769
2270	31,769	31,777	31,786	31,795	31,803	31,812	31,821	31,830	31,838	31,847	31,856
2280	31,856	31,864	31,873	31,882	31,890	31,899	31,908	31,916	31,925	31,933	31,942
2290	31,942	31,951	31,959	31,968	31,976	31,985	31,994	32,002	32,011	32,019	32,028
2300	32,028	32,036	32,045	32,054	32,062	32,071	32,079	32,088	32,096	32,105	32,113
2310	32,113	32,122	32,130	32,139	32,147	32,156	32,164	32,172	32,181	32,189	32,198
2320	32,198	32,206	32,215	32,223	32,232	32,240	32,248	32,257	32,265	32,274	32,282
2330	32,282	32,290	32,299	32,307	32,315	32,324	32,332	32,340	32,349	32,357	32,365
2340	32,365	32,374	32,382	32,390	32,399	32,407	32,415	32,424	32,432	32,440	32,448
2350	32,448	32,457	32,465	32,473	32,482	32,490	32,498	32,506	32,515	32,523	32,531
2360	32,531	32,539	32,547	32,556	32,564	32,572	32,580	32,588	32,597	32,605	32,613
2370	32,613	32,621	32,629	32,637	32,646	32,654	32,662	32,670	32,678	32,686	32,694
2380	32,694	32,702	32,711	32,719	32,727	32,735	32,743	32,751	32,759	32,767	32,775
2390	32,775	32,783	32,791	32,800	32,808	32,816	32,824	32,832	32,840	32,848	32,856
2400	32,856	32,864	32,872	32,880	32,888	32,896	32,904	32,912	32,920	32,928	32,936
2410	32,936	32,944	32,952	32,960	32,968	32,976	32,984	32,992	33,000	33,007	33,015
2420	33,015	33,023	33,031	33,039	33,047	33,055	33,063	33,071	33,079	33,087	33,095
2430	33,095	33,102	33,110	33,118	33,126	33,134	33,142	33,150	33,158	33,166	33,173
2440	33,173	33,181	33,189	33,197	33,205	33,213	33,221	33,228	33,236	33,244	33,252
2450	33,252	33,260	33,268	33,275	33,283	33,291	33,299	33,307	33,314	33,322	33,330
2460	33,330	33,338	33,346	33,353	33,361	33,369	33,377	33,385	33,392	33,400	33,408
2470	33,408	33,416	33,423	33,431	33,439	33,447	33,454	33,462	33,470	33,478	33,485
2480	33,485	33,493	33,501	33,509	33,516	33,524	33,532	33,540	33,547	33,555	33,563
2490	33,563	33,570	33,578	33,586	33,594	33,601	33,609	33,617	33,625	33,632	33,640
2500	33,640										

Т а б л и ц а 10 — Значения ТЭДС для термопары типа А-2 (вольфрам — рений/вольфрам — рений)

ТЭДС в мВ при температуре свободного конца 0 °С											
Температура рабочего конца, °С	0	1	2	3	4	5	6	7	8	9	10
0	0,000	0,012	0,023	0,035	0,047	0,059	0,071	0,082	0,094	0,106	0,118
10	0,118	0,130	0,143	0,155	0,167	0,179	0,191	0,204	0,216	0,228	0,241
20	0,241	0,253	0,266	0,278	0,291	0,304	0,316	0,329	0,342	0,354	0,367
30	0,367	0,380	0,393	0,406	0,419	0,432	0,445	0,458	0,471	0,484	0,497
40	0,497	0,510	0,523	0,537	0,550	0,563	0,576	0,590	0,603	0,617	0,630

Продолжение таблицы 10

ТЭДС в мВ при температуре свободного конца 0 °С											
Температура рабочего конца, °С	0	1	2	3	4	5	6	7	8	9	10
50	0,630	0,643	0,657	0,671	0,684	0,698	0,711	0,725	0,739	0,752	0,766
60	0,766	0,780	0,794	0,808	0,821	0,835	0,849	0,863	0,877	0,891	0,905
70	0,905	0,919	0,933	0,947	0,962	0,976	0,990	1,004	1,018	1,033	1,047
80	1,047	1,061	1,076	1,090	1,104	1,119	1,133	1,148	1,162	1,177	1,191
90	1,191	1,206	1,220	1,235	1,250	1,264	1,279	1,294	1,308	1,323	1,338
100	1,338	1,353	1,367	1,382	1,397	1,412	1,427	1,442	1,457	1,472	1,487
110	1,487	1,502	1,517	1,532	1,547	1,562	1,577	1,592	1,607	1,622	1,637
120	1,637	1,653	1,668	1,683	1,698	1,714	1,729	1,744	1,759	1,775	1,790
130	1,790	1,806	1,821	1,836	1,852	1,867	1,883	1,898	1,914	1,929	1,945
140	1,945	1,960	1,976	1,991	2,007	2,022	2,038	2,054	2,069	2,085	2,101
150	2,101	2,116	2,132	2,148	2,164	2,179	2,195	2,211	2,227	2,243	2,258
160	2,258	2,274	2,290	2,306	2,322	2,338	2,354	2,370	2,385	2,401	2,417
170	2,417	2,433	2,449	2,465	2,481	2,497	2,513	2,529	2,546	2,562	2,578
180	2,578	2,594	2,610	2,626	2,642	2,658	2,674	2,691	2,707	2,723	2,739
190	2,739	2,755	2,772	2,788	2,804	2,820	2,837	2,853	2,869	2,885	2,902
200	2,902	2,918	2,934	2,951	2,967	2,983	3,000	3,016	3,033	3,049	3,065
210	3,065	3,082	3,098	3,115	3,131	3,147	3,164	3,180	3,197	3,213	3,230
220	3,230	3,246	3,263	3,279	3,296	3,312	3,329	3,346	3,362	3,379	3,395
230	3,395	3,412	3,428	3,445	3,462	3,478	3,495	3,511	3,528	3,545	3,561
240	3,561	3,578	3,595	3,611	3,628	3,645	3,661	3,678	3,695	3,711	3,728
250	3,728	3,745	3,762	3,778	3,795	3,812	3,829	3,845	3,862	3,879	3,896
260	3,896	3,912	3,929	3,946	3,963	3,980	3,996	4,013	4,030	4,047	4,064
270	4,064	4,081	4,097	4,114	4,131	4,148	4,165	4,182	4,199	4,215	4,232
280	4,232	4,249	4,266	4,283	4,300	4,317	4,334	4,351	4,368	4,384	4,401
290	4,401	4,418	4,435	4,452	4,469	4,486	4,503	4,520	4,537	4,554	4,571
300	4,571	4,588	4,605	4,622	4,639	4,656	4,673	4,690	4,707	4,724	4,741
310	4,741	4,758	4,775	4,792	4,809	4,826	4,843	4,860	4,877	4,894	4,911
320	4,911	4,928	4,945	4,962	4,979	4,996	5,013	5,030	5,047	5,064	5,081
330	5,081	5,098	5,116	5,133	5,150	5,167	5,184	5,201	5,218	5,235	5,252
340	5,252	5,269	5,286	5,303	5,321	5,338	5,355	5,372	5,389	5,406	5,423
350	5,423	5,440	5,457	5,474	5,492	5,509	5,526	5,543	5,560	5,577	5,594
360	5,594	5,611	5,629	5,646	5,663	5,680	5,697	5,714	5,731	5,749	5,766
370	5,766	5,783	5,800	5,817	5,834	5,851	5,869	5,886	5,903	5,920	5,937
380	5,937	5,954	5,971	5,989	6,006	6,023	6,040	6,057	6,074	6,092	6,109
390	6,109	6,126	6,143	6,160	6,177	6,195	6,212	6,229	6,246	6,263	6,280

Продолжение таблицы 10

ТЭДС в мВ при температуре свободного конца 0 °С											
Температура рабочего конца, °С	0	1	2	3	4	5	6	7	8	9	10
400	6,280	6,298	6,315	6,332	6,349	6,366	6,383	6,401	6,418	6,435	6,452
410	6,452	6,469	6,486	6,504	6,521	6,538	6,555	6,572	6,590	6,607	6,624
420	6,624	6,641	6,658	6,675	6,693	6,710	6,727	6,744	6,761	6,779	6,796
430	6,796	6,813	6,830	6,847	6,864	6,882	6,899	6,916	6,933	6,950	6,967
440	6,967	6,985	7,002	7,019	7,036	7,053	7,071	7,088	7,105	7,122	7,139
450	7,139	7,156	7,174	7,191	7,208	7,225	7,242	7,260	7,277	7,294	7,311
460	7,311	7,328	7,345	7,363	7,380	7,397	7,414	7,431	7,448	7,466	7,483
470	7,483	7,500	7,517	7,534	7,551	7,569	7,586	7,603	7,620	7,637	7,654
480	7,654	7,672	7,689	7,706	7,723	7,740	7,757	7,775	7,792	7,809	7,826
490	7,826	7,843	7,860	7,878	7,895	7,912	7,929	7,946	7,963	7,981	7,998
500	7,998	8,015	8,032	8,049	8,066	8,083	8,101	8,118	8,135	8,152	8,169
510	8,169	8,186	8,203	8,221	8,238	8,255	8,272	8,289	8,306	8,323	8,340
520	8,340	8,358	8,375	8,392	8,409	8,426	8,443	8,460	8,477	8,495	8,512
530	8,512	8,529	8,546	8,563	8,580	8,597	8,614	8,632	8,649	8,666	8,683
540	8,683	8,700	8,717	8,734	8,751	8,768	8,785	8,803	8,820	8,837	8,854
550	8,854	8,871	8,888	8,905	8,922	8,939	8,956	8,973	8,991	9,008	9,025
560	9,025	9,042	9,059	9,076	9,093	9,110	9,127	9,144	9,161	9,178	9,195
570	9,195	9,212	9,230	9,247	9,264	9,281	9,298	9,315	9,332	9,349	9,366
580	9,366	9,383	9,400	9,417	9,434	9,451	9,468	9,485	9,502	9,519	9,536
590	9,536	9,553	9,570	9,587	9,604	9,621	9,639	9,656	9,673	9,690	9,707
600	9,707	9,724	9,741	9,758	9,775	9,792	9,809	9,826	9,843	9,860	9,877
610	9,877	9,894	9,911	9,928	9,945	9,962	9,979	9,996	10,013	10,029	10,046
620	10,046	10,063	10,080	10,097	10,114	10,131	10,148	10,165	10,182	10,199	10,216
630	10,216	10,233	10,250	10,267	10,284	10,301	10,318	10,335	10,352	10,369	10,386
640	10,386	10,403	10,419	10,436	10,453	10,470	10,487	10,504	10,521	10,538	10,555
650	10,555	10,572	10,589	10,606	10,622	10,639	10,656	10,673	10,690	10,707	10,724
660	10,724	10,741	10,758	10,775	10,791	10,808	10,825	10,842	10,859	10,876	10,893
670	10,893	10,910	10,926	10,943	10,960	10,977	10,994	11,011	11,028	11,044	11,061
680	11,061	11,078	11,095	11,112	11,129	11,145	11,162	11,179	11,196	11,213	11,230
690	11,230	11,246	11,263	11,280	11,297	11,314	11,331	11,347	11,364	11,381	11,398
700	11,398	11,415	11,431	11,448	11,465	11,482	11,498	11,515	11,532	11,549	11,566
710	11,566	11,582	11,599	11,616	11,633	11,649	11,666	11,683	11,700	11,716	11,733
720	11,733	11,750	11,767	11,783	11,800	11,817	11,834	11,850	11,867	11,884	11,900
730	11,900	11,917	11,934	11,951	11,967	11,984	12,001	12,017	12,034	12,051	12,068
740	12,068	12,084	12,101	12,118	12,134	12,151	12,168	12,184	12,201	12,218	12,234

