

# UNITED STATES DEPARTMENT OF COMMERCE

DANIEL C. ROPER, Secretary

NATIONAL BUREAU OF STANDARDS

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## SUPPLEMENT TO NBS CIRCULAR C410

[Issued April 20, 1937]

Supersedes Supplements to Circular 154

### ABRIDGED VOLUME CORRECTION TABLE FOR PETROLEUM OILS

Approved by American Petroleum Institute, American Society for Testing Materials, U. S. Bureau of Mines, and National Bureau of Standards. For complete table, see table 2, NBS Circular C410]

The table of reduction factors contained herein has been prepared to meet a demand from the oil industry for a short and convenient table for reducing oil volumes to the basis of 60° F when extreme accuracy is not required. It is not intended to replace the more complete volume correction table contained in Circular C410, but rather to supplement it and especially to replace the various abridged tables heretofore employed in the oil industry.

The groups, coefficients of expansion, degrees API, and gravity ranges for the several subdivisions of the present abridged table follow:

Group number	Coefficient of expansion at 60° F	Corresponding degrees API	Range of group (degrees API at 60° F)
0.....	0.00035	6	Up to 14.9.
1.....	.00040	22	15.0 to 34.9.
2.....	.00050	44	35.0 to 50.9.
3*.....	.00060	58	51.0 to 63.9.
4.....	.00070	72	64.0 to 78.9.
5.....	.00080	86	79.0 to 88.9.
6.....	.00085	91	89.0 to 93.9.
7.....	.00090	97	94.0 to 99.9.

\*All motor fuel blends of gasoline and benzol shall be considered as falling in group 3. In cases of uncertainty regarding the presence of benzol, a product having a gravity heavier (numerically less) than 51° API and a 50 percent recovery point less than 293° F (145° C) shall be considered as falling in group 3.

This table shows the volume occupied at 60° F by a quantity of oil occupying unit volume at the indicated temperatures.

The columns showing temperatures in degrees Fahrenheit carry the heading *t*.

The columns of multipliers which are actually  $\frac{\text{volume at } 60^{\circ} \text{ F}}{\text{volume at } t}$

carry the heading *M*.

This abridged table differs from that published in Revised Supplement to NBS Circular C154 issued in 1934 in three respects: The multipliers for group 0 have been revised slightly; group 1 has been extended from 249 to 499° F; and groups 4, 5, and 6 have been extended from 99 to 124° F.

The multipliers in the group 0 table in the Revised Supplement to NBS Circular C154 issued in 1934 were taken from the National Bureau of Standards Miscellaneous Publication M97. With the revision of Circular C154 (published as Circular C410) to include data on oils from 0 to 10° API, it has seemed desirable to employ the procedure followed in the other groups and choose the column of multipliers from the unabridged table which has a base coefficient of expansion nearest 0.00035, which, in the case of group 0, is the column corresponding to a gravity of 6° of API.

## Group O (up to 14.9° API)

(t=temperature in degrees F; M=multipliers)

