

Kalorie – Joule Joule – Kalorie Umrechnungstabellen

DIN
66 035

Kalorie — Joule, Joule — Kalorie; conversion tables

Diese Norm kann benutzt werden für die Umrechnung der Zahlenwerte von Größen, mit der Einheit Kalorie in Joule, oder umgekehrt. Sie kann auch verwendet werden für die Umrechnung der Zahlenwerte abgeleiteter Größen, z. B. mit der Einheit kcal/(kg grd) in kJ/(kg K).

1. Umrechnung von Kalorie (cal) in Joule (J)

Einheitengleichung: $1 \text{ cal} = 4,1868 \text{ W s} = 4,1868 \text{ J}$ (Zahlenwert genau, nach DIN 1345).

Die Zahlenwerte der Tabelle 1 sind Genauwerte. Reicht eine geringere Stellenzahl aus, ist nach DIN 1333 Blatt 2 zu runden.

Tabelle 1.

cal	0,0	0,1	0,2	0,3	0,4	0,5	0,6	0,7	0,8	0,9
	J = W s									
0	0,00000	0,41868	0,83736	1,25604	1,67472	2,09340	2,51208	2,93076	3,34944	3,76812
1	4,18680	4,60548	5,02416	5,44284	5,86152	6,28020	6,69888	7,11756	7,53624	7,95492
2	8,37360	8,79228	9,21096	9,62964	10,04832	10,46700	10,88568	11,30436	11,72304	12,14172
3	12,56040	12,97908	13,39776	13,81644	14,23512	14,65380	15,07248	15,49116	15,90984	16,32852
4	16,74720	17,16588	17,58456	18,00324	18,42192	18,84060	19,25928	19,67796	20,09664	20,51532
5	20,93400	21,35268	21,77136	22,19004	22,60872	23,02740	23,44608	23,86476	24,28344	24,70212
6	25,12080	25,53948	25,95816	26,37684	26,79552	27,21420	27,63288	28,05156	28,47024	28,88892
7	29,30760	29,72628	30,14496	30,56364	30,98232	31,40100	31,81968	32,23836	32,65704	33,07572
8	33,49440	33,91308	34,33176	34,75044	35,16912	35,58780	36,00648	36,42516	36,84384	37,26252
9	37,68120	38,09988	38,51856	38,93724	39,35592	39,77460	40,19328	40,61196	41,03064	41,44932
10	41,86800	42,28668	42,70536	43,12404	43,54272	43,96140	44,38008	44,79876	45,21744	45,63612
11	46,05480	46,47348	46,89216	47,31084	47,72952	48,14820	48,56688	48,98556	49,40424	49,82292
12	50,24160	50,66028	51,07896	51,49764	51,91632	52,33500	52,75368	53,17236	53,59104	54,00972
13	54,42840	54,84708	55,26576	55,68444	56,10312	56,52180	56,94048	57,35916	57,77784	58,19652
14	58,61520	59,03388	59,45256	59,87124	60,28992	60,70860	61,12728	61,54596	61,96464	62,38332
15	62,80200	63,22068	63,63936	64,05804	64,47672	64,89540	65,31408	65,73276	66,15144	66,57012
16	66,98880	67,40748	67,82616	68,24484	68,66352	69,08220	69,50088	69,91956	70,33824	70,75692
17	71,17560	71,59428	72,01296	72,43164	72,85032	73,26900	73,68768	74,10636	74,52504	74,94372
18	75,36240	75,78108	76,19976	76,61844	77,03712	77,45580	77,87448	78,29316	78,71184	79,13052
19	79,54920	79,96788	80,38656	80,80524	81,22392	81,64260	82,06128	82,47996	82,89864	83,31732
20	83,73600	84,15468	84,57336	84,99204	85,41072	85,82940	86,24808	86,66676	87,08544	87,50412
21	87,92280	88,34148	88,76016	89,17884	89,59752	90,01620	90,43488	90,85356	91,27224	91,69092
22	92,10960	92,52828	92,94696	93,36564	93,78432	94,20300	94,62168	95,04036	95,45904	95,87772
23	96,29640	96,71508	97,13376	97,55244	97,97112	98,38980	98,80848	99,22716	99,64584	100,06452
24	100,48320	100,90188	101,32056	101,73924	102,15792	102,57660	102,99528	103,41396	103,83264	104,25132
25	104,67000	105,08868	105,50736	105,92604	106,34472	106,76340	107,18208	107,60076	108,01944	108,43812
26	108,85680	109,27548	109,69416	110,11284	110,53152	110,95020	111,36888	111,78756	112,20624	112,62492
27	113,04360	113,46228	113,88096	114,29964	114,71832	115,13700	115,55568	115,97436	116,39304	116,81172
28	117,23040	117,64908	118,06776	118,48644	118,90512	119,32380	119,74248	120,16116	120,57984	120,99852
29	121,41720	121,83588	122,25456	122,67324	123,09192	123,51060	123,92928	124,34796	124,76664	125,18532
30	125,60400	126,02268	126,44136	126,86004	127,27872	127,69740	128,11608	128,53476	128,95344	129,37212
31	129,79080	130,20948	130,62816	131,04684	131,46552	131,88420	132,30288	132,72156	133,14024	133,55892
32	133,97760	134,39628	134,81496	135,23364	135,65232	136,07100	136,48968	136,90836	137,32704	137,74572
33	138,16440	138,58308	139,00176	139,42044	139,83912	140,25780	140,67648	141,09516	141,51384	141,93252
34	142,35120	142,76988	143,18856	143,60724	144,02592	144,44460	144,86328	145,28196	145,70064	146,11932
35	146,53800	146,95668	147,37536	147,79404	148,21272	148,63140	149,05008	149,46876	149,88744	150,30612
36	150,72480	151,14348	151,56216	151,98084	152,39952	152,81820	153,23688	153,65556	154,07424	154,49292
37	154,91160	155,33028	155,74896	156,16764	156,58632	157,00500	157,42368	157,84236	158,26104	158,67972
38	159,09840	159,51708	159,93576	160,35444	160,77312	161,19180	161,61048	162,02916	162,44784	162,86652
39	163,28520	163,70388	164,12256	164,54124	164,95992	165,37860	165,79728	166,21596	166,63464	167,05332
40	167,47200									