Продолжение таблицы 10

ТЭДС в мВ при температуре свободного конца 0 °С											
Температура рабочего конца, °С	0	1	2	3	4	5	6	7	8	9	10
750	12,234	12,251	12,268	12,284	12,301	12,318	12,334	12,351	12,367	12,384	12,401
760	12,401	12,417	12,434	12,451	12,467	12,484	12,500	12,517	12,534	12,550	12,567
770	12,567	12,583	12,600	12,617	12,633	12,650	12,666	12,683	12,700	12,716	12,733
780	12,733	12,749	12,766	12,782	12,799	12,816	12,832	12,849	12,865	12,882	12,898
790	12,898	12,915	12,931	12,948	12,964	12,981	12,997	13,014	13,031	13,047	13,064
800	13,064	13,080	13,097	13,113	13,130	13,146	13,163	13,179	13,195	13,212	13,228
810	13,228	13,245	13,261	13,278	13,294	13,311	13,327	13,344	13,360	13,377	13,393
820	13,393	13,409	13,426	13,442	13,459	13,475	13,492	13,508	13,524	13,541	13,557
830	13,557	13,574	13,590	13,606	13,623	13,639	13,656	13,672	13,688	13,705	13,721
840	13,721	13,737	13,754	13,770	13,787	13,803	13,819	13,836	13,852	13,868	13,885
850	13,885	13,901	13,917	13,934	13,950	13,966	13,983	13,999	14,015	14,031	14,048
860	14,048	14,064	14,080	14,097	14,113	14,129	14,145	14,162	14,178	14,194	14,210
870	14,210	14,227	14,243	14,259	14,275	14,292	14,308	14,324	14,340	14,357	14,373
880	14,373	14,389	14,405	14,421	14,438	14,454	14,470	14,486	14,502	14,519	14,535
890	14,535	14,551	14,567	14,583	14,600	14,616	14,632	14,648	14,664	14,680	14,696
900	14,696	14,713	14,729	14,745	14,761	14,777	14,793	14,809	14,825	14,842	14,858
910	14,858	14,874	14,890	14,906	14,922	14,938	14,954	14,970	14,986	15,002	15,018
920	15,018	15,034	15,051	15,067	15,083	15,099	15,115	15,131	15,147	15,163	15,179
930	15,179	15,195	15,211	15,227	15,243	15,259	15,275	15,291	15,307	15,323	15,339
940	15,339	15,355	15,371	15,387	15,403	15,419	15,434	15,450	15,466	15,482	15,498
950	15,498	15,514	15,530	15,546	15,562	15,578	15,594	15,610	15,625	15,641	15,657
960	15,657	15,673	15,689	15,705	15,721	15,737	15,752	15,768	15,784	15,800	15,816
970	15,816	15,832	15,848	15,863	15,879	15,895	15,911	15,927	15,942	15,958	15,974
980	15,974	15,990	16,006	16,021	16,037	16,053	16,069	16,084	16,100	16,116	16,132
990	16,132	16,148	16,163	16,179	16,195	16,210	16,226	16,242	16,258	16,273	16,289
1000	16,289	16,305	16,320	16,336	16,352	16,367	16,383	16,399	16,414	16,430	16,446
1010	16,446	16,461	16,477	16,493	16,508	16,524	16,540	16,555	16,571	16,586	16,602
1020	16,602	16,618	16,633	16,649	16,664	16,680	16,696	16,711	16,727	16,742	16,758
1030	16,758	16,773	16,789	16,805	16,820	16,836	16,851	16,867	16,882	16,898	16,913
1040	16,913	16,929	16,944	16,960	16,975	16,991	17,006	17,022	17,037	17,053	17,068
1050	17,068	17,084	17,099	17,114	17,130	17,145	17,161	17,176	17,192	17,207	17,222
1060	17,222	17,238	17,253	17,269	17,284	17,299	17,315	17,330	17,346	17,361	17,376
1070	17,376	17,392	17,407	17,422	17,438	17,453	17,468	17,484	17,499	17,514	17,530
1080	17,530	17,545	17,560	17,576	17,591	17,606	17,622	17,637	17,652	17,667	17,683
1090	17,683	17,698	17,713	17,728	17,744	17,759	17,774	17,789	17,805	17,820	17,835

Продолжение таблицы 10

ТЭДС в мВ при температуре свободного конца 0 °С											
Температура рабочего конца, °С	0	1	2	3	4	5	6	7	8	9	10
1100	17,835	17,850	17,865	17,881	17,896	17,911	17,926	17,941	17,956	17,972	17,987
1110	17,987	18,002	18,017	18,032	18,047	18,063	18,078	18,093	18,108	18,123	18,138
1120	18,138	18,153	18,168	18,183	18,199	18,214	18,229	18,244	18,259	18,274	18,289
1130	18,289	18,304	18,319	18,334	18,349	18,364	18,379	18,394	18,409	18,424	18,439
1140	18,439	18,454	18,469	18,484	18,499	18,514	18,529	18,544	18,559	18,574	18,589
1150	18,589	18,604	18,619	18,634	18,649	18,664	18,679	18,694	18,709	18,724	18,738
1160	18,738	18,753	18,768	18,783	18,798	18,813	18,828	18,843	18,858	18,872	18,887
1170	18,887	18,902	18,917	18,932	18,947	18,961	18,976	18,991	19,006	19,021	19,035
1180	19,035	19,050	19,065	19,080	19,095	19,109	19,124	19,139	19,154	19,168	19,183
1190	19,183	19,198	19,213	19,227	19,242	19,257	19,272	19,286	19,301	19,316	19,330
1200	19,330	19,345	19,360	19,375	19,389	19,404	19,419	19,433	19,448	19,462	19,477
1210	19,477	19,492	19,506	19,521	19,536	19,550	19,565	19,580	19,594	19,609	19,623
1220	19,623	19,638	19,653	19,667	19,682	19,696	19,711	19,725	19,740	19,754	19,769
1230	19,769	19,784	19,798	19,813	19,827	19,842	19,856	19,871	19,885	19,900	19,914
1240	19,914	19,929	19,943	19,958	19,972	19,987	20,001	20,015	20,030	20,044	20,059
1250	20,059	20,073	20,088	20,102	20,117	20,131	20,145	20,160	20,174	20,189	20,203
1260	20,203	20,217	20,232	20,246	20,260	20,275	20,289	20,304	20,318	20,332	20,347
1270	20,347	20,361	20,375	20,390	20,404	20,418	20,433	20,447	20,461	20,475	20,490
1280	20,490	20,504	20,518	20,533	20,547	20,561	20,575	20,590	20,604	20,618	20,632
1290	20,632	20,647	20,661	20,675	20,689	20,703	20,718	20,732	20,746	20,760	20,774
1300	20,774	20,789	20,803	20,817	20,831	20,845	20,859	20,874	20,888	20,902	20,916
1310	20,916	20,930	20,944	20,958	20,973	20,987	21,001	21,015	21,029	21,043	21,057
1320	21,057	21,071	21,085	21,099	21,113	21,128	21,142	21,156	21,170	21,184	21,198
1330	21,198	21,212	21,226	21,240	21,254	21,268	21,282	21,296	21,310	21,324	21,338
1340	21,338	21,352	21,366	21,380	21,394	21,408	21,422	21,436	21,450	21,464	21,478
1350	21,478	21,491	21,505	21,519	21,533	21,547	21,561	21,575	21,589	21,603	21,617
1360	21,617	21,631	21,644	21,658	21,672	21,686	21,700	21,714	21,728	21,741	21,755
1370	21,755	21,769	21,783	21,797	21,811	21,824	21,838	21,852	21,866	21,880	21,894
1380	21,894	21,907	21,921	21,935	21,949	21,962	21,976	21,990	22,004	22,017	22,031
1390	22,031	22,045	22,059	22,072	22,086	22,100	22,114	22,127	22,141	22,155	22,168
1400	22,168	22,182	22,196	22,210	22,223	22,237	22,251	22,264	22,278	22,292	22,305
1410	22,305	22,319	22,332	22,346	22,360	22,373	22,387	22,401	22,414	22,428	22,441
1420	22,441	22,455	22,469	22,482	22,496	22,509	22,523	22,537	22,550	22,564	22,577
1430	22,577	22,591	22,604	22,618	22,631	22,645	22,659	22,672	22,686	22,699	22,713
1440	22,713	22,726	22,740	22,753	22,767	22,780	22,794	22,807	22,821	22,834	22,847

Окончание таблицы 10

ТЭДС в мВ при температуре свободного конца 0 °С											
Температура рабочего конца, °С	0	1	2	3	4	5	6	7	8	9	10
1450	22,847	22,861	22,874	22,888	22,901	22,915	22,928	22,942	22,955	22,968	22,982
1460	22,982	22,995	23,009	23,022	23,036	23,049	23,062	23,076	23,089	23,102	23,116
1470	23,116	23,129	23,143	23,156	23,169	23,183	23,196	23,209	23,223	23,236	23,249
1480	23,249	23,263	23,276	23,289	23,303	23,316	23,329	23,342	23,356	23,369	23,382
1490	23,382	23,396	23,409	23,422	23,435	23,449	23,462	23,475	23,488	23,502	23,515
1500	23,515	23,528	23,541	23,554	23,568	23,581	23,594	23,607	23,620	23,634	23,647
1510	23,647	23,660	23,673	23,686	23,700	23,713	23,726	23,739	23,752	23,765	23,778
1520	23,778	23,792	23,805	23,818	23,831	23,844	23,857	23,870	23,883	23,896	23,910
1530	23,910	23,923	23,936	23,949	23,962	23,975	23,988	24,001	24,014	24,027	24,040
1540	24,040	24,053	24,066	24,079	24,092	24,105	24,118	24,131	24,144	24,157	24,170
1550	24,170	24,183	24,196	24,209	24,222	24,235	24,248	24,261	24,274	24,287	24,300
1560	24,300	24,313	24,326	24,339	24,352	24,365	24,378	24,390	24,403	24,416	24,429
1570	24,429	24,442	24,455	24,468	24,481	24,494	24,506	24,519	24,532	24,545	24,558
1580	24,558	24,571	24,584	24,596	24,609	24,622	24,635	24,648	24,660	24,673	24,686
1590	24,686	24,699	24,712	24,724	24,737	24,750	24,763	24,775	24,788	24,801	24,814
1600	24,814	24,826	24,839	24,852	24,865	24,877	24,890	24,903	24,915	24,928	24,941
1610	24,941	24,953	24,966	24,979	24,991	25,004	25,017	25,029	25,042	25,055	25,067
1620	25,067	25,080	25,093	25,105	25,118	25,130	25,143	25,156	25,168	25,181	25,193
1630	25,193	25,206	25,218	25,231	25,244	25,256	25,269	25,281	25,294	25,306	25,319
1640	25,319	25,331	25,344	25,356	25,369	25,381	25,394	25,406	25,419	25,431	25,444
1650	25,444	25,456	25,469	25,481	25,493	25,506	25,518	25,531	25,543	25,555	25,568
1660	25,568	25,580	25,593	25,605	25,617	25,630	25,642	25,654	25,667	25,679	25,692
1670	25,692	25,704	25,716	25,728	25,741	25,753	25,765	25,778	25,790	25,802	25,815
1680	25,815	25,827	25,839	25,851	25,864	25,876	25,888	25,900	25,912	25,925	25,937
1690	25,937	25,949	25,961	25,973	25,986	25,998	26,010	26,022	26,034	26,046	26,059
1700	26,059	26,071	26,083	26,095	26,107	26,119	26,131	26,143	26,155	26,167	26,180
1710	26,180	26,192	26,204	26,216	26,228	26,240	26,252	26,264	26,276	26,288	26,300
1720	26,300	26,312	26,324	26,336	26,348	26,360	26,372	26,383	26,395	26,407	26,419
1730	26,419	26,431	26,443	26,455	26,467	26,479	26,491	26,502	26,514	26,526	26,538
1740	26,538	26,550	26,562	26,573	26,585	26,597	26,609	26,621	26,632	26,644	26,656
1750	26,656	26,668	26,679	26,691	26,703	26,714	26,726	26,738	26,750	26,761	26,773
1760	26,773	26,785	26,796	26,808	26,819	26,831	26,843	26,854	26,866	26,877	26,889
1770	26,889	26,901	26,912	26,924	26,935	26,947	26,958	26,970	26,981	26,993	27,004
1780	27,004	27,016	27,027	27,039	27,050	27,061	27,073	27,084	27,096	27,107	27,118
1790	27,118	27,130	27,141	27,153	27,164	27,175	27,187	27,198	27,209	27,220	27,232
1800	27,232										

Таблица 11 — Значения ТЭДС для термопары типа А-3 (вольфрам — рений/вольфрам — рений)

ТЭДС в мВ при температуре свободного конца 0 °С											
Температура рабочего конца, °С	0	1	2	3	4	5	6	7	8	9	10
0	0,000	0,012	0,023	0,035	0,047	0,059	0,071	0,083	0,095	0,107	0,119
10	0,119	0,131	0,143	0,155	0,167	0,179	0,191	0,204	0,216	0,228	0,241
20	0,241	0,253	0,265	0,278	0,290	0,303	0,315	0,328	0,341	0,353	0,366
30	0,366	0,379	0,391	0,404	0,417	0,430	0,442	0,455	0,468	0,481	0,494
40	0,494	0,507	0,520	0,533	0,546	0,559	0,573	0,586	0,599	0,612	0,625
50	0,625	0,639	0,652	0,665	0,679	0,692	0,705	0,719	0,732	0,746	0,759
60	0,759	0,773	0,786	0,800	0,813	0,827	0,841	0,854	0,868	0,882	0,896
70	0,896	0,909	0,923	0,937	0,951	0,965	0,979	0,993	1,007	1,020	1,034
80	1,034	1,048	1,063	1,077	1,091	1,105	1,119	1,133	1,147	1,161	1,176
90	1,176	1,190	1,204	1,218	1,233	1,247	1,261	1,276	1,290	1,304	1,319
100	1,319	1,333	1,348	1,362	1,377	1,391	1,406	1,420	1,435	1,449	1,464
110	1,464	1,479	1,493	1,508	1,523	1,537	1,552	1,567	1,582	1,596	1,611
120	1,611	1,626	1,641	1,656	1,670	1,685	1,700	1,715	1,730	1,745	1,760
130	1,760	1,775	1,790	1,805	1,820	1,835	1,850	1,865	1,880	1,895	1,910
140	1,910	1,926	1,941	1,956	1,971	1,986	2,001	2,017	2,032	2,047	2,062
150	2,062	2,078	2,093	2,108	2,124	2,139	2,154	2,170	2,185	2,200	2,216
160	2,216	2,231	2,247	2,262	2,278	2,293	2,309	2,324	2,340	2,355	2,371
170	2,371	2,386	2,402	2,417	2,433	2,449	2,464	2,480	2,495	2,511	2,527
180	2,527	2,542	2,558	2,574	2,590	2,605	2,621	2,637	2,652	2,668	2,684
190	2,684	2,700	2,716	2,731	2,747	2,763	2,779	2,795	2,811	2,826	2,842
200	2,842	2,858	2,874	2,890	2,906	2,922	2,938	2,954	2,970	2,986	3,002
210	3,002	3,018	3,034	3,050	3,066	3,082	3,098	3,114	3,130	3,146	3,162
220	3,162	3,178	3,194	3,210	3,226	3,242	3,258	3,275	3,291	3,307	3,323
230	3,323	3,339	3,355	3,371	3,388	3,404	3,420	3,436	3,452	3,469	3,485
240	3,485	3,501	3,517	3,534	3,550	3,566	3,582	3,599	3,615	3,631	3,648
250	3,648	3,664	3,680	3,696	3,713	3,729	3,745	3,762	3,778	3,795	3,811
260	3,811	3,827	3,844	3,860	3,876	3,893	3,909	3,926	3,942	3,958	3,975
270	3,975	3,991	4,008	4,024	4,041	4,057	4,073	4,090	4,106	4,123	4,139
280	4,139	4,156	4,172	4,189	4,205	4,222	4,238	4,255	4,271	4,288	4,304
290	4,304	4,321	4,337	4,354	4,371	4,387	4,404	4,420	4,437	4,453	4,470
300	4,470	4,486	4,503	4,520	4,536	4,553	4,569	4,586	4,603	4,619	4,636
310	4,636	4,652	4,669	4,686	4,702	4,719	4,736	4,752	4,769	4,786	4,802
320	4,802	4,819	4,835	4,852	4,869	4,885	4,902	4,919	4,935	4,952	4,969
330	4,969	4,986	5,002	5,019	5,036	5,052	5,069	5,086	5,102	5,119	5,136
340	5,136	5,153	5,169	5,186	5,203	5,219	5,236	5,253	5,270	5,286	5,303