t	M	t	M	t	M	t	M	t	M
0	1.0211	50	1.0035	100	0.9862	150	0.9691	200	0.9523
1	1.0208	51	1.0032	101	.9858	151	.9687	201	.9520
2	1.0204	52	1.0028	102	.9855	152	.9684	202	.9517
3	1.0201	53	1.0025	103	.9852	153	.9680	203	.9513
4	1.0197	54	1.0021	104	.9848	154	.9677	204	.9510
5	1.0194	55	1.0017	105	.9844	155	.9674	205	.9507
6	1.0190	56	1.0014	106	.9841	156	.9670	206	.9504
7	1.0186	57	1.0010	107	.9837	157	.9667	207	.9500
8	1.0183	58	1.0007	108	.9834	158	.9664	208	.9497
9	1.0179	59	1.0003	109	.9831	159	.9660	209	.9494
10	1.0176	60	1.0000	110	.9827	160	.9657	210	.9490
11	1.0172	61	0.9997	111	.9823	161	.9654	211	.9487
12	1.0168	62	.9993	112	.9820	162	.9650	212	.9484
13	1.0165	63	.9990	113	.9816	163	.9647	213	.9481
14	1.0161	64	.9986	114	.9813	164	.9643	214	.9477
15	1.0158	65	.9982	115	.9809	165	.9640	215	.9474
16	1.0154	66	.9979	116	.9806	166	.9637	216	.9471
17	1.0151	67	.9976	117	.9802	167	.9633	217	.9468
18	1.0147	68	.9972	118	.9799	168	.9630	218	.9464
19	1.0144	69	.9969	119	.9795	169	.9627	219	.9461
20	1.0141	70	.9965	120	.9792	170	.9623	220	.9458
21	1.0137	71	.9962	121	.9789	171	.9620	221	.9454
22	1.0134	72	.9958	122	.9785	172	.9616	222	.9451
23	1.0130	73	.9955	123	.9782	173	.9613	223	.9448
24	1.0126	74	.9952	124	.9779	174	.9610	224	.9445
25	1.0123	75	.9948	125	.9775	175	.9606	225	.9441
26	1.0119	76	.9944	126	.9772	176	.9603	226	.9438
27	1.0116	77	.9941	127	.9768	177	.9600	227	.9435
28	1.0112	78	.9938	128	.9765	178	.9596	228	.9432
29	1.0109	79	.9934	129	.9762	179	.9593	229	.9428
30	1.0106	80	.9931	130	.9758	180	.9590	230	.9425
31	1.0102	81	.9927	131	.9755	181	.9586	231	.9422
32	1.0098	82	.9924	132	.9751	182	.9583	232	.9419
33	1.0095	83	.9920	133	.9748	183	.9580	233	.9415
34	1.0092	84	.9917	134	.9745	184	.9576	234	.9412
35	1.0088	85	.9914	135	.9741	185	.9573	235	.9409
36	1.0084	86	.9910	136	.9738	186	.9569	236	.9406
37	1.0081	87	.9907	137	.9735	187	.9566	237	.9402
38	1.0077	88	.9903	138	.9731	188	.9563	238	.9399
39	1.0074	89	.9900	139	.9728	189	.9559	239	.9396
40	1.0070	90	.9896	140	.9724	190	.9556	240	.9392
41	1.0067	91	.9892	141	.9721	191	.9553	241	.9389
42	1.0063	92	.9889	142	.9718	192	.9549	242	.9386
43	1.0059	93	.9886	143	.9714	193	.9546	243	.9383
44	1.0056	94	.9882	144	.9711	194	.9543	244	.9380
45	1.0052	95	.9879	145	.9707	195	.9539	245	.9376
46	1.0049	96	.9876	146	.9704	196	.9536	246	.9373
47	1.0045	97	.9872	147	.9701	197	.9533	247	.9370
48	1.0042	98	.9869	148	.9697	198	.9530	248	.9367
49	1.0039	99	.9865	149	.9694	199	.9527	249	.9364

## Group 0 (up to 14.9° API)—Continued

(t=temperature in degrees F; M=multipliers)

