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Physical data of calcium carbonate-water suspensions

Scope

The data presented in this TIP serve as a quick reference for determining the weight of slurry or dry calcium carbonate (ground and precipitated calcium carbonate) per gallon of slurry at a specified percent carbonate slurry solids. It can also be used to determine the volume of slurry per ton of dry carbonate at a specified percent solids.

Safety precautions

Not applicable.

Keywords

Carbonates, Calcium carbonate, Pigments, Opacifiers, Density, Solids content, Dispersions, Slurry

Additional Information

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Table 1. Physical data of calcitic calcium carbonate (PCC and GCC)-water suspensions.

Carbonate solids Percent	*Specific gravity	Slurry lb/gal	Dry CaCO ₃ lb/gal	Dry CaCO ₃ ft ³ /ton	Dry CaCO ₃ gal/ton
10	1.064	8.88	0.888	301.09	2252
15	1.101	9.19	1.379	193.95	1451
20	1.141	9.52	1.905	140.39	1050
25	1.184	9.88	2.470	108.25	810
30	1.230	10.27	3.080	86.82	649
35	1.280	10.68	3.739	71.51	535
36	1.291	10.77	3.877	68.96	516
37	1.301	10.86	4.018	66.55	498
38	1.312	10.95	4.161	64.26	481
39	1.323	11.04	4.306	62.10	464
40	1.334	11.14	4.454	60.04	449
41	1.346	11.23	4.604	58.08	434
42	1.357	11.33	4.757	56.21	420
43	1.369	11.42	4.913	54.43	407
44	1.381	11.53	5.071	52.73	394
45	1.393	11.63	5.232	51.11	382
46	1.406	11.73	5.396	49.56	371
47	1.418	11.84	5.563	48.07	360
48	1.431	11.94	5.733	46.64	349
49	1.444	12.05	5.906	45.28	339
50	1.458	12.16	6.082	43.97	329
51	1.471	12.28	6.262	42.71	319
52	1.485	12.39	6.444	41.49	310
53	1.499	12.51	6.631	40.33	302
54	1.514	12.63	6.821	39.20	293
55	1.528	12.75	7.014	38.12	285
56	1.543	12.88	7.212	37.08	277
57	1.559	13.01	7.413	36.07	270
58	1.574	13.14	7.618	35.10	263
59	1.590	13.27	7.828	34.16	255
60	1.606	13.40	8.042	33.25	249
61	1.623	13.54	8.260	32.37	242
62	1.640	13.68	8.482	31.52	236
63	1.657	13.83	8.710	30.70	230
64	1.674	13.97	8.942	29.90	224
65	1.692	14.12	9.179	29.13	218
66	1.711	14.27	9.421	28.38	212
67	1.729	14.43	9.669	27.66	207
68	1.749	14.59	9.922	26.95	202
69	1.768	14.75	10.181	26.26	196
70	1.788	14.92	10.446	25.60	191
71	1.809	15.09	10.716	24.95	187
72	1.830	15.27	10.993	24.32	182
73	1.851	15.45	11.277	23.71	177
74	1.873	15.63	11.567	23.12	173
75	1.896	15.82	11.864	22.54	169

* At 25°C; density of water equal to 0.99704 gm/cm³;1 ft³=7.48 gal