Продолжение таблицы 11

ТЭДС в мВ при температуре свободного конца 0 °С											
Температура рабочего конца, °С	0	1	2	3	4	5	6	7	8	9	10
350	5,303	5,320	5,337	5,353	5,370	5,387	5,404	5,420	5,437	5,454	5,471
360	5,471	5,487	5,504	5,521	5,538	5,554	5,571	5,588	5,605	5,622	5,638
370	5,638	5,655	5,672	5,689	5,706	5,722	5,739	5,756	5,773	5,789	5,806
380	5,806	5,823	5,840	5,857	5,874	5,890	5,907	5,924	5,941	5,958	5,974
390	5,974	5,991	6,008	6,025	6,042	6,058	6,075	6,092	6,109	6,126	6,143
400	6,143	6,159	6,176	6,193	6,210	6,227	6,244	6,260	6,277	6,294	6,311
410	6,311	6,328	6,345	6,361	6,378	6,395	6,412	6,429	6,446	6,462	6,479
420	6,479	6,496	6,513	6,530	6,547	6,564	6,580	6,597	6,614	6,631	6,648
430	6,648	6,665	6,681	6,698	6,715	6,732	6,749	6,766	6,783	6,799	6,816
440	6,816	6,833	6,850	6,867	6,884	6,901	6,917	6,934	6,951	6,968	6,985
450	6,985	7,002	7,019	7,035	7,052	7,069	7,086	7,103	7,120	7,137	7,153
460	7,153	7,170	7,187	7,204	7,221	7,238	7,255	7,271	7,288	7,305	7,322
470	7,322	7,339	7,356	7,372	7,389	7,406	7,423	7,440	7,457	7,474	7,490
480	7,490	7,507	7,524	7,541	7,558	7,575	7,592	7,608	7,625	7,642	7,659
490	7,659	7,676	7,693	7,709	7,726	7,743	7,760	7,777	7,794	7,811	7,827
500	7,827	7,844	7,861	7,878	7,895	7,912	7,928	7,945	7,962	7,979	7,996
510	7,996	8,013	8,029	8,046	8,063	8,080	8,097	8,114	8,130	8,147	8,164
520	8,164	8,181	8,198	8,214	8,231	8,248	8,265	8,282	8,299	8,315	8,332
530	8,332	8,349	8,366	8,383	8,399	8,416	8,433	8,450	8,467	8,483	8,500
540	8,500	8,517	8,534	8,551	8,567	8,584	8,601	8,618	8,635	8,651	8,668
550	8,668	8,685	8,702	8,719	8,735	8,752	8,769	8,786	8,803	8,819	8,836
560	8,836	8,853	8,870	8,886	8,903	8,920	8,937	8,953	8,970	8,987	9,004
570	9,004	9,021	9,037	9,054	9,071	9,088	9,104	9,121	9,138	9,155	9,171
580	9,171	9,188	9,205	9,222	9,238	9,255	9,272	9,289	9,305	9,322	9,339
590	9,339	9,355	9,372	9,389	9,406	9,422	9,439	9,456	9,473	9,489	9,506
600	9,506	9,523	9,539	9,556	9,573	9,590	9,606	9,623	9,640	9,656	9,673
610	9,673	9,690	9,706	9,723	9,740	9,757	9,773	9,790	9,807	9,823	9,840
620	9,840	9,857	9,873	9,890	9,907	9,923	9,940	9,957	9,973	9,990	10,007
630	10,007	10,023	10,040	10,057	10,073	10,090	10,107	10,123	10,140	10,157	10,173
640	10,173	10,190	10,207	10,223	10,240	10,256	10,273	10,290	10,306	10,323	10,340
650	10,340	10,356	10,373	10,389	10,406	10,423	10,439	10,456	10,472	10,489	10,506
660	10,506	10,522	10,539	10,555	10,572	10,589	10,605	10,622	10,638	10,655	10,672
670	10,672	10,688	10,705	10,721	10,738	10,754	10,771	10,788	10,804	10,821	10,837
680	10,837	10,854	10,870	10,887	10,903	10,920	10,937	10,953	10,970	10,986	11,003
690	11,003	11,019	11,036	11,052	11,069	11,085	11,102	11,118	11,135	11,151	11,168

Продолжение таблицы 11

ТЭДС в мВ при температуре свободного конца 0 °С											
Температура рабочего конца, °С	0	1	2	3	4	5	6	7	8	9	10
700	11,168	11,184	11,201	11,217	11,234	11,250	11,267	11,283	11,300	11,316	11,333
710	11,333	11,349	11,366	11,382	11,399	11,415	11,432	11,448	11,465	11,481	11,498
720	11,498	11,514	11,530	11,547	11,563	11,580	11,596	11,613	11,629	11,646	11,662
730	11,662	11,678	11,695	11,711	11,728	11,744	11,761	11,777	11,793	11,810	11,826
740	11,826	11,843	11,859	11,875	11,892	11,908	11,925	11,941	11,957	11,974	11,990
750	11,990	12,006	12,023	12,039	12,056	12,072	12,088	12,105	12,121	12,137	12,154
760	12,154	12,170	12,186	12,203	12,219	12,235	12,252	12,268	12,284	12,301	12,317
770	12,317	12,333	12,350	12,366	12,382	12,399	12,415	12,431	12,447	12,464	12,480
780	12,480	12,496	12,513	12,529	12,545	12,561	12,578	12,594	12,610	12,627	12,643
790	12,643	12,659	12,675	12,692	12,708	12,724	12,740	12,757	12,773	12,789	12,805
800	12,805	12,821	12,838	12,854	12,870	12,886	12,903	12,919	12,935	12,951	12,967
810	12,967	12,984	13,000	13,016	13,032	13,048	13,065	13,081	13,097	13,113	13,129
820	13,129	13,145	13,162	13,178	13,194	13,210	13,226	13,242	13,258	13,275	13,291
830	13,291	13,307	13,323	13,339	13,355	13,371	13,387	13,404	13,420	13,436	13,452
840	13,452	13,468	13,484	13,500	13,516	13,532	13,548	13,564	13,581	13,597	13,613
850	13,613	13,629	13,645	13,661	13,677	13,693	13,709	13,725	13,741	13,757	13,773
860	13,773	13,789	13,805	13,821	13,837	13,853	13,869	13,885	13,901	13,917	13,933
870	13,933	13,949	13,965	13,981	13,997	14,013	14,029	14,045	14,061	14,077	14,093
880	14,093	14,109	14,125	14,141	14,157	14,173	14,189	14,205	14,221	14,236	14,252
890	14,252	14,268	14,284	14,300	14,316	14,332	14,348	14,364	14,380	14,396	14,411
900	14,411	14,427	14,443	14,459	14,475	14,491	14,507	14,523	14,538	14,554	14,570
910	14,570	14,586	14,602	14,618	14,633	14,649	14,665	14,681	14,697	14,713	14,728
920	14,728	14,744	14,760	14,776	14,792	14,807	14,823	14,839	14,855	14,870	14,886
930	14,886	14,902	14,918	14,933	14,949	14,965	14,981	14,996	15,012	15,028	15,044
940	15,044	15,059	15,075	15,091	15,107	15,122	15,138	15,154	15,169	15,185	15,201
950	15,201	15,216	15,232	15,248	15,263	15,279	15,295	15,310	15,326	15,342	15,357
960	15,357	15,373	15,389	15,404	15,420	15,436	15,451	15,467	15,482	15,498	15,514
970	15,514	15,529	15,545	15,560	15,576	15,592	15,607	15,623	15,638	15,654	15,669
980	15,669	15,685	15,701	15,716	15,732	15,747	15,763	15,778	15,794	15,809	15,825
990	15,825	15,840	15,856	15,871	15,887	15,902	15,918	15,933	15,949	15,964	15,980
1000	15,980	15,995	16,011	16,026	16,042	16,057	16,073	16,088	16,104	16,119	16,134
1010	16,134	16,150	16,165	16,181	16,196	16,211	16,227	16,242	16,258	16,273	16,288
1020	16,288	16,304	16,319	16,335	16,350	16,365	16,381	16,396	16,411	16,427	16,442
1030	16,442	16,457	16,473	16,488	16,503	16,519	16,534	16,549	16,565	16,580	16,595
1040	16,595	16,611	16,626	16,641	16,656	16,672	16,687	16,702	16,718	16,733	16,748

Продолжение таблицы 11

ТЭДС в мВ при температуре свободного конца 0 °С											
Температура рабочего конца, °С	0	1	2	3	4	5	6	7	8	9	10
1050	16,748	16,763	16,778	16,794	16,809	16,824	16,839	16,855	16,870	16,885	16,900
1060	16,900	16,915	16,931	16,946	16,961	16,976	16,991	17,007	17,022	17,037	17,052
1070	17,052	17,067	17,082	17,098	17,113	17,128	17,143	17,158	17,173	17,188	17,203
1080	17,203	17,218	17,234	17,249	17,264	17,279	17,294	17,309	17,324	17,339	17,354
1090	17,354	17,369	17,384	17,399	17,414	17,429	17,444	17,460	17,475	17,490	17,505
1100	17,505	17,520	17,535	17,550	17,565	17,580	17,595	17,610	17,625	17,639	17,654
1110	17,654	17,669	17,684	17,699	17,714	17,729	17,744	17,759	17,774	17,789	17,804
1120	17,804	17,819	17,834	17,849	17,863	17,878	17,893	17,908	17,923	17,938	17,953
1130	17,953	17,968	17,982	17,997	18,012	18,027	18,042	18,057	18,072	18,086	18,101
1140	18,101	18,116	18,131	18,146	18,160	18,175	18,190	18,205	18,220	18,234	18,249
1150	18,249	18,264	18,279	18,293	18,308	18,323	18,338	18,352	18,367	18,382	18,396
1160	18,396	18,411	18,426	18,441	18,455	18,470	18,485	18,499	18,514	18,529	18,543
1170	18,543	18,558	18,573	18,587	18,602	18,617	18,631	18,646	18,661	18,675	18,690
1180	18,690	18,704	18,719	18,734	18,748	18,763	18,777	18,792	18,807	18,821	18,836
1190	18,836	18,850	18,865	18,879	18,894	18,908	18,923	18,937	18,952	18,967	18,981
1200	18,981	18,996	19,010	19,025	19,039	19,054	19,068	19,082	19,097	19,111	19,126
1210	19,126	19,140	19,155	19,169	19,184	19,198	19,213	19,227	19,241	19,256	19,270
1220	19,270	19,285	19,299	19,313	19,328	19,342	19,357	19,371	19,385	19,400	19,414
1230	19,414	19,428	19,443	19,457	19,472	19,486	19,500	19,514	19,529	19,543	19,557
1240	19,557	19,572	19,586	19,600	19,615	19,629	19,643	19,657	19,672	19,686	19,700
1250	19,700	19,715	19,729	19,743	19,757	19,771	19,786	19,800	19,814	19,828	19,843
1260	19,843	19,857	19,871	19,885	19,899	19,914	19,928	19,942	19,956	19,970	19,984
1270	19,984	19,999	20,013	20,027	20,041	20,055	20,069	20,083	20,097	20,112	20,126
1280	20,126	20,140	20,154	20,168	20,182	20,196	20,210	20,224	20,238	20,252	20,266
1290	20,266	20,280	20,294	20,309	20,323	20,337	20,351	20,365	20,379	20,393	20,407
1300	20,407	20,421	20,435	20,449	20,463	20,477	20,491	20,505	20,518	20,532	20,546
1310	20,546	20,560	20,574	20,588	20,602	20,616	20,630	20,644	20,658	20,672	20,686
1320	20,686	20,700	20,713	20,727	20,741	20,755	20,769	20,783	20,797	20,810	20,824
1330	20,824	20,838	20,852	20,866	20,880	20,893	20,907	20,921	20,935	20,949	20,963
1340	20,963	20,976	20,990	21,004	21,018	21,031	21,045	21,059	21,073	21,086	21,100
1350	21,100	21,114	21,128	21,141	21,155	21,169	21,183	21,196	21,210	21,224	21,237
1360	21,237	21,251	21,265	21,278	21,292	21,306	21,320	21,333	21,347	21,360	21,374
1370	21,374	21,388	21,401	21,415	21,429	21,442	21,456	21,470	21,483	21,497	21,510
1380	21,510	21,524	21,537	21,551	21,565	21,578	21,592	21,605	21,619	21,632	21,646
1390	21,646	21,660	21,673	21,687	21,700	21,714	21,727	21,741	21,754	21,768	21,781