t	M	t	M	t	M	t	M	t	M
250	0.9360	300	0.9201	350	0.9045	400	0.8893	450	0.8744
251	.9357	301	.9198	351	.9042	401	.8890	451	.8741
252	.9354	302	.9195	352	.9039	402	.8887	452	.8738
253	.9351	303	.9191	353	.9036	403	.8884	453	.8735
254	.9347	304	.9188	354	.9033	404	.8881	454	.8732
255	.9344	305	.9185	355	.9030	405	.8878	455	.8729
256	.9341	306	.9182	356	.9027	406	.8875	456	.8726
257	.9338	307	.9179	357	.9024	407	.8872	457	.8723
258	.9335	308	.9176	358	.9021	408	.8869	458	.8720
259	.9331	309	.9173	359	.9017	409	.8866	459	.8717
260	.9328	310	.9169	360	.9014	410	.8863	460	.8714
261	.9325	311	.9166	361	.9011	411	.8860	461	.8711
262	.9322	312	.9163	362	.9008	412	.8857	462	.8709
263	.9319	313	.9160	363	.9005	413	.8854	463	.8706
264	.9315	314	.9157	364	.9002	414	.8851	464	.8703
265	.9312	315	.9154	365	.8999	415	.8848	465	.8700
266	.9309	316	.9151	366	.8996	416	.8845	466	.8697
267	.9306	317	.9148	367	.8993	417	.8842	467	.8694
268	.9303	318	.9145	368	.8990	418	.8839	468	.8691
269	.9299	319	.9141	369	.8987	419	.8836	469	.8688
270	.9296	320	.9138	370	.8984	420	.8833	470	.8685
271	.9293	321	.9135	371	.8981	421	.8830	471	.8682
272	.9290	322	.9132	372	.8978	422	.8827	472	.8679
273	.9287	323	.9129	373	.8975	423	.8824	473	.8676
274	.9283	324	.9126	374	.8972	424	.8821	474	.8673
275	.9280	325	.9123	375	.8969	425	.8818	475	.8671
276	.9277	326	.9119	376	.8965	426	.8815	476	.8668
277	.9274	327	.9116	377	.8962	427	.8812	477	.8665
278	.9271	328	.9113	378	.8959	428	.8809	478	.8662
279	.9267	329	.9110	379	.8956	429	.8806	479	.8659
280	.9264	330	.9107	380	.8953	430	.8803	480	.8656
281	.9261	331	.9104	381	.8950	431	.8800	481	.8653
282	.9258	332	.9101	382	.8947	432	.8797	482	.8650
283	.9255	333	.9098	383	.8944	433	.8794	483	.8647
284	.9252	334	.9095	384	.8941	434	.8791	484	.8644
285	.9248	335	.9092	385	.8938	435	.8788	485	.8642
286	.9245	336	.9088	386	.8935	436	.8785	486	.8639
287	.9242	337	.9085	387	.8932	437	.8782	487	.8636
288	.9239	338	.9082	388	.8929	438	.8779	488	.8633
289	.9236	339	.9079	389	.8926	439	.8776	489	.8630
290	.9233	340	.9076	390	.8923	440	.8773	490	.8627
291	.9229	341	.9073	391	.8920	441	.8770	491	.8624
292	.9226	342	.9070	392	.8917	442	.8767	492	.8621
293	.9223	343	.9067	393	.8914	443	.8764	493	.8618
294	.9220	344	.9064	394	.8911	444	.8762	494	.8615
295	.9217	345	.9061	395	.8908	445	.8759	495	.8613
296	.9214	346	.9057	396	.8905	446	.8756	496	.8610
297	.9210	347	.9054	397	.8902	447	.8753	497	.8607
298	.9207	348	.9051	398	.8899	448	.8750	498	.8604
299	.9204	349	.9048	399	.8896	449	.8747	499	.8601

## Group 1 (15.0 to 34.9° API)

(t=temperature in degrees F; M=multipliers)