Fortsetzung Seite 2 bis 4

Ausschuß Normungstechnik (ANT) im Deutschen Normenausschuß (DNA)

Tabelle 1. (Fortsetzung von Seite 1)

cal	0,0	0,1	0,2	0,3	0,4	0,5	0,6	0,7	0,8	0,9
J = W s										
40	167,47200	167,89068	168,30936	168,72804	169,14672	169,56540	169,98408	170,40276	170,82144	171,24012
41	171,65880	172,07748	172,49616	172,91484	173,33352	173,75220	174,17088	174,58956	175,00824	175,42692
42	175,84560	176,26428	176,68296	177,10164	177,52032	177,93900	178,35768	178,77636	179,19504	179,61372
43	180,03240	180,45108	180,86976	181,28844	181,70712	182,12580	182,54448	182,96316	183,38184	183,80052
44	184,21920	184,63788	185,05656	185,47524	185,89392	186,31260	186,73128	187,14996	187,56864	187,98732
45	188,40600	188,82468	189,24336	189,66204	190,08072	190,49940	190,91808	191,33676	191,75544	192,17412
46	192,59280	193,01148	193,43016	193,84884	194,26752	194,68620	195,10488	195,52356	195,94224	196,36092
47	196,77960	197,19828	197,61696	198,03564	198,45432	198,87300	199,29168	199,71036	200,12904	200,54772
48	200,96640	201,38508	201,80376	202,22244	202,64112	203,05980	203,47848	203,89716	204,31584	204,73452
49	205,15320	205,57188	205,99056	206,40924	206,82792	207,24660	207,66528	208,08396	208,50264	208,92132
50	209,34000	209,75868	210,17736	210,59604	211,01472	211,43340	211,85208	212,27076	212,68944	213,10812
51	213,52680	213,94548	214,36416	214,78284	215,20152	215,62020	216,03888	216,45756	216,87624	217,29492
52	217,71360	218,13228	218,55096	218,96964	219,38832	219,80700	220,22568	220,64436	221,06304	221,48172
53	221,90040	222,31908	222,73776	223,15644	223,57512	223,99380	224,41248	224,83116	225,24984	225,66852
54	226,08720	226,50588	226,92456	227,34324	227,76192	228,18060	228,59928	229,01796	229,43664	229,85532
55	230,27400	230,69268	231,11136	231,53004	231,94872	232,36740	232,78608	233,20476	233,62344	234,04212
56	234,46080	234,87948	235,29816	235,71684	236,13552	236,55420	236,97288	237,39156	237,81024	238,22892
57	238,64760	239,06628	239,48496	239,90364	240,32232	240,74100	241,15968	241,57836	241,99704	242,41572
58	242,83440	243,25308	243,67176	244,09044	244,50912	244,92780	245,34648	245,76516	246,18384	246,60252
59	247,02120	247,43988	247,85856	248,27724	248,69592	249,11460	249,53328	249,95196	250,37064	250,78932
60	251,20800	251,62668	252,04536	252,46404	252,88272	253,30140	253,72008	254,13876	254,55744	254,97612
61	255,39480	255,81348	256,23216	256,65084	257,06952	257,48820	257,90688	258,32556	258,74424	259,16292
62	259,58160	260,00028	260,41896	260,83764	261,25632	261,67500	262,09368	262,51236	262,93104	263,34972
63	263,76840	264,18708	264,60576	265,02444	265,44312	265,86180	266,28048	266,69916	267,11784	267,53652
64	267,95520	268,37388	268,79256	269,21124	269,62992	270,04860	270,46728	270,88596	271,30464	271,72332
65	272,14200	272,56068	272,97936	273,39804	273,81672	274,23540	274,65408	275,07276	275,49144	275,91012
66	276,32880	276,74748	277,16616	277,58484	278,00352	278,42220	278,84088	279,25956	279,67824	280,09692
67	280,51560	280,93428	281,35296	281,77164	282,19032	282,60900	283,02768	283,44636	283,86504	284,28372
68	284,70240	285,12108	285,53976	285,95844	286,37712	286,79580	287,21448	287,63316	288,05184	288,47052
69	288,88920	289,30788	289,72656	290,14524	290,56392	290,98260	291,40128	291,81996	292,23864	292,65732
70	293,07600	293,49468	293,91336	294,33204	294,75072	295,16940	295,58808	296,00676	296,42544	296,84412