Продолжение таблицы 11

ТЭДС в мВ при температуре свободного конца 0 °С											
Температура рабочего конца, °С	0	1	2	3	4	5	6	7	8	9	10
1400	21,781	21,795	21,808	21,822	21,835	21,849	21,862	21,876	21,889	21,902	21,916
1410	21,916	21,929	21,943	21,956	21,970	21,983	21,996	22,010	22,023	22,037	22,050
1420	22,050	22,063	22,077	22,090	22,104	22,117	22,130	22,144	22,157	22,170	22,184
1430	22,184	22,197	22,210	22,224	22,237	22,250	22,264	22,277	22,290	22,304	22,317
1440	22,317	22,330	22,344	22,357	22,370	22,383	22,397	22,410	22,423	22,436	22,450
1450	22,450	22,463	22,476	22,489	22,503	22,516	22,529	22,542	22,556	22,569	22,582
1460	22,582	22,595	22,608	22,622	22,635	22,648	22,661	22,674	22,687	22,701	22,714
1470	22,714	22,727	22,740	22,753	22,766	22,779	22,792	22,806	22,819	22,832	22,845
1480	22,845	22,858	22,871	22,884	22,897	22,910	22,923	22,937	22,950	22,963	22,976
1490	22,976	22,989	23,002	23,015	23,028	23,041	23,054	23,067	23,080	23,093	23,106
1500	23,106	23,119	23,132	23,145	23,158	23,171	23,184	23,197	23,210	23,223	23,236
1510	23,236	23,249	23,262	23,275	23,288	23,301	23,313	23,326	23,339	23,352	23,365
1520	23,365	23,378	23,391	23,404	23,417	23,430	23,443	23,455	23,468	23,481	23,494
1530	23,494	23,507	23,520	23,533	23,545	23,558	23,571	23,584	23,597	23,610	23,622
1540	23,622	23,635	23,648	23,661	23,674	23,686	23,699	23,712	23,725	23,737	23,750
1550	23,750	23,763	23,776	23,789	23,801	23,814	23,827	23,839	23,852	23,865	23,878
1560	23,878	23,890	23,903	23,916	23,928	23,941	23,954	23,967	23,979	23,992	24,005
1570	24,005	24,017	24,030	24,043	24,055	24,068	24,080	24,093	24,106	24,118	24,131
1580	24,131	24,144	24,156	24,169	24,181	24,194	24,207	24,219	24,232	24,244	24,257
1590	24,257	24,270	24,282	24,295	24,307	24,320	24,332	24,345	24,357	24,370	24,382
1600	24,382	24,395	24,407	24,420	24,432	24,445	24,457	24,470	24,482	24,495	24,507
1610	24,507	24,520	24,532	24,545	24,557	24,570	24,582	24,594	24,607	24,619	24,632
1620	24,632	24,644	24,657	24,669	24,681	24,694	24,706	24,719	24,731	24,743	24,756
1630	24,756	24,768	24,780	24,793	24,805	24,817	24,830	24,842	24,854	24,867	24,879
1640	24,879	24,891	24,904	24,916	24,928	24,941	24,953	24,965	24,977	24,990	25,002
1650	25,002	25,014	25,027	25,039	25,051	25,063	25,075	25,088	25,100	25,112	25,124
1660	25,124	25,137	25,149	25,161	25,173	25,185	25,198	25,210	25,222	25,234	25,246
1670	25,246	25,258	25,270	25,283	25,295	25,307	25,319	25,331	25,343	25,355	25,367
1680	25,367	25,380	25,392	25,404	25,416	25,428	25,440	25,452	25,464	25,476	25,488
1690	25,488	25,500	25,512	25,524	25,536	25,548	25,560	25,572	25,584	25,596	25,608
1700	25,608	25,620	25,632	25,644	25,656	25,668	25,680	25,692	25,704	25,716	25,728
1710	25,728	25,740	25,752	25,763	25,775	25,787	25,799	25,811	25,823	25,835	25,847
1720	25,847	25,859	25,870	25,882	25,894	25,906	25,918	25,930	25,941	25,953	25,965
1730	25,965	25,977	25,989	26,000	26,012	26,024	26,036	26,047	26,059	26,071	26,083
1740	26,083	26,094	26,106	26,118	26,129	26,141	26,153	26,165	26,176	26,188	26,200

Окончание таблицы 11

ТЭДС в мВ при температуре свободного конца 0 °С											
Температура рабочего конца, °С	0	1	2	3	4	5	6	7	8	9	10
1750	26,200	26,211	26,223	26,234	26,246	26,258	26,269	26,281	26,293	26,304	26,316
1760	26,316	26,327	26,339	26,351	26,362	26,374	26,385	26,397	26,408	26,420	26,431
1770	26,431	26,443	26,454	26,466	26,477	26,489	26,500	26,512	26,523	26,535	26,546
1780	26,546	26,558	26,569	26,580	26,592	26,603	26,615	26,626	26,637	26,649	26,660
1790	26,660	26,672	26,683	26,694	26,706	26,717	26,728	26,740	26,751	26,762	26,773
1800	26,773										

Таблица 12 — Значения ТЭДС для термопары типа L (хромель/копель)

ТЭДС в мВ при температуре свободного конца 0 °С											
Температура рабочего конца, °С	0	1	2	3	4	5	6	7	8	9	10
—200	—9,488										
—190	—9,203	—9,233	—9,262	—9,291	—9,320	—9,349	—9,377	—9,405	—9,433	—9,461	—9,488
—180	—8,894	—8,926	—8,958	—8,989	—9,021	—9,052	—9,082	—9,113	—9,143	—9,173	—9,203
—170	—8,562	—8,596	—8,630	—8,664	—8,698	—8,731	—8,764	—8,797	—8,830	—8,862	—8,894
—160	—8,207	—8,244	—8,280	—8,316	—8,352	—8,388	—8,423	—8,458	—8,493	—8,528	—8,562
—150	—7,831	—7,869	—7,908	—7,946	—7,984	—8,022	—8,059	—8,097	—8,134	—8,171	—8,207
—140	—7,433	—7,473	—7,514	—7,554	—7,594	—7,634	—7,674	—7,713	—7,753	—7,792	—7,831
—130	—7,014	—7,057	—7,099	—7,142	—7,184	—7,226	—7,268	—7,309	—7,350	—7,392	—7,433
—120	—6,575	—6,620	—6,665	—6,709	—6,753	—6,797	—6,841	—6,884	—6,928	—6,971	—7,014
—110	—6,118	—6,164	—6,211	—6,257	—6,303	—6,349	—6,394	—6,440	—6,485	—6,530	—6,575
—100	—5,641	—5,690	—5,738	—5,786	—5,834	—5,882	—5,929	—5,977	—6,024	—6,071	—6,118
—90	—5,147	—5,197	—5,247	—5,297	—5,347	—5,396	—5,446	—5,495	—5,544	—5,593	—5,641
—80	—4,636	—4,688	—4,739	—4,791	—4,842	—4,893	—4,944	—4,995	—5,046	—5,097	—5,147
—70	—4,108	—4,161	—4,215	—4,268	—4,321	—4,374	—4,426	—4,479	—4,531	—4,584	—4,636
—60	—3,564	—3,619	—3,674	—3,729	—3,783	—3,838	—3,892	—3,946	—4,000	—4,054	—4,108
—50	—3,005	—3,061	—3,118	—3,174	—3,230	—3,286	—3,342	—3,398	—3,453	—3,509	—3,564
—40	—2,431	—2,489	—2,547	—2,605	—2,662	—2,720	—2,777	—2,834	—2,891	—2,948	—3,005
—30	—1,843	—1,902	—1,962	—2,021	—2,080	—2,139	—2,197	—2,256	—2,314	—2,373	—2,431
—20	—1,242	—1,302	—1,363	—1,423	—1,484	—1,544	—1,604	—1,664	—1,724	—1,783	—1,843
—10	—0,627	—0,689	—0,751	—0,813	—0,874	—0,936	—0,997	—1,059	—1,120	—1,181	—1,242
0	0,000	—0,063	—0,126	—0,189	—0,252	—0,315	—0,378	—0,440	—0,503	—0,565	—0,627

Продолжение таблицы 12

ТЭДС в мВ при температуре свободного конца 0 °С											
Температура рабочего конца, °С	0	1	2	3	4	5	6	7	8	9	10
0	0,000	0,063	0,127	0,190	0,254	0,318	0,382	0,446	0,510	0,575	0,639
10	0,639	0,704	0,768	0,833	0,898	0,963	1,028	1,093	1,159	1,224	1,290
20	1,290	1,355	1,421	1,487	1,553	1,619	1,685	1,752	1,818	1,885	1,951
30	1,951	2,018	2,085	2,152	2,219	2,286	2,354	2,421	2,488	2,556	2,624
40	2,624	2,692	2,759	2,828	2,896	2,964	3,032	3,101	3,169	3,238	3,306
50	3,306	3,375	3,444	3,513	3,582	3,652	3,721	3,790	3,860	3,929	3,999
60	3,999	4,069	4,139	4,209	4,279	4,349	4,419	4,490	4,560	4,631	4,701
70	4,701	4,772	4,843	4,914	4,985	5,056	5,127	5,198	5,270	5,341	5,413
80	5,413	5,484	5,556	5,628	5,700	5,772	5,844	5,916	5,988	6,060	6,133
90	6,133	6,205	6,278	6,351	6,423	6,496	6,569	6,642	6,715	6,788	6,862
100	6,862	6,935	7,008	7,082	7,155	7,229	7,303	7,377	7,451	7,525	7,599
110	7,599	7,673	7,747	7,821	7,896	7,970	8,045	8,119	8,194	8,269	8,344
120	8,344	8,419	8,494	8,569	8,644	8,719	8,794	8,870	8,945	9,021	9,096
130	9,096	9,172	9,248	9,324	9,400	9,476	9,552	9,628	9,704	9,780	9,857
140	9,857	9,933	10,010	10,086	10,163	10,239	10,316	10,393	10,470	10,547	10,624
150	10,624	10,701	10,778	10,856	10,933	11,010	11,088	11,165	11,243	11,321	11,398
160	11,398	11,476	11,554	11,632	11,710	11,788	11,866	11,944	12,023	12,101	12,179
170	12,179	12,258	12,336	12,415	12,494	12,572	12,651	12,730	12,809	12,888	12,967
180	12,967	13,046	13,125	13,204	13,284	13,363	13,442	13,522	13,601	13,681	13,761
190	13,761	13,840	13,920	14,000	14,080	14,160	14,240	14,320	14,400	14,480	14,560
200	14,560	14,641	14,721	14,802	14,882	14,963	15,043	15,124	15,204	15,285	15,366
210	15,366	15,447	15,528	15,609	15,690	15,771	15,852	15,933	16,015	16,096	16,177
220	16,177	16,259	16,340	16,422	16,503	16,585	16,667	16,748	16,830	16,912	16,994
230	16,994	17,076	17,158	17,240	17,322	17,404	17,486	17,569	17,651	17,733	17,816
240	17,816	17,898	17,981	18,063	18,146	18,228	18,311	18,394	18,477	18,559	18,642
250	18,642	18,725	18,808	18,891	18,974	19,057	19,141	19,224	19,307	19,390	19,474
260	19,474	19,557	19,641	19,724	19,808	19,891	19,975	20,059	20,142	20,226	20,310
270	20,310	20,394	20,478	20,561	20,645	20,729	20,813	20,898	20,982	21,066	21,150
280	21,150	21,234	21,319	21,403	21,487	21,572	21,656	21,741	21,825	21,910	21,995
290	21,995	22,079	22,164	22,249	22,333	22,418	22,503	22,588	22,673	22,758	22,843
300	22,843	22,928	23,013	23,098	23,183	23,268	23,354	23,439	23,524	23,609	23,695
310	23,695	23,780	23,866	23,951	24,037	24,122	24,208	24,293	24,379	24,465	24,550
320	24,550	24,636	24,722	24,807	24,893	24,979	25,065	25,151	25,237	25,323	25,409
330	25,409	25,495	25,581	25,667	25,753	25,839	25,926	26,012	26,098	26,184	26,271
340	26,271	26,357	26,443	26,530	26,616	26,702	26,789	26,875	26,962	27,048	27,135