t	M	t	M	t	M	t	M	t	M
0	1.0242	50	1.0040	100	0.9841	150	0.9647	200	0.9457
1	1.0238	51	1.0036	101	.9837	151	.9643	201	.9453
2	1.0234	52	1.0032	102	.9833	152	.9639	202	.9449
3	1.0230	53	1.0028	103	.9830	153	.9636	203	.9446
4	1.0226	54	1.0024	104	.9826	154	.9632	204	.9442
5	1.0222	55	1.0020	105	.9822	155	.9628	205	.9438
6	1.0218	56	1.0016	106	.9818	156	.9624	206	.9434
7	1.0214	57	1.0012	107	.9814	157	.9620	207	.9430
8	1.0210	58	1.0008	108	.9811	158	.9616	208	.9427
9	1.0206	59	1.0004	109	.9807	159	.9612	209	.9423
10	1.0202	60	1.0000	110	.9803	160	.9608	210	.9419
11	1.0198	61	0.9996	111	.9799	161	.9604	211	.9415
12	1.0194	62	.9992	112	.9795	162	.9601	212	.9412
13	1.0189	63	.9988	113	.9791	163	.9597	213	.9408
14	1.0185	64	.9984	114	.9787	164	.9594	214	.9405
15	1.0181	65	.9980	115	.9783	165	.9590	215	.9401
16	1.0177	66	.9976	116	.9779	166	.9586	216	.9397
17	1.0173	67	.9972	117	.9775	167	.9582	217	.9393
18	1.0169	68	.9968	118	.9771	168	.9578	218	.9390
19	1.0165	69	.9964	119	.9767	169	.9574	219	.9386
20	1.0161	70	.9960	120	.9763	170	.9570	220	.9382
21	1.0157	71	.9956	121	.9759	171	.9566	221	.9378
22	1.0153	72	.9952	122	.9755	172	.9562	222	.9374
23	1.0148	73	.9948	123	.9752	173	.9559	223	.9371
24	1.0144	74	.9944	124	.9748	174	.9555	224	.9367
25	1.0140	75	.9940	125	.9744	175	.9551	225	.9363
26	1.0136	76	.9936	126	.9740	176	.9547	226	.9359
27	1.0132	77	.9932	127	.9736	177	.9543	227	.9356
28	1.0128	78	.9929	128	.9732	178	.9540	228	.9352
29	1.0124	79	.9925	129	.9728	179	.9536	229	.9349
30	1.0120	80	.9921	130	.9724	180	.9532	230	.9345
31	1.0116	81	.9917	131	.9720	181	.9528	231	.9341
32	1.0112	82	.9913	132	.9716	182	.9524	232	.9337
33	1.0108	83	.9909	133	.9713	183	.9521	233	.9334
34	1.0104	84	.9905	134	.9709	184	.9517	234	.9330
35	1.0100	85	.9901	135	.9705	185	.9513	235	.9326
36	1.0096	86	.9897	136	.9701	186	.9509	236	.9322
37	1.0092	87	.9893	137	.9697	187	.9505	237	.9318
38	1.0088	88	.9889	138	.9694	188	.9502	238	.9315
39	1.0084	89	.9885	139	.9690	189	.9498	239	.9311
40	1.0080	90	.9881	140	.9686	190	.9494	240	.9307
41	1.0076	91	.9877	141	.9682	191	.9490	241	.9303
42	1.0072	92	.9873	142	.9678	192	.9487	242	.9300
43	1.0068	93	.9869	143	.9675	193	.9483	243	.9296
44	1.0064	94	.9865	144	.9671	194	.9480	244	.9293
45	1.0060	95	.9861	145	.9667	195	.9476	245	.9289
46	1.0056	96	.9857	146	.9663	196	.9472	246	.9285
47	1.0052	97	.9853	147	.9659	197	.9468	247	.9281
48	1.0048	98	.9849	148	.9655	198	.9465	248	.9278
49	1.0044	99	.9845	149	.9651	199	.9461	249	.9274

## Group 1 (15.0 to 34.9° API)—Continued

(t=temperature in degrees F; M=multipliers)