71	297,26280	297,68148	298,10016	298,51884	298,93752	299,35620	299,77488	300,19356	300,61224	301,03092
72	301,44960	301,86828	302,28696	302,70564	303,12432	303,54300	303,96168	304,38036	304,79904	305,21772
73	305,63640	306,05508	306,47376	306,89244	307,31112	307,72980	308,14848	308,56716	308,98584	309,40452
74	309,82320	310,24188	310,66056	311,07924	311,49792	311,91660	312,33528	312,75396	313,17264	313,59132
75	314,01000	314,42868	314,84736	315,26604	315,68472	316,10340	316,52208	316,94076	317,35944	317,77812
76	318,19680	318,61548	319,03416	319,45284	319,87152	320,29020	320,70888	321,12756	321,54624	321,96492
77	322,38360	322,80228	323,22096	323,63964	324,05832	324,47700	324,89568	325,31436	325,73304	326,15172
78	326,57040	326,98908	327,40776	327,82644	328,24512	328,66380	329,08248	329,50116	329,91984	330,33852
79	330,75720	331,17588	331,59456	332,01324	332,43192	332,85060	333,26928	333,68796	334,10664	334,52532
80	334,94400	335,36268	335,78136	336,20004	336,61872	337,03740	337,45608	337,87476	338,29344	338,71212
81	339,13080	339,54948	339,96816	340,38684	340,80552	341,22420	341,64288	342,06156	342,48024	342,89892
82	343,31760	343,73628	344,15496	344,57364	344,99232	345,41100	345,82968	346,24836	346,66704	347,08572
83	347,50440	347,92308	348,34176	348,76044	349,17912	349,59780	350,01648	350,43516	350,85384	351,27252
84	351,69120	352,10988	352,52856	352,94724	353,36592	353,78460	354,20328	354,62196	355,04064	355,45932
85	355,87800	356,29668	356,71536	357,13404	357,55272	357,97140	358,39008	358,80876	359,22744	359,64612
86	360,06480	360,48348	360,90216	361,32084	361,73952	362,15820	362,57688	362,99556	363,41424	363,83292
87	364,25160	364,67028	365,08896	365,50764	365,92632	366,34500	366,76368	367,18236	367,60104	368,01972
88	368,43840	368,85708	369,27576	369,69444	370,11312	370,53180	370,95048	371,36916	371,78784	372,20652
89	372,62520	373,04388	373,46256	373,88124	374,29992	374,71860	375,13728	375,55596	375,97464	376,39332
90	376,81200	377,23068	377,64936	378,06804	378,48672	378,90540	379,32408	379,74276	380,16144	380,58012
91	380,99880	381,41748	381,83616	382,25484	382,67352	383,09220	383,51088	383,92956	384,34824	384,76692
92	385,18560	385,60428	386,02296	386,44164	386,86032	387,27900	387,69768	388,11636	388,53504	388,95372
93	389,37240	389,79108	390,20976	390,62844	391,04712	391,46580	391,88448	392,30316	392,72184	393,14052
94	393,55920	393,97788	394,39656	394,81524	395,23392	395,65260	396,07128	396,48996	396,90864	397,32732
95	397,74600	398,16468	398,58336	399,00204	399,42072	399,83940	400,25808	400,67676	401,09544	401,51412
96	401,93280	402,35148	402,77016	403,18884	403,60752	404,02620	404,44488	404,86356	405,28224	405,70092
97	406,11960	406,53828	406,95696	407,37564	407,79432	408,21300	408,63168	409,05036	409,46904	409,88772
98	410,30640	410,72508	411,14376	411,56244	411,98112	412,39980	412,81848	413,23716	413,65584	414,07452
99	414,49320	414,91188	415,33056	415,74924	416,16792	416,58660	417,00528	417,42396	417,84264	418,26132
100	418,68000									

Anwendungsbeispiele unter Aufrechterhaltung der Genauigkeit der Tabellenwerte

$$0,6 \text{ cal} = 2,51208 \text{ J}$$

$$6,3 \text{ cal} = 26,37684 \text{ J}$$

$$630 \text{ cal} = 2637,6840 \text{ J}$$

$$6358 \text{ cal} = ? \text{ J}$$

$$6350 \text{ cal} = 26586,180 \text{ J}$$

$$8 \text{ cal} = 33,494 \text{ J}$$

$$6358 \text{ cal} = 26619,674 \text{ J}$$



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