Продолжение таблицы 12

ТЭДС в мВ при температуре свободного конца 0 °С											
Температура рабочего конца, °С	0	1	2	3	4	5	6	7	8	9	10
350	27,135	27,222	27,308	27,395	27,482	27,568	27,655	27,742	27,828	27,915	28,002
360	28,002	28,089	28,176	28,263	28,350	28,437	28,523	28,610	28,697	28,784	28,872
370	28,872	28,959	29,046	29,133	29,220	29,307	29,394	29,481	29,569	29,656	29,743
380	29,743	29,830	29,918	30,005	30,092	30,180	30,267	30,354	30,442	30,529	30,617
390	30,617	30,704	30,792	30,879	30,967	31,054	31,142	31,229	31,317	31,404	31,492
400	31,492	31,580	31,667	31,755	31,843	31,930	32,018	32,106	32,193	32,281	32,369
410	32,369	32,457	32,544	32,632	32,720	32,808	32,896	32,983	33,071	33,159	33,247
420	33,247	33,335	33,423	33,511	33,599	33,686	33,774	33,862	33,950	34,038	34,126
430	34,126	34,214	34,302	34,390	34,478	34,566	34,654	34,742	34,830	34,918	35,007
440	35,007	35,095	35,183	35,271	35,359	35,447	35,535	35,623	35,711	35,799	35,888
450	35,888	35,976	36,064	36,152	36,240	36,328	36,417	36,505	36,593	36,681	36,769
460	36,769	36,857	36,946	37,034	37,122	37,210	37,299	37,387	37,475	37,563	37,651
470	37,651	37,740	37,828	37,916	38,004	38,093	38,181	38,269	38,357	38,446	38,534
480	38,534	38,622	38,710	38,799	38,887	38,975	39,063	39,152	39,240	39,328	39,417
490	39,417	39,505	39,593	39,681	39,770	39,858	39,946	40,034	40,123	40,211	40,299
500	40,299	40,387	40,476	40,564	40,652	40,740	40,829	40,917	41,005	41,093	41,182
510	41,182	41,270	41,358	41,446	41,535	41,623	41,711	41,799	41,888	41,976	42,064
520	42,064	42,152	42,241	42,329	42,417	42,505	42,593	42,682	42,770	42,858	42,946
530	42,946	43,034	43,123	43,211	43,299	43,387	43,475	43,564	43,652	43,740	43,828
540	43,828	43,916	44,004	44,092	44,181	44,269	44,357	44,445	44,533	44,621	44,709
550	44,709	44,798	44,886	44,974	45,062	45,150	45,238	45,326	45,414	45,502	45,590
560	45,590	45,678	45,766	45,854	45,942	46,031	46,119	46,207	46,295	46,383	46,471
570	46,471	46,559	46,647	46,735	46,823	46,911	46,999	47,087	47,175	47,262	47,350
580	47,350	47,438	47,526	47,614	47,702	47,790	47,878	47,966	48,054	48,142	48,230
590	48,230	48,318	48,405	48,493	48,581	48,669	48,757	48,845	48,933	49,020	49,108
600	49,108	49,196	49,284	49,372	49,460	49,547	49,635	49,723	49,811	49,898	49,986
610	49,986	50,074	50,162	50,250	50,337	50,425	50,513	50,600	50,688	50,776	50,864
620	50,864	50,951	51,039	51,127	51,214	51,302	51,390	51,477	51,565	51,653	51,740
630	51,740	51,828	51,916	52,003	52,091	52,179	52,266	52,354	52,441	52,529	52,617
640	52,617	52,704	52,792	52,879	52,967	53,054	53,142	53,229	53,317	53,405	53,492
650	53,492	53,580	53,667	53,755	53,842	53,930	54,017	54,104	54,192	54,279	54,367
660	54,367	54,454	54,542	54,629	54,717	54,804	54,891	54,979	55,066	55,154	55,241
670	55,241	55,328	55,416	55,503	55,590	55,678	55,765	55,852	55,940	56,027	56,114
680	56,114	56,202	56,289	56,376	56,464	56,551	56,638	56,725	56,813	56,900	56,987
690	56,987	57,074	57,161	57,249	57,336	57,423	57,510	57,597	57,684	57,772	57,859

Окончание таблицы 12

ТЭДС в мВ при температуре свободного конца 0 °С											
Температура рабочего конца, °С	0	1	2	3	4	5	6	7	8	9	10
700	57,859	57,946	58,033	58,120	58,207	58,294	58,381	58,468	58,555	58,642	58,729
710	58,729	58,816	58,903	58,990	59,077	59,164	59,251	59,338	59,425	59,512	59,599
720	59,599	59,686	59,772	59,859	59,946	60,033	60,120	60,206	60,293	60,380	60,467
730	60,467	60,553	60,640	60,727	60,813	60,900	60,987	61,073	61,160	61,246	61,333
740	61,333	61,419	61,506	61,592	61,679	61,765	61,851	61,938	62,024	62,110	62,197
750	62,197	62,283	62,369	62,456	62,542	62,628	62,714	62,800	62,886	62,972	63,058
760	63,058	63,144	63,230	63,316	63,402	63,488	63,574	63,659	63,745	63,831	63,917
770	63,917	64,002	64,088	64,173	64,259	64,344	64,430	64,515	64,601	64,686	64,771
780	64,771	64,856	64,942	65,027	65,112	65,197	65,282	65,367	65,452	65,537	65,621
790	65,621	65,706	65,791	65,875	65,960	66,044	66,129	66,213	66,298	66,382	66,466
800	66,466										

Таблица 13 — Значения ТЭДС для термопары типа М (медь/копель)

ТЭДС в мВ при температуре свободного конца 0 °С											
Температура рабочего конца, °С	0	1	2	3	4	5	6	7	8	9	10
—200	—6,154										
—190	—5,975	—5,994	—6,012	—6,031	—6,049	—6,067	—6,084	—6,102	—6,120	—6,137	—6,154
—180	—5,781	—5,801	—5,821	—5,841	—5,861	—5,880	—5,900	—5,919	—5,938	—5,957	—5,975
—170	—5,573	—5,594	—5,616	—5,637	—5,658	—5,679	—5,700	—5,720	—5,741	—5,761	—5,781
—160	—5,349	—5,372	—5,395	—5,418	—5,440	—5,463	—5,485	—5,507	—5,529	—5,551	—5,573
—150	—5,111	—5,136	—5,160	—5,184	—5,208	—5,232	—5,256	—5,279	—5,303	—5,326	—5,349
—140	—4,859	—4,885	—4,911	—4,936	—4,962	—4,987	—5,012	—5,037	—5,062	—5,087	—5,111
—130	—4,593	—4,621	—4,648	—4,675	—4,701	—4,728	—4,755	—4,781	—4,807	—4,833	—4,859
—120	—4,314	—4,342	—4,371	—4,399	—4,427	—4,455	—4,483	—4,511	—4,539	—4,566	—4,593
—110	—4,021	—4,051	—4,081	—4,110	—4,140	—4,169	—4,198	—4,227	—4,256	—4,285	—4,314
—100	—3,715	—3,747	—3,778	—3,809	—3,839	—3,870	—3,900	—3,931	—3,961	—3,991	—4,021

Окончание таблицы 13

ТЭДС в мВ при температуре свободного конца 0 °С											
Температура рабочего конца, °С	0	1	2	3	4	5	6	7	8	9	10
—90	—3,397	—3,429	—3,462	—3,494	—3,526	—3,558	—3,590	—3,621	—3,653	—3,684	—3,715
—80	—3,066	—3,100	—3,133	—3,166	—3,200	—3,233	—3,266	—3,299	—3,332	—3,364	—3,397
—70	—2,723	—2,757	—2,792	—2,827	—2,861	—2,896	—2,930	—2,964	—2,998	—3,032	—3,066
—60	—2,367	—2,403	—2,439	—2,475	—2,511	—2,546	—2,582	—2,617	—2,652	—2,688	—2,723
—50	—2,000	—2,038	—2,075	—2,112	—2,149	—2,185	—2,222	—2,259	—2,295	—2,331	—2,367
—40	—1,622	—1,660	—1,699	—1,737	—1,775	—1,813	—1,850	—1,888	—1,926	—1,963	—2,000
—30	—1,233	—1,272	—1,311	—1,351	—1,390	—1,429	—1,468	—1,506	—1,545	—1,584	—1,622
—20	—0,832	—0,873	—0,913	—0,954	—0,994	—1,034	—1,074	—1,114	—1,153	—1,193	—1,233
—10	—0,421	—0,463	—0,504	—0,546	—0,587	—0,628	—0,669	—0,710	—0,751	—0,792	—0,832
0	0,000	—0,043	—0,085	—0,127	—0,170	—0,212	—0,254	—0,296	—0,338	—0,380	—0,421
0	0,000	0,043	0,085	0,128	0,171	0,214	0,258	0,301	0,344	0,388	0,431
10	0,431	0,475	0,519	0,563	0,607	0,651	0,695	0,739	0,784	0,828	0,873
20	0,873	0,917	0,962	1,007	1,052	1,097	1,142	1,187	1,232	1,278	1,323
30	1,323	1,369	1,415	1,460	1,506	1,552	1,598	1,644	1,691	1,737	1,783
40	1,783	1,830	1,876	1,923	1,970	2,017	2,064	2,111	2,158	2,205	2,252
50	2,252	2,300	2,347	2,395	2,442	2,490	2,538	2,586	2,634	2,682	2,730
60	2,730	2,778	2,826	2,875	2,923	2,972	3,021	3,069	3,118	3,167	3,216
70	3,216	3,265	3,314	3,363	3,413	3,462	3,512	3,561	3,611	3,661	3,710
80	3,710	3,760	3,810	3,860	3,910	3,960	4,011	4,061	4,111	4,162	4,213
90	4,213	4,263	4,314	4,365	4,416	4,467	4,518	4,569	4,620	4,671	4,722
100	4,722										

Приложение А
(справочное)

Аппроксимирующие полиномы

А.1 Полиномы, аппроксимирующие НСХ преобразования термопар типов R, S, B, J, T, E, K, N, A-1, A-2, A-3, L, M

Для термопары типа R

Диапазоны температур:

Полиномы:

от минус 50 °С до плюс 1064,18 °С

$$E = \sum_{i=0}^{9} A_i \cdot t^i$$

$A_0 = 0$

$A_1 = 5{,}28961729765 \cdot 10^{-3}$

$A_2 = 1{,}39166589782 \cdot 10^{-5}$

$A_3 = -2{,}38855693017 \cdot 10^{-8}$

$A_4 = 3{,}56916001063 \cdot 10^{-11}$

$A_5 = -4{,}62347666298 \cdot 10^{-14}$

$A_6 = 5{,}00777441034 \cdot 10^{-17}$

$A_7 = -3{,}73105886191 \cdot 10^{-20}$

$A_8 = 1{,}57716482367 \cdot 10^{-23}$

$A_9 = -2{,}81038625251 \cdot 10^{-27}$

от 1064,18 °С до 1664,5 °С

$$E = \sum_{i=0}^{5} A_i \cdot t^i$$

$A_0 = 2{,}95157925316$

$A_1 = -2{,}52061251332 \cdot 10^{-3}$

$A_2 = 1{,}59564501865 \cdot 10^{-5}$

$A_3 = -7{,}64085947576 \cdot 10^{-9}$

$A_4 = 2{,}05305291024 \cdot 10^{-12}$

$A_5 = -2{,}93359668173 \cdot 10^{-16}$

от 1664,5 °С до 1768,1 °С

$$E = \sum_{i=0}^{4} A_i \cdot t^i$$

$A_0 = 1{,}52232118209 \cdot 10^{2}$

$A_1 = -2{,}68819888545 \cdot 10^{-1}$

$A_2 = 1{,}71280280471 \cdot 10^{-4}$

$A_3 = -3{,}45895706453 \cdot 10^{-8}$

$A_4 = -9{,}34633971046 \cdot 10^{-15}$

Для термопары типа S

Диапазоны температур:

Полиномы:

от минус 50 °С до плюс 1064,18 °С

$$E = \sum_{i=0}^{8} A_i \cdot t^i$$

$A_0 = 0$

$A_1 = 5{,}40313308631 \cdot 10^{-3}$

$A_2 = 1{,}25934289740 \cdot 10^{-5}$
$A_3 = -2{,}32477968689 \cdot 10^{-8}$
$A_4 = 3{,}22028823036 \cdot 10^{-11}$
$A_5 = -3{,}31465196389 \cdot 10^{-14}$
$A_6 = 2{,}55744251786 \cdot 10^{-17}$
$A_7 = -1{,}25068871393 \cdot 10^{-20}$
$A_8 = 2{,}71443176145 \cdot 10^{-24}$

от 1064,18 °С до 1664,5 °С

$$E = \sum_{i=0}^{4} A_i \cdot t^i$$

$A_0 = 1{,}32900444085$
$A_1 = 3{,}34509311344 \cdot 10^{-3}$
$A_2 = 6{,}54805192818 \cdot 10^{-6}$
$A_3 = -1{,}64856259209 \cdot 10^{-9}$
$A_4 = 1{,}29989605174 \cdot 10^{-14}$

от 1664,5 °С до 1768,1 °С

$$E = \sum_{i=0}^{4} A_i \cdot t^i$$

$A_0 = 1{,}46628232636 \cdot 10^{2}$
$A_1 = -2{,}58430516752 \cdot 10^{-1}$
$A_2 = 1{,}63693574641 \cdot 10^{-4}$
$A_3 = -3{,}30439046987 \cdot 10^{-8}$
$A_4 = -9{,}43223690612 \cdot 10^{-15}$

Для термопары типа В

Диапазоны температур:

Полиномы:

от 0 °С до 630,615 °С

$$E = \sum_{i=0}^{6} A_i \cdot t^i$$

$A_0 = 0$
$A_1 = -2{,}4650818346 \cdot 10^{-4}$
$A_2 = 5{,}9040421171 \cdot 10^{-6}$
$A_3 = -1{,}3257931636 \cdot 10^{-9}$
$A_4 = 1{,}5668291901 \cdot 10^{-12}$
$A_5 = -1{,}6944529240 \cdot 10^{-15}$
$A_6 = 6{,}2990347094 \cdot 10^{-19}$

от 630,615 °С до 1820 °С

$$E = \sum_{i=0}^{8} A_i \cdot t^i$$

$A_0 = -3{,}8938168621$
$A_1 = 2{,}8571747470 \cdot 10^{-2}$
$A_2 = -8{,}4885104785 \cdot 10^{-5}$
$A_3 = 1{,}5785280164 \cdot 10^{-7}$
$A_4 = -1{,}6835344864 \cdot 10^{-10}$
$A_5 = 1{,}1109794013 \cdot 10^{-13}$
$A_6 = -4{,}4515431033 \cdot 10^{-17}$
$A_7 = 9{,}8975640821 \cdot 10^{-21}$
$A_8 = -9{,}3791330289 \cdot 10^{-25}$

Для термопары типа J

Диапазоны температур:

Полиномы:

от минус 210 °С до плюс 760 °С

$$E = \sum_{i=0}^{8} A_i \cdot t^i$$

$A_0 = 0$

$A_1 = 5{,}0381187815 \cdot 10^{-2}$

$A_2 = 3{,}0475836930 \cdot 10^{-5}$

$A_3 = -8{,}5681065720 \cdot 10^{-8}$

$A_4 = 1{,}3228195295 \cdot 10^{-10}$

$A_5 = -1{,}7052958337 \cdot 10^{-13}$

$A_6 = 2{,}0948090697 \cdot 10^{-16}$

$A_7 = -1{,}2538395336 \cdot 10^{-19}$

$A_8 = 1{,}5631725697 \cdot 10^{-23}$

от 760 °С до 1200 °С

$$E = \sum_{i=0}^{5} A_i \cdot t^i$$

$A_0 = 2{,}9645625681 \cdot 10^{2}$

$A_1 = -1{,}4976127786$

$A_2 = 3{,}1787103924 \cdot 10^{-3}$

$A_3 = -3{,}1847686701 \cdot 10^{-6}$

$A_4 = 1{,}5720819004 \cdot 10^{-9}$

$A_5 = -3{,}0691369056 \cdot 10^{-13}$

Для термопары типа T

Диапазоны температур:

Полиномы:

от минус 270 °С до 0 °С

$$E = \sum_{i=0}^{14} A_i \cdot t^i$$

$A_0 = 0$

$A_1 = 3{,}8748106364 \cdot 10^{-2}$

$A_2 = 4{,}4194434347 \cdot 10^{-5}$

$A_3 = 1{,}1844323105 \cdot 10^{-7}$

$A_4 = 2{,}0032973554 \cdot 10^{-8}$

$A_5 = 9{,}0138019559 \cdot 10^{-10}$

$A_6 = 2{,}2651156593 \cdot 10^{-11}$

$A_7 = 3{,}6071154205 \cdot 10^{-13}$

$A_8 = 3{,}8493939883 \cdot 10^{-15}$

$A_9 = 2{,}8213521925 \cdot 10^{-17}$

$A_{10} = 1{,}4251594779 \cdot 10^{-19}$

$A_{11} = 4{,}8768662286 \cdot 10^{-22}$

$A_{12} = 1{,}0795539270 \cdot 10^{-24}$

$A_{13} = 1{,}3945027062 \cdot 10^{-27}$

$A_{14} = 7{,}9795153927 \cdot 10^{-31}$

от 0 °С до 400 °С

$$E = \sum_{i=0}^{8} A_i \cdot t^i$$

$A_0 = 0$

$A_1 = 3{,}8748106364 \cdot 10^{-2}$

$A_2 = 3{,}3292227880 \cdot 10^{-5}$
$A_3 = 2{,}0618243404 \cdot 10^{-7}$
$A_4 = -2{,}1882256846 \cdot 10^{-9}$
$A_5 = 1{,}0996880928 \cdot 10^{-11}$
$A_6 = -3{,}0815758772 \cdot 10^{-14}$
$A_7 = 4{,}5479135290 \cdot 10^{-17}$
$A_8 = -2{,}7512901673 \cdot 10^{-20}$

Для термопары типа E

Диапазоны температур:

от минус 270 °С до 0 °С

Полиномы:

$$E = \sum_{i=0}^{13} A_i \cdot t^i$$

$A_0 = 0$
$A_1 = 5{,}8665508708 \cdot 10^{-2}$
$A_2 = 4{,}5410977124 \cdot 10^{-5}$
$A_3 = -7{,}7998048686 \cdot 10^{-7}$
$A_4 = -2{,}5800160843 \cdot 10^{-8}$
$A_5 = -5{,}9452583057 \cdot 10^{-10}$
$A_6 = -9{,}3214058667 \cdot 10^{-12}$
$A_7 = -1{,}0287605534 \cdot 10^{-13}$
$A_8 = -8{,}0370123621 \cdot 10^{-16}$
$A_9 = -4{,}3979497391 \cdot 10^{-18}$
$A_{10} = -1{,}6414776355 \cdot 10^{-20}$
$A_{11} = -3{,}9673619516 \cdot 10^{-23}$
$A_{12} = -5{,}5827328721 \cdot 10^{-26}$
$A_{13} = -3{,}4657842013 \cdot 10^{-29}$

от 0 °С до 1000 °С

$$E = \sum_{i=0}^{10} A_i \cdot t^i$$

$A_0 = 0$
$A_1 = 5{,}8665508710 \cdot 10^{-2}$
$A_2 = 4{,}5032275582 \cdot 10^{-5}$
$A_3 = 2{,}8908407212 \cdot 10^{-8}$
$A_4 = -3{,}3056896652 \cdot 10^{-10}$
$A_5 = 6{,}5024403270 \cdot 10^{-13}$
$A_6 = -1{,}9197495504 \cdot 10^{-16}$
$A_7 = -1{,}2536600497 \cdot 10^{-18}$
$A_8 = 2{,}1489217569 \cdot 10^{-21}$
$A_9 = -1{,}4388041782 \cdot 10^{-24}$
$A_{10} = 3{,}5960899481 \cdot 10^{-28}$

Для термопары типа K

Диапазоны температур:

от минус 270 °С до 0 °С

Полиномы:

$$E = \sum_{i=0}^{10} A_i \cdot t^i$$

$A_0 = 0$
$A_1 = 3{,}9450128025 \cdot 10^{-2}$

$A_2 = 2{,}3622373598 \cdot 10^{-5}$
$A_3 = -3{,}2858906784 \cdot 10^{-7}$
$A_4 = -4{,}9904828777 \cdot 10^{-9}$
$A_5 = -6{,}7509059173 \cdot 10^{-11}$
$A_6 = -5{,}7410327428 \cdot 10^{-13}$
$A_7 = -3{,}1088872894 \cdot 10^{-15}$
$A_8 = -1{,}0451609365 \cdot 10^{-17}$
$A_9 = -1{,}9889266878 \cdot 10^{-20}$
$A_{10} = -1{,}6322697486 \cdot 10^{-23}$

от 0 °С до 1372 °С

$$E = \sum_{i=0}^{9} A_i \cdot t^i + C_0 \cdot e^{C_1 (t - 126{,}9686)^2}$$

$A_0 = -1{,}7600413686 \cdot 10^{-2}$
$A_1 = 3{,}8921204975 \cdot 10^{-2}$
$A_2 = 1{,}8558770032 \cdot 10^{-5}$
$A_3 = -9{,}9457592874 \cdot 10^{-8}$
$A_4 = 3{,}1840945719 \cdot 10^{-10}$
$A_5 = -5{,}6072844889 \cdot 10^{-13}$
$A_6 = 5{,}6075059059 \cdot 10^{-16}$
$A_7 = -3{,}2020720003 \cdot 10^{-19}$
$A_8 = 9{,}7151147152 \cdot 10^{-23}$
$A_9 = -1{,}2104721275 \cdot 10^{-26}$

$C_0 = 1{,}185976 \cdot 10^{-1}$
$C_1 = -1{,}183432 \cdot 10^{-4}$

Для термопары типа N

Диапазоны температур:

Полиномы:

от минус 270 °С до 0 °С

$$E = \sum_{i=0}^{8} A_i \cdot t^i$$

$A_0 = 0$
$A_1 = 2{,}6159105962 \cdot 10^{-2}$
$A_2 = 1{,}0957484228 \cdot 10^{-5}$
$A_3 = -9{,}3841111554 \cdot 10^{-8}$
$A_4 = -4{,}6412039759 \cdot 10^{-11}$
$A_5 = -2{,}6303357716 \cdot 10^{-12}$
$A_6 = -2{,}2653438003 \cdot 10^{-14}$
$A_7 = -7{,}6089300791 \cdot 10^{-17}$
$A_8 = -9{,}3419667835 \cdot 10^{-20}$

от 0 °С до 1300 °С

$$E = \sum_{i=0}^{10} A_i \cdot t^i$$

$A_0 = 0$
$A_1 = 2{,}5929394601 \cdot 10^{-2}$
$A_2 = 1{,}5710141880 \cdot 10^{-5}$
$A_3 = 4{,}3825627237 \cdot 10^{-8}$
$A_4 = -2{,}5261169794 \cdot 10^{-10}$

$A_5 = 6{,}4311819339 \cdot 10^{-13}$
$A_6 = -1{,}0063471519 \cdot 10^{-15}$
$A_7 = 9{,}9745338992 \cdot 10^{-19}$
$A_8 = -6{,}0863245607 \cdot 10^{-22}$
$A_9 = 2{,}0849229339 \cdot 10^{-25}$
$A_{10} = -3{,}0682196151 \cdot 10^{-29}$

Для термопары типа *A*-1

Диапазоны температур:

от 0 °С до 2500 °С

Полиномы:

$$E = \sum_{i=0}^{8} A_i \cdot t^i$$

$A_0 = 7{,}1564735 \cdot 10^{-4}$
$A_1 = 1{,}1951905 \cdot 10^{-2}$
$A_2 = 1{,}6672625 \cdot 10^{-5}$
$A_3 = -2{,}8287807 \cdot 10^{-8}$
$A_4 = 2{,}8397839 \cdot 10^{-11}$
$A_5 = -1{,}8505007 \cdot 10^{-14}$
$A_6 = 7{,}3632123 \cdot 10^{-18}$
$A_7 = -1{,}6148878 \cdot 10^{-21}$
$A_8 = 1{,}4901679 \cdot 10^{-25}$

Для термопары типа А-2

Диапазоны температур:

от 0 °С до 1800 °С

Полиномы:

$$E = \sum_{i=0}^{8} A_i \cdot t^i$$

$A_0 = -1{,}0850558 \cdot 10^{-4}$
$A_1 = 1{,}1642292 \cdot 10^{-2}$
$A_2 = 2{,}1280289 \cdot 10^{-5}$
$A_3 = -4{,}4258402 \cdot 10^{-8}$
$A_4 = 5{,}5652058 \cdot 10^{-11}$
$A_5 = -4{,}3801310 \cdot 10^{-14}$
$A_6 = 2{,}0228390 \cdot 10^{-17}$
$A_7 = -4{,}9354041 \cdot 10^{-21}$
$A_8 = 4{,}8119846 \cdot 10^{-25}$

Для термопары типа А-3

Диапазоны температур:

от 0 °С до 1800 °С

Полиномы:

$$E = \sum_{i=0}^{8} A_i \cdot t^i$$

$A_0 = -1{,}0649133 \cdot 10^{-4}$
$A_1 = 1{,}1686475 \cdot 10^{-2}$
$A_2 = 1{,}8022157 \cdot 10^{-5}$
$A_3 = -3{,}3436998 \cdot 10^{-8}$
$A_4 = 3{,}7081688 \cdot 10^{-11}$
$A_5 = -2{,}5748444 \cdot 10^{-14}$
$A_6 = 1{,}0301893 \cdot 10^{-17}$

$A_7 = -2{,}0735944 \cdot 10^{-21}$
$A_8 = 1{,}4678450 \cdot 10^{-25}$

Для термопары типа L

Диапазоны температур: Полиномы:

от минус 200 °С до 0 °С

$$E = \sum_{i=0}^{8} A_i \cdot t^i$$

$A_0 = -5{,}8952244 \cdot 10^{-5}$
$A_1 = 6{,}3391502 \cdot 10^{-2}$
$A_2 = 6{,}7592964 \cdot 10^{-5}$
$A_3 = 2{,}0672566 \cdot 10^{-7}$
$A_4 = 5{,}5720884 \cdot 10^{-9}$
$A_5 = 5{,}7133860 \cdot 10^{-11}$
$A_6 = 3{,}2995593 \cdot 10^{-13}$
$A_7 = 9{,}9232420 \cdot 10^{-16}$
$A_8 = 1{,}2079584 \cdot 10^{-18}$