t	M	t	M	t	M	t	M	t	M
250	0.9270	300	0.9088	350	0.8909	400	0.8734	450	0.8563
251	.9267	301	.9084	351	.8906	401	.8731	451	.8560
252	.9263	302	.9081	352	.8902	402	.8727	452	.8557
253	.9259	303	.9077	353	.8899	403	.8724	453	.8553
254	.9256	304	.9073	354	.8895	404	.8720	454	.8550
255	.9252	305	.9070	355	.8892	405	.8717	455	.8546
256	.9248	306	.9066	356	.8888	406	.8714	456	.8543
257	.9245	307	.9063	357	.8884	407	.8710	457	.8540
258	.9241	308	.9059	358	.8881	408	.8707	458	.8536
259	.9237	309	.9055	359	.8877	409	.8703	459	.8533
260	.9234	310	.9052	360	.8874	410	.8700	460	.8530
261	.9230	311	.9048	361	.8870	411	.8696	461	.8526
262	.9226	312	.9045	362	.8867	412	.8693	462	.8523
263	.9223	313	.9041	363	.8863	413	.8689	463	.8519
264	.9219	314	.9037	364	.8860	414	.8686	464	.8516
265	.9215	315	.9034	365	.8856	415	.8683	465	.8513
266	.9212	316	.9030	366	.8853	416	.8679	466	.8509
267	.9208	317	.9027	367	.8849	417	.8676	467	.8506
268	.9204	318	.9023	368	.8846	418	.8672	468	.8503
269	.9201	319	.9020	369	.8842	419	.8669	469	.8499
270	.9197	320	.9016	370	.8839	420	.8665	470	.8496
271	.9193	321	.9012	371	.8835	421	.8662	471	.8493
272	.9190	322	.9009	372	.8832	422	.8659	472	.8489
273	.9186	323	.9005	373	.8828	423	.8655	473	.8486
274	.9182	324	.9002	374	.8825	424	.8652	474	.8482
275	.9179	325	.8998	375	.8821	425	.8648	475	.8479
276	.9175	326	.8994	376	.8818	426	.8645	476	.8476
277	.9171	327	.8991	377	.8814	427	.8641	477	.8472
278	.9168	328	.8987	378	.8811	428	.8638	478	.8469
279	.9164	329	.8984	379	.8807	429	.8635	479	.8466
280	.9160	330	.8980	380	.8804	430	.8631	480	.8462
281	.9157	331	.8977	381	.8800	431	.8628	481	.8459
282	.9153	332	.8973	382	.8797	432	.8624	482	.8456
283	.9149	333	.8969	383	.8793	433	.8621	483	.8452
284	.9146	334	.8966	384	.8790	434	.8618	484	.8449
285	.9142	335	.8962	385	.8786	435	.8614	485	.8446
286	.9139	336	.8959	386	.8783	436	.8611	486	.8442
287	.9135	337	.8955	387	.8779	437	.8607	487	.8439
288	.9131	338	.8952	388	.8776	438	.8604	488	.8436
289	.9128	339	.8948	389	.8772	439	.8601	489	.8432
290	.9124	340	.8945	390	.8769	440	.8597	490	.8429
291	.9120	341	.8941	391	.8766	441	.8594	491	.8426
292	.9117	342	.8938	392	.8762	442	.8590	492	.8422
293	.9113	343	.8934	393	.8759	443	.8587	493	.8419
294	.9110	344	.8930	394	.8755	444	.8584	494	.8416
295	.9106	345	.8927	395	.8752	445	.8580	495	.8413
296	.9102	346	.8923	396	.8748	446	.8577	496	.8409
297	.9099	347	.8920	397	.8745	447	.8573	497	.8406
298	.9095	348	.8916	398	.8741	448	.8570	498	.8403
299	.9091	349	.8913	399	.8738	449	.8567	499	.8399

## Group 2 (35.0 to 50.9° API)

(t=temperature in degrees F; M=multipliers)

t	M	t	M	t	M	t	M	t	M	t	M
0	1.0297	25	1.0174	50	1.0049	75	0.9925	100	0.9802	125	0.9677
1	1.0292	26	1.0169	51	1.0044	76	.9920	101	.9797	126	.9672
2	1.0287	27	1.0164	52	1.0039	77	.9915	102	.9792	127	.9667
3	1.0283	28	1.0159	53	1.0035	78	.9911	103	.9786	128	.9662
4	1.0278	29	1.0154	54	1.0030	79	.9906	104	.9781	129	.9657
5	1.0273	30	1.0149	55	1.0025	80	.9901	105	.9776	130	.9652
6	1.0268	31	1.0144	56	1.0020	81	.9896	106	.9771	131	.9647
7	1.0263	32	1.0139	57	1.0015	82	.9891	107	.9766	132	.9642
8	1.0258	33	1.0134	58	1.0010	83	.9886	108	.9762	133	.9637
9	1.0253	34	1.0129	59	1.0005	84	.9881	109	.9757	134	.9632
10	1.0248	35	1.0124	60	1.0000	85	.9876	110	.9752	135	.9627
11	1.0243	36	1.0119	61	0.9995	86	.9871	111	.9747	136	.9622
12	1.0238	37	1.0114	62	.9990	87	.9866	112	.9742	137	.9617
13	1.0233	38	1.0109	63	.9985	88	.9861	113	.9737	138	.9613
14	1.0228	39	1.0104	64	.9980	89	.9856	114	.9732	139	.9608
15	1.0223	40	1.0099	65	.9975	90	.9851	115	.9727	140	.9603
16	1.0218	41	1.0094	66	.9970	91	.9846	116	.9722	141	.9598
17	1.0213	42	1.0089	67	.9965	92	.9841	117	.9717	142	.9593
18	1.0208	43	1.0084	68	.9961	93	.9836	118	.9712	143	.9588
19	1.0203	44	1.0079	69	.9956	94	.9831	119	.9707	144	.9583
20	1.0198	45	1.0074	70	.9951	95	.9826	120	.9702	145	.9578
21	1.0193	46	1.0069	71	.9946	96	.9821	121	.9697	146	.9573
22	1.0188	47	1.0064	72	.9941	97	.9816	122	.9692	147	.9568
23	1.0184	48	1.0059	73	.9935	98	.9812	123	.9687	148	.9563
24	1.0179	49	1.0054	74	.9930	99	.9807	124	.9682	149	.9558