от 0 °С до 800 °С

$$E = \sum_{i=0}^{8} A_i \cdot t^i$$

$A_0 = -1{,}8656953 \cdot 10^{-5}$
$A_1 = 6{,}3310975 \cdot 10^{-2}$
$A_2 = 6{,}0153091 \cdot 10^{-5}$
$A_3 = -8{,}0073134 \cdot 10^{-8}$
$A_4 = 9{,}6946071 \cdot 10^{-11}$
$A_5 = -3{,}6047289 \cdot 10^{-14}$
$A_6 = -2{,}4694775 \cdot 10^{-16}$
$A_7 = 4{,}2880341 \cdot 10^{-19}$
$A_8 = -2{,}0725297 \cdot 10^{-22}$

Для термопары типа M

Диапазоны температур: Полиномы:

от минус 200 °С до плюс 100 °С

$$E = \sum_{i=0}^{3} A_i \cdot t^i$$

$A_0 = 2{,}4455560 \cdot 10^{-6}$
$A_1 = 4{,}2638917 \cdot 10^{-2}$
$A_2 = 5{,}0348392 \cdot 10^{-5}$
$A_3 = -4{,}4974485 \cdot 10^{-8}$

А.2 Полиномы, аппроксимирующие обратную зависимость НСХ преобразования (температуры от ТЭДС) термопар типов R, S, B, J, T, E, K, N, A-1, A-2, A-3, L, M

Для термопары типа R

Диапазоны температур: Полиномы:

от минус 50 °С до плюс 250 °С

$$t = \sum_{i=0}^{10} C_i \cdot E^i$$

Диапазоны ТЭДС:
от минус 0,225 до плюс 1,923 мВ

$C_0 = 0$
$C_1 = 1{,}8891380 \cdot 10^{2}$
$C_2 = -9{,}3835290 \cdot 10$
$C_3 = 1{,}3068619 \cdot 10^{2}$
$C_4 = -2{,}2703580 \cdot 10^{2}$
$C_5 = 3{,}5145659 \cdot 10^{2}$
$C_6 = -3{,}8953900 \cdot 10^{2}$
$C_7 = 2{,}8239471 \cdot 10^{2}$
$C_8 = -1{,}2607281 \cdot 10^{2}$
$C_9 = 3{,}1353611 \cdot 10$
$C_{10} = -3{,}3187769$

от 250 °С до 1064 °С

$$t = \sum_{i=0}^{9} C_i \cdot E^i$$

от 1,923 до 11,361 мВ

$C_0 = 1{,}334584505 \cdot 10$
$C_1 = 1{,}472644573 \cdot 10^2$
$C_2 = -1{,}844024844 \cdot 10$
$C_3 = 4{,}031129726$
$C_4 = -6{,}249428360 \cdot 10^{-1}$
$C_5 = 6{,}468412046 \cdot 10^{-2}$
$C_6 = -4{,}458750426 \cdot 10^{-3}$
$C_7 = 1{,}994710149 \cdot 10^{-4}$
$C_8 = -5{,}313401790 \cdot 10^{-6}$
$C_9 = 6{,}481976217 \cdot 10^{-8}$

от 1064 °С до 1664,5 °С

$$t = \sum_{i=0}^{5} C_i \cdot E^i$$

от 11,361 до 19,739 мВ

$C_0 = -8{,}199599416 \cdot 10$
$C_1 = 1{,}553962042 \cdot 10^2$
$C_2 = -8{,}342197663$
$C_3 = 4{,}279433549 \cdot 10^{-1}$
$C_4 = -1{,}191577910 \cdot 10^{-2}$
$C_5 = 1{,}492290091 \cdot 10^{-4}$

от 1664,5 °С до 1768,1 °С

$$t = \sum_{i=0}^{4} C_i \cdot E^i$$

от 19,739 до 21,103 мВ

$C_0 = 3{,}406177836 \cdot 10^4$
$C_1 = -7{,}023729171 \cdot 10^3$
$C_2 = 5{,}582903813 \cdot 10^2$
$C_3 = -1{,}952394635 \cdot 10$
$C_4 = 2{,}560740231 \cdot 10^{-1}$

Для термопары типа S

Диапазоны температур: Полиномы:

от минус 50 °С до плюс 250 °С

$$t = \sum_{i=0}^{9} C_i \cdot E^i$$

Диапазоны ТЭДС:
от минус 0,235 до плюс 1,874 мВ

$C_0 = 0$
$C_1 = 1{,}84949460 \cdot 10^2$
$C_2 = -8{,}00504062 \cdot 10$
$C_3 = 1{,}02237430 \cdot 10^2$
$C_4 = -1{,}52248592 \cdot 10^2$
$C_5 = 1{,}88821343 \cdot 10^2$
$C_6 = -1{,}59085941 \cdot 10^2$
$C_7 = 8{,}23027880 \cdot 10$
$C_8 = -2{,}34181944 \cdot 10$
$C_9 = 2{,}79786260$

от 250 °С до 1064 °С

$$t = \sum_{i=0}^{9} C_i \cdot E^i$$

от 1,874 до 10,332 мВ

$C_0 = 1{,}291507177 \cdot 10$

$C_1 = 1{,}466298863 \cdot 10^2$
$C_2 = -1{,}534713402 \cdot 10$
$C_3 = 3{,}145945973$
$C_4 = -4{,}163257839 \cdot 10^{-1}$
$C_5 = 3{,}187963771 \cdot 10^{-2}$
$C_6 = -1{,}291637500 \cdot 10^{-3}$
$C_7 = 2{,}183475087 \cdot 10^{-5}$
$C_8 = -1{,}447379511 \cdot 10^{-7}$
$C_9 = 8{,}211272125 \cdot 10^{-9}$

от 1064 °С до 1664,5 °С

$$t = \sum_{i=0}^{5} C_i \cdot E^i$$

от 10,332 до 17,536 мВ

$C_0 = -8{,}087801117 \cdot 10$
$C_1 = 1{,}621573104 \cdot 10^2$
$C_2 = -8{,}536869453$
$C_3 = 4{,}719686976 \cdot 10^{-1}$
$C_4 = -1{,}441693666 \cdot 10^{-2}$
$C_5 = 2{,}081618890 \cdot 10^{-4}$

от 1664,5 °С до 1768,1 °С

$$t = \sum_{i=0}^{4} C_i \cdot E^i$$

от 17,536 до 18,694 мВ

$C_0 = 5{,}333875126 \cdot 10^4$
$C_1 = -1{,}235892298 \cdot 10^4$
$C_2 = 1{,}092657613 \cdot 10^3$
$C_3 = -4{,}265693686 \cdot 10$
$C_4 = 6{,}247205420 \cdot 10^{-1}$

Для термопары типа В

Диапазоны температур:

Полиномы:

от 250 °С до 700 °С

$$t = \sum_{i=0}^{8} C_i \cdot E^i$$

Диапазоны ТЭДС:
от 0,291 до 2,431 мВ

$C_0 = 9{,}8423321 \cdot 10$
$C_1 = 6{,}9971500 \cdot 10^2$
$C_2 = -8{,}4765304 \cdot 10^2$
$C_3 = 1{,}0052644 \cdot 10^3$
$C_4 = -8{,}3345952 \cdot 10^2$
$C_5 = 4{,}5508542 \cdot 10^2$
$C_6 = -1{,}5523037 \cdot 10^2$
$C_7 = 2{,}9886750 \cdot 10$
$C_8 = -2{,}4742860$

от 700 °С до 1820 °С

$$t = \sum_{i=0}^{8} C_i \cdot E^i$$

от 2,431 до 13,820 мВ

$C_0 = 2{,}1315071 \cdot 10^2$
$C_1 = 2{,}8510504 \cdot 10^2$
$C_2 = -5{,}2742887 \cdot 10$
$C_3 = 9{,}9160804$
$C_4 = -1{,}2965303$
$C_5 = 1{,}1195870 \cdot 10^{-1}$

$C_6 = -6{,}0625199 \cdot 10^{-3}$
$C_7 = 1{,}8661696 \cdot 10^{-4}$
$C_8 = -2{,}4878585 \cdot 10^{-6}$

Для термопары типа J

Диапазоны температур:

Полиномы:

от минус 210 °С до 0 °С

$$t = \sum_{i=0}^{8} C_i \cdot E^i$$

Диапазоны ТЭДС:
от минус 8,095 до 0 мВ

$C_0 = 0$
$C_1 = 1{,}9528268 \cdot 10$
$C_2 = -1{,}2286185$
$C_3 = -1{,}0752178$
$C_4 = -5{,}9086933 \cdot 10^{-1}$
$C_5 = -1{,}7256713 \cdot 10^{-1}$
$C_6 = -2{,}8131513 \cdot 10^{-2}$
$C_7 = -2{,}3963370 \cdot 10^{-3}$
$C_8 = -8{,}3823321 \cdot 10^{-5}$

от 0 °С до 760 °С

$$t = \sum_{i=0}^{7} C_i \cdot E^i$$

от 0 до 42,919 мВ

$C_0 = 0$
$C_1 = 1{,}978425 \cdot 10$
$C_2 = -2{,}001204 \cdot 10^{-1}$
$C_3 = 1{,}036969 \cdot 10^{-2}$
$C_4 = -2{,}549687 \cdot 10^{-4}$
$C_5 = 3{,}585153 \cdot 10^{-6}$
$C_6 = -5{,}344285 \cdot 10^{-8}$
$C_7 = 5{,}099890 \cdot 10^{-10}$

от 760 °С до 1200 °С

$$t = \sum_{i=0}^{5} C_i \cdot E^i$$

от 42,919 до 69,553 мВ

$C_0 = -3{,}11358187 \cdot 10^{3}$
$C_1 = 3{,}00543684 \cdot 10^{2}$
$C_2 = -9{,}94773230$
$C_3 = 1{,}70276630 \cdot 10^{-1}$
$C_4 = -1{,}43033468 \cdot 10^{-3}$
$C_5 = 4{,}73886084 \cdot 10^{-6}$

Для термопары типа T

Диапазоны температур:

Полиномы:

от минус 200 °С до 0 °С

$$t = \sum_{i=0}^{7} C_i \cdot E^i$$

Диапазоны ТЭДС:
от минус 5,603 до 0 мВ

$C_0 = 0$
$C_1 = 2{,}5949192 \cdot 10$
$C_2 = -2{,}1316967 \cdot 10^{-1}$
$C_3 = 7{,}9018692 \cdot 10^{-1}$
$C_4 = 4{,}2527777 \cdot 10^{-1}$
$C_5 = 1{,}3304473 \cdot 10^{-1}$

$C_6 = 2{,}0241446 \cdot 10^{-2}$
$C_7 = 1{,}2668171 \cdot 10^{-3}$

от 0 °С до 400 °С

$$t = \sum_{i=0}^{6} C_i \cdot E^i$$

от 0 до 20,872 мВ

$C_0 = 0$
$C_1 = 2{,}592800 \cdot 10$
$C_2 = -7{,}602961 \cdot 10^{-1}$
$C_3 = 4{,}637791 \cdot 10^{-2}$
$C_4 = -2{,}165394 \cdot 10^{-3}$
$C_5 = 6{,}048144 \cdot 10^{-5}$
$C_6 = -7{,}293422 \cdot 10^{-7}$

Для термопары типа Е

Диапазоны температур:

Полиномы:

от минус 200 °С до 0 °С

$$t = \sum_{i=0}^{8} C_i \cdot E^i$$

Диапазоны ТЭДС :
от минус 8,825 до 0 мВ

$C_0 = 0$
$C_1 = 1{,}6977288 \cdot 10$
$C_2 = -4{,}3514970 \cdot 10^{-1}$
$C_3 = -1{,}5859697 \cdot 10^{-1}$
$C_4 = -9{,}2502871 \cdot 10^{-2}$
$C_5 = -2{,}6084314 \cdot 10^{-2}$
$C_6 = -4{,}1360199 \cdot 10^{-3}$
$C_7 = -3{,}4034030 \cdot 10^{-4}$
$C_8 = -1{,}1564890 \cdot 10^{-5}$

от 0 °С до 1000 °С

$$t = \sum_{i=0}^{9} C_i \cdot E^i$$

от 0 до 76,373 мВ

$C_0 = 0$
$C_1 = 1{,}7057035 \cdot 10$
$C_2 = -2{,}3301759 \cdot 10^{-1}$
$C_3 = 6{,}5435585 \cdot 10^{-3}$
$C_4 = -7{,}3562749 \cdot 10^{-5}$
$C_5 = -1{,}7896001 \cdot 10^{-6}$
$C_6 = 8{,}4036165 \cdot 10^{-8}$
$C_7 = -1{,}3735879 \cdot 10^{-9}$
$C_8 = 1{,}0629823 \cdot 10^{-11}$
$C_9 = -3{,}2447087 \cdot 10^{-14}$

Для термопары типа К

Диапазоны температур:

Полиномы:

от минус 200 °С до 0 °С

$$t = \sum_{i=0}^{8} C_i \cdot E^i$$

Диапазоны ТЭДС:
от минус 5,891 до 0 мВ

$C_0 = 0$
$C_1 = 2{,}5173462 \cdot 10$
$C_2 = -1{,}1662878$
$C_3 = -1{,}0833638$

$C_4 = -8{,}9773540 \cdot 10^{-1}$
$C_5 = -3{,}7342377 \cdot 10^{-1}$
$C_6 = -8{,}6632643 \cdot 10^{-2}$
$C_7 = -1{,}0450598 \cdot 10^{-2}$
$C_8 = -5{,}1920577 \cdot 10^{-4}$