## Group 3 (51.0 to 63.9° API)

(t=temperature in degrees F; M=multipliers)

t	M	t	M	t	M	t	M	t	M
0	1.0361	25	1.0211	50	1.0060	75	0.9909	100	0.9757
1	1.0355	26	1.0205	51	1.0054	76	.9903	101	.9751
2	1.0349	27	1.0199	52	1.0048	77	.9897	102	.9745
3	1.0343	28	1.0193	53	1.0042	78	.9891	103	.9738
4	1.0337	29	1.0187	54	1.0036	79	.9885	104	.9732
5	1.0331	30	1.0181	55	1.0030	80	.9879	105	.9726
6	1.0325	31	1.0175	56	1.0024	81	.9873	106	.9720
7	1.0319	32	1.0169	57	1.0018	82	.9867	107	.9714
8	1.0313	33	1.0163	58	1.0012	83	.9860	108	.9708
9	1.0307	34	1.0157	59	1.0006	84	.9854	109	.9702
10	1.0301	35	1.0151	60	1.0000	85	.9848	110	.9696
11	1.0295	36	1.0145	61	0.9994	86	.9842	111	.9690
12	1.0289	37	1.0139	62	.9988	87	.9836	112	.9684
13	1.0283	38	1.0133	63	.9982	88	.9830	113	.9678
14	1.0277	39	1.0127	64	.9976	89	.9824	114	.9672
15	1.0271	40	1.0121	65	.9970	90	.9818	115	.9666
16	1.0265	41	1.0115	66	.9964	91	.9812	116	.9660
17	1.0259	42	1.0109	67	.9957	92	.9806	117	.9654
18	1.0253	43	1.0103	68	.9951	93	.9800	118	.9647
19	1.0247	44	1.0097	69	.9945	94	.9794	119	.9641
20	1.0241	45	1.0091	70	.9939	95	.9788	120	.9635
21	1.0235	46	1.0085	71	.9933	96	.9782	121	.9629
22	1.0229	47	1.0079	72	.9927	97	.9776	122	.9623
23	1.0223	48	1.0072	73	.9921	98	.9769	123	.9617
24	1.0217	49	1.0066	74	.9915	99	.9763	124	.9611

*Group 4 (64.0 to 78.9° API)*

(*t*=temperature in degrees F; *M*=multipliers)

<i>t</i>	<i>M</i>	<i>t</i>	<i>M</i>	<i>t</i>	<i>M</i>	<i>t</i>	<i>M</i>	<i>t</i>	<i>M</i>
0	1.0419	25	1.0246	50	1.0070	75	0.9894	100	0.9716
1	1.0412	26	1.0239	51	1.0063	76	.9887	101	.9709
2	1.0405	27	1.0232	52	1.0056	77	.9880	102	.9702
3	1.0398	28	1.0225	53	1.0049	78	.9872	103	.9695
4	1.0391	29	1.0218	54	1.0042	79	.9865	104	.9688
5	1.0384	30	1.0211	55	1.0035	80	.9858	105	.9681
6	1.0377	31	1.0204	56	1.0028	81	.9851	106	.9673
7	1.0370	32	1.0197	57	1.0021	82	.9844	107	.9666
8	1.0364	33	1.0190	58	1.0014	83	.9837	108	.9659
9	1.0357	34	1.0183	59	1.0007	84	.9830	109	.9652
10	1.0350	35	1.0176	60	1.0000	85	.9823	110	.9645
11	1.0343	36	1.0169	61	.9993	86	.9816	111	.9638
12	1.0336	37	1.0162	62	.9986	87	.9809	112	.9631
13	1.0329	38	1.0155	63	.9979	88	.9802	113	.9624
14	1.0322	39	1.0148	64	.9972	89	.9795	114	.9617
15	1.0315	40	1.0141	65	.9965	90	.9788	115	.9609
16	1.0308	41	1.0134	66	.9958	91	.9780	116	.9602
17	1.0301	42	1.0127	67	.9951	92	.9773	117	.9595
18	1.0294	43	1.0120	68	.9943	93	.9766	118	.9588
19	1.0287	44	1.0113	69	.9936	94	.9759	119	.9581
20	1.0280	45	1.0106	70	.9929	95	.9752	120	.9574
21	1.0273	46	1.0099	71	.9922	96	.9745	121	.9567
22	1.0266	47	1.0092	72	.9915	97	.9738	122	.9560
23	1.0260	48	1.0084	73	.9908	98	.9731	123	.9552
24	1.0253	49	1.0077	74	.9901	99	.9723	124	.9545

*Group 5 (79.0 to 88.9° API)*

(*t*=temperature in degrees F; *M*=multipliers)

<i>t</i>	<i>M</i>	<i>t</i>	<i>M</i>	<i>t</i>	<i>M</i>	<i>t</i>	<i>M</i>	<i>t</i>	<i>M</i>
0	1.0476	25	1.0280	50	1.0080	75	0.9879	100	0.9676
1	1.0468	26	1.0272	51	1.0072	76	.9871	101	.9668
2	1.0460	27	1.0264	52	1.0064	77	.9863	102	.9660
3	1.0453	28	1.0256	53	1.0056	78	.9854	103	.9652
4	1.0445	29	1.0248	54	1.0048	79	.9846	104	.9643
5	1.0437	30	1.0240	55	1.0040	80	.9838	105	.9635
6	1.0429	31	1.0232	56	1.0032	81	.9830	106	.9627
7	1.0421	32	1.0224	57	1.0024	82	.9822	107	.9619
8	1.0414	33	1.0216	58	1.0016	83	.9814	108	.9611
9	1.0406	34	1.0208	59	1.0008	84	.9806	109	.9603
10	1.0398	35	1.0200	60	1.0000	85	.9798	110	.9594
11	1.0390	36	1.0192	61	.9992	86	.9790	111	.9586
12	1.0382	37	1.0184	62	.9984	87	.9782	112	.9578
13	1.0375	38	1.0176	63	.9976	88	.9773	113	.9570
14	1.0367	39	1.0168	64	.9968	89	.9765	114	.9562
15	1.0359	40	1.0160	65	.9960	90	.9757	115	.9554
16	1.0351	41	1.0152	66	.9952	91	.9749	116	.9546
17	1.0343	42	1.0144	67	.9944	92	.9741	117	.9538
18	1.0335	43	1.0136	68	.9935	93	.9733	118	.9529
19	1.0327	44	1.0128	69	.9927	94	.9725	119	.9521
20	1.0319	45	1.0120	70	.9919	95	.9717	120	.9513
21	1.0311	46	1.0112	71	.9911	96	.9709	121	.9505
22	1.0303	47	1.0104	72	.9903	97	.9700	122	.9497
23	1.0296	48	1.0096	73	.9895	98	.9692	123	.9489
24	1.0288	49	1.0088	74	.9887	99	.9684	124	.9480