от 0 °С до 500 °С

$$t = \sum_{i=0}^{9} C_i \cdot E^i$$

от 0 до 20,644 мВ

$C_0 = 0$
$C_1 = 2{,}508355 \cdot 10$
$C_2 = 7{,}860106 \cdot 10^{-2}$
$C_3 = -2{,}503131 \cdot 10^{-1}$
$C_4 = 8{,}315270 \cdot 10^{-2}$
$C_5 = -1{,}228034 \cdot 10^{-2}$
$C_6 = 9{,}804036 \cdot 10^{-4}$
$C_7 = -4{,}413030 \cdot 10^{-5}$
$C_8 = 1{,}057734 \cdot 10^{-6}$
$C_9 = -1{,}052755 \cdot 10^{-8}$

от 500 °С до 1372 °С

$$t = \sum_{i=0}^{6} C_i \cdot E^i$$

от 20,644 до 54,886 мВ

$C_0 = -1{,}318058 \cdot 10^2$
$C_1 = 4{,}830222 \cdot 10$
$C_2 = -1{,}646031$
$C_3 = 5{,}464731 \cdot 10^{-2}$
$C_4 = -9{,}650715 \cdot 10^{-4}$
$C_5 = 8{,}802193 \cdot 10^{-6}$
$C_6 = -3{,}110810 \cdot 10^{-8}$

Для термопары типа N

Диапазоны температур: Полиномы:

от минус 200 °С до 0 °С

$$t = \sum_{i=0}^{9} C_i \cdot E^i$$

Диапазоны ТЭДС:
от минус 3,990 до 0 мВ

$C_0 = 0$
$C_1 = 3{,}8436847 \cdot 10$
$C_2 = 1{,}1010485$
$C_3 = 5{,}2229312$
$C_4 = 7{,}2060525$
$C_5 = 5{,}8488586$
$C_6 = 2{,}7754916$
$C_7 = 7{,}7075166 \cdot 10^{-1}$
$C_8 = 1{,}1582665 \cdot 10^{-1}$
$C_9 = 7{,}3138868 \cdot 10^{-3}$

от 0 °С до 600 °С

$$t = \sum_{i=0}^{7} C_i \cdot E^i$$

от 0 до 20,613 мВ

$C_0 = 0$
$C_1 = 3{,}86896 \cdot 10$
$C_2 = -1{,}08267$

$C_3 = 4{,}70205 \cdot 10^{-2}$
$C_4 = -2{,}12169 \cdot 10^{-6}$
$C_5 = -1{,}17272 \cdot 10^{-4}$
$C_6 = 5{,}39280 \cdot 10^{-6}$
$C_7 = -7{,}98156 \cdot 10^{-8}$

от 600 °С до 1300 °С

$$t = \sum_{i=0}^{5} C_i \cdot E^i$$

от 20,613 до 47,513 мВ

$C_0 = 1{,}972485 \cdot 10$
$C_1 = 3{,}300943 \cdot 10$
$C_2 = -3{,}915159 \cdot 10^{-1}$
$C_3 = 9{,}855391 \cdot 10^{-3}$
$C_4 = -1{,}274371 \cdot 10^{-4}$
$C_5 = 7{,}767022 \cdot 10^{-7}$

Для термопары типа А-1

Диапазоны температур:

Полиномы:

от 0 °С до 2500 °С

$$t = \sum_{i=0}^{8} C_i \cdot E^i$$

Диапазоны ТЭДС:
от 0 до 33,640 мВ

$C_0 = 0{,}9643027$
$C_1 = 7{,}9495086 \cdot 10$
$C_2 = -4{,}9990310$
$C_3 = 0{,}6341776$
$C_4 = -4{,}7440967 \cdot 10^{-2}$
$C_5 = 2{,}1811337 \cdot 10^{-3}$
$C_6 = -5{,}8324228 \cdot 10^{-5}$
$C_7 = 8{,}2433725 \cdot 10^{-7}$
$C_8 = -4{,}5928480 \cdot 10^{-9}$

Для термопары типа А-2

Диапазоны температур:

Полиномы:

от 0 °С до 1800 °С

$$t = \sum_{i=0}^{8} C_i \cdot E^i$$

Диапазоны ТЭДС:
от 0 до 27,232 мВ

$C_0 = 1{,}1196428$
$C_1 = 8{,}0569397 \cdot 10$
$C_2 = -6{,}2279122$
$C_3 = 0{,}9337015$
$C_4 = -8{,}2608051 \cdot 10^{-2}$
$C_5 = 4{,}4110979 \cdot 10^{-3}$
$C_6 = -1{,}3610551 \cdot 10^{-4}$
$C_7 = 2{,}2183851 \cdot 10^{-6}$
$C_8 = -1{,}4527698 \cdot 10^{-8}$

Для термопары типа А-3

Диапазоны температур:

Полиномы:

от 0 °С до 1800 °С

$$t = \sum_{i=0}^{8} C_i \cdot E^i$$

Диапазоны ТЭДС:

$C_0 = 0{,}8769216$

От 0 до 26,773 мВ

$C_1 = 8{,}1483231 \cdot 10$
$C_2 = -5{,}9344173$
$C_3 = 0{,}8699340$
$C_4 = -7{,}6797687 \cdot 10^{-2}$
$C_5 = 4{,}1814387 \cdot 10^{-3}$
$C_6 = -1{,}3439670 \cdot 10^{-4}$
$C_7 = 2{,}342409 \cdot 10^{-6}$
$C_8 = -1{,}6988727 \cdot 10^{-8}$

Для термопары типа L

Диапазоны температур:

Полиномы:

от минус 200 до 0 °С

$$t = \sum_{i=0}^{9} C_i \cdot E^i$$

Диапазоны ТЭДС:

от минус 9,488 до 0,000 мВ

$C_0 = 1{,}1573067 \cdot 10^{-4}$
$C_1 = 1{,}5884573 \cdot 10$
$C_2 = 4{,}0458554 \cdot 10^{-2}$
$C_3 = 0{,}3170064$
$C_4 = 0{,}1666128$
$C_5 = 5{,}1946958 \cdot 10^{-2}$
$C_6 = 9{,}5288883 \cdot 10^{-3}$
$C_7 = 1{,}0301283 \cdot 10^{-3}$
$C_8 = 6{,}0654431 \cdot 10^{-5}$
$C_9 = 1{,}5131878 \cdot 10^{-6}$

от 0 до 800 °С

$$t = \sum_{i=0}^{9} C_i \cdot E^i$$

Диапазоны ТЭДС:

от 0,000 до 66,466 мВ

$C_0 = 7{,}2069422 \cdot 10^{-3}$
$C_1 = 1{,}5775525 \cdot 10$
$C_2 = -0{,}2261183$
$C_3 = 9{,}4286756 \cdot 10^{-3}$
$C_4 = -3{,}5394655 \cdot 10^{-4}$
$C_5 = 1{,}0050886 \cdot 10^{-5}$
$C_6 = -1{,}9323678 \cdot 10^{-7}$
$C_7 = 2{,}3816891 \cdot 10^{-9}$
$C_8 = -1{,}7130654 \cdot 10^{-11}$
$C_9 = 5{,}4857331 \cdot 10^{-14}$

Для термопары типа M

Диапазоны температур:

Полиномы:

от минус 200 °С до плюс 100 °С

$$t = \sum_{i=0}^{5} C_i \cdot E^i$$

Диапазоны ТЭДС:

от минус 6,154 до 4,722 мВ

$C_0 = 0{,}4548090$
$C_1 = 2{,}2657698 \cdot 10^{-2}$
$C_2 = -7{,}7935652 \cdot 10^{-7}$
$C_3 = 1{,}1786931 \cdot 10^{-10}$

Приложение А. (**Поправка**).

ПРИЛОЖЕНИЕ Б
(справочное)

Химический состав термоэлектродного материала

Таблица Б.1

Обозначение промышленного термопреобразователя	Обозначение типа термопары по [4] (условное обозначение НСХ преобразования)	Термоэлектродный материал	
		положительный	отрицательный
Вольфрам-рений/ вольфрамрениевые ТВР	А-1, А-2, А-3	Сплав вольфрам — рений	
		ВР-5 (95 % W+5 % Re)	ВР-20 (80 % W+20 % Re)
Платинородий/ платинородиевые ТПР	В	Сплав платинородий	
		ПР-30(70 % Pt+30 % Rh)	ПР-6(94 % Pt+6 % Rh)
Платинородий/ платиновые ТПП	S	Сплав платинородий	Платина
		ПР-10(90 % Pt+10 % Rh)	ПлТ (Pt)
	R	ПР-13(87 % Pt+13 % Rh)	ПлТ (Pt)
Никель-хром / никель-алюминиевые (хромель-алюмель)* ТХА	K	Сплав хромель	Сплав алюмель
		ТНХ 9,5 (90,5 % Ni+9,5% Cr)	НМцАК 2-2-1 (94,5 % Ni +5,5 % Al, Si, Mn, Co)
Никель-хром/медь-никелевые (хромель-константановые)* ТХКн	E	Сплав хромель	Сплав константан
		ТНХ 9,5 (90,5 % Ni +9,5 % Cr)	(55 % Cu +45 % Ni, Mn, Fe)
Хромель/копелевые* ТХК	L	Сплав хромель	Сплав копель
		ТНХ 9,5 (90,5 % Ni+9,5 % Cr)	МНМц 43-0,5 (56 % Cu + 44 % Ni)
Медь/медьникелевые (медьконстантановые)* ТМК	T	Медь	Сплав константан
		Ml (Cu)	(55 % Cu +45 % Ni, Mn, Fe)
Никель-хром-кремний /никель-кремниевые (нихросилнисиловые)* ТНН	N	Сплав нихросил	Сплав нисил
		(83,49÷84,89) % Ni+ +(13,7÷14,7) % Cr+ +(1,2÷1,6) % Si + 0,15 % Fe + +0,05 % C + 0,01 % Mg	(94,98÷95,53) % Ni+0,02 % Cr+ +(4,2÷4,6) % Si+0,15 % Fe+ +0,05 % C+(0,05÷0,2) % Mg
Железо-медь / никелевые (железо-константановые)* ТЖК	J	Железо	Сплав константан
		(Fe)	(55 % Cu +45 % Ni,Mn, Fe)
Медь/копелевые* ТМК	M	Медь	Сплав копель
		Ml (Cu)	(56 % Cu +44 % Ni)
* Наименование, принятое в экономике страны.			
Примечание — Химический состав материалов термоэлектродов ориентировочный.			

ПРИЛОЖЕНИЕ В
(справочное)

Пределы допускаемых отклонений ТЭДС от НСХ преобразования, выраженные в температурном эквиваленте для разных типов термопар в зависимости от диапазона рабочих температур

Таблица В.1

Обозначение промышленного термопреобразователя	Обозначение типа термопары по [4]	Класс допуска	Диапазон измерений, °С	Пределы допускаемых отклонений ТЭДС от НСХ $\pm \Delta t$, °С
ТПП	S, R	2	От 0 до 600 Св. 600 до 1600	1,5 0,0025t
		1	От 0 до 1100 Св. 1100 до 1600	1,0 1,0+0,003 (t— 1100)
ТПР	B	3	От 600 до 800 Св. 800 до 1800	4,0 0,005t
		2	От 600 до 1800	0,0025t
ТХК	L	3	От —200 до —100 Св. —100 до +100	1,5+0,01 | t | 2,5
		2	От —40 до +360 Св. 360 до 800	2,5 0,7+0,005t
ТХКн	E	3	От —200 до —167 Св. —167 до +40	0,015 | t | 2,5
		2	От —40 до +333 Св. 333 до 900	2,5 0,0075t
		1	От —40 до +375 Св. 375 до 800	1,5 0,004t
ТХА, ТНН	K,N	3	От —250 до —167 Св. —167 до +40	0,015 | t | 2,5
		2	От —40 до +333 Св. 333 до 1300	2,5 0,0075t
		1	От —40 до +375 Св. 375 до 1300	1,5 0,004t
ТМК	T	3	От —200 до —66 Св. —66 до +40	0,015 | t | 1,0
		2	От —40 до +135 Св. 135 до 400	1,0 0,0075t
		1	От —40 до +125 Св. 125 до 350	0,5 0,004t
ТЖК	J	2	От 0 до 333 Св. 333 до 900	2,5 0,0075t
		1	От —40 до +375 Св. 375 до 750	1,5 0,004t
ТМК	M	—	От —200 до 0 Св. 0 до 100	1,3 +0,001| t | 1,0
ТВР	A-1, A-2, A-3	3	От 1000 до 2500	0,007t
		2	От 1000 до 2500	0,005t

Окончание таблицы В.1

Примечания:

1 t — значение измеряемой температуры, °С;

2 Пределы допускаемых отклонений ТЭДС термопар ΔE рассчитывают по формуле

$$\Delta E = \Delta t \cdot \frac{dE}{dt},$$

где Δt — предел допускаемого отклонения ТЭДС термопары от НСХ преобразования, °С;

$\frac{dE}{dt}$ — чувствительность термопары, рассчитанная для измеренного значения температуры, мВ · °С$^{-1}$.

ПРИЛОЖЕНИЕ Г
(справочное)

Библиография*

[1] МЭК 60584-1 (1995—09) Термопары. Часть 1. Градуировочные таблицы
[2] МЭК 60584-2 (1982—01) Термопары. Часть 2. Допуски
[3] МЭК 60584-2 — amend 1 (1989—06) Термопары. Часть 2
[4] МЭК 60584-3 (1989—06) Термопары. Часть 3. Удлинительные и компенсационные провода. Допуски и система идентификации

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