## Group 6 (89.0 to 93.9° API)

(t=temperature in degrees F; M=multipliers)

t	M	t	M	t	M	t	M	t	M
0	1.0501	25	1.0294	50	1.0084	75	0.9873	100	0.9659
1	1.0493	26	1.0286	51	1.0076	76	.9864	101	.9650
2	1.0484	27	1.0277	52	1.0067	77	.9856	102	.9642
3	1.0476	28	1.0269	53	1.0059	78	.9847	103	.9633
4	1.0467	29	1.0260	54	1.0050	79	.9839	104	.9625
5	1.0459	30	1.0252	55	1.0042	80	.9830	105	.9616
6	1.0451	31	1.0244	56	1.0034	81	.9821	106	.9608
7	1.0443	32	1.0236	57	1.0025	82	.9813	107	.9599
8	1.0434	33	1.0227	58	1.0017	83	.9804	108	.9590
9	1.0426	34	1.0219	59	1.0008	84	.9796	109	.9582
10	1.0418	35	1.0211	60	1.0000	85	.9787	110	.9573
11	1.0410	36	1.0203	61	0.9992	86	.9779	111	.9565
12	1.0402	37	1.0194	62	.9983	87	.9770	112	.9556
13	1.0393	38	1.0186	63	.9975	88	.9762	113	.9548
14	1.0385	39	1.0177	64	.9966	89	.9753	114	.9539
15	1.0377	40	1.0169	65	.9958	90	.9745	115	.9530
16	1.0369	41	1.0160	66	.9949	91	.9736	116	.9522
17	1.0360	42	1.0152	67	.9941	92	.9727	117	.9513
18	1.0352	43	1.0143	68	.9932	93	.9719	118	.9505
19	1.0343	44	1.0135	69	.9924	94	.9710	119	.9496
20	1.0335	45	1.0126	70	.9915	95	.9702	120	.9487
21	1.0327	46	1.0118	71	.9907	96	.9693	121	.9479
22	1.0319	47	1.0110	72	.9898	97	.9685	122	.9470
23	1.0310	48	1.0101	73	.9890	98	.9676	123	.9462
24	1.0302	49	1.0093	74	.9881	99	.9668	124	.9453

## Group 7 (94.0 to 99.9° API)

(t=temperature in degrees F; M=multipliers)

t	M	t	M	t	M	t	M
0	1.0531	25	1.0312	50	1.0090	75	0.9865
1	1.0522	26	1.0303	51	1.0081	76	.9856
2	1.0513	27	1.0294	52	1.0072	77	.9847
3	1.0505	28	1.0286	53	1.0063	78	.9838
4	1.0496	29	1.0277	54	1.0054	79	.9829
5	1.0487	30	1.0268	55	1.0045	80	.9820
6	1.0478	31	1.0259	56	1.0036	81	.9811
7	1.0470	32	1.0250	57	1.0027	82	.9802
8	1.0461	33	1.0242	58	1.0018	83	.9792
9	1.0453	34	1.0233	59	1.0009	84	.9783
10	1.0444	35	1.0224	60	1.0000	85	.9774
11	1.0435	36	1.0215	61	0.9991	86	.9765
12	1.0426	37	1.0206	62	.9982	87	.9756
13	1.0418	38	1.0197	63	.9973	88	.9747
14	1.0409	39	1.0188	64	.9964	89	.9738
15	1.0400	40	1.0179	65	.9955	90	.9729
16	1.0391	41	1.0170	66	.9946	91	.9719
17	1.0382	42	1.0161	67	.9937	92	.9710
18	1.0374	43	1.0152	68	.9928	93	.9701
19	1.0365	44	1.0143	69	.9919	94	.9692
20	1.0356	45	1.0134	70	.9910	95	.9683
21	1.0347	46	1.0125	71	.9901	96	.9674
22	1.0338	47	1.0116	72	.9892	97	.9665
23	1.0330	48	1.0108	73	.9883	98	.9656
24	1.0321	49	1.0099	74	.9874	99	.9647

EXAMPLE.—Values in the table are in the form of multipliers; that is, the volume of oil at the indicated temperature and degrees API for each group, multiplied by the corresponding factor in the table, equals the volume at 60° F. For example, if the degrees API of an oil at 60° F equals 58 (group 3) and the volume at 88° F equals 8,000 gal, then the volume at 60° F equals 8,000×0.9830 or 7,864 gal.