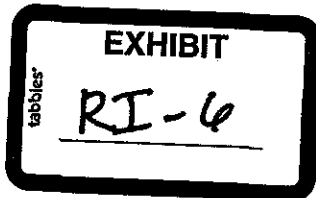




MOLDING COMPOUNDS

INTRODUCTION



Reichhold Chemicals Incorporated introduced in 1960 a new phenolic molding compound to America. It was produced on an interrupted flight, reciprocating screw, extruder. RCI has maintained this progressive policy and continues to be the only American corporation to produce phenolic molding compounds exclusively in this type of process. It results in a scientifically controlled product which is significantly characterized by its uniformity.

In 1970 RCI introduced a specifically developed line of phenolic molding compounds for in-line screw injection, both conventional and manifold systems. The basic formulations designed for the extrusion process proved to be an excellent base for the injection grades.

In 1975 RCI put their world renowned polyester technology together with the, by now, established extruder compounding technology and introduced a series of PolyLite® thermosetting polyester molding compounds.

This data book has been developed to present the phenolic molding compounds and polyester molding compounds to you. The data are our best effort to assist you in selecting materials. We of course look forward to more direct inquiries on an individual basis and place our technical service group and laboratories at your service.

Reichhold Chemicals, Inc.

P. O. Box 38, Middlesex Avenue
Carteret, N. J. 07008 (201) 541-4201

0000001



MOLDING COMPOUNDS

**DECIMALS &
MILLIMETERS
INTO INCHES**

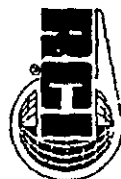
DECIMAL AND MILLIMETER EQUIVALENTS OF INCH FRACTIONS

Inches	Equivalent	Millimeters	Inches	Equivalent	Millimeters
1/64	.015625		33/64	.515625	
1/32	.03125	0.79	17/32	.53125	13.49
3/64	.046875		35/64	.546875	
1/16	.0625	1.59	9/16	.5625	14.29
5/64	.078125		37/64	.578125	
3/32	.09375	2.38	19/32	.59375	15.08
7/64	.109375		39/64	.609375	
1/8	.125	3.18	5/8	.625	15.88
9/64	.140625		41/64	.640625	
5/32	.15625	3.97	21/32	.65625	16.67
11/64	.171875		43/64	.671875	
3/16	.1875	4.76	11/16	.6875	17.46
13/64	.203125		45/64	.703125	
7/32	.21875	5.56	23/32	.71875	18.26
15/64	.234375		47/64	.734375	
1/4	.25	6.35	3/4	.75	19.05
17/64	.265625		49/64	.765625	
9/32	.28125	7.14	25/32	.78125	19.84
19/64	.296875		51/64	.796875	
5/16	.3125	7.94	13/16	.8125	20.64
21/64	.328125		53/64	.828125	
11/32	.34375	8.73	27/32	.84375	21.43
23/64	.359375		55/64	.859375	
3/8	.375	9.53	7/8	.875	22.23
25/64	.390625		57/64	.890625	
13/32	.40625	10.32	29/32	.90625	23.02
27/64	.421875		59/64	.921875	
7/16	.4375	11.11	15/16	.9375	23.81
29/64	.453125		61/64	.953125	
15/32	.46875	11.91	31/32	.96875	24.61
31/64	.484375		63/64	.984375	
1/2	.50	12.70	1	1.000	25.40

Reichhold Chemicals, Inc.

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ASTM D 700 REQUIREMENTS FOR PHENOLIC MOLDING COMPOUNDS

ASTM TEST METHOD	TYPE	2	3	4	5	6	8	9	10	11	12	13	14	15	19	20	21	22	24	25
D 1895 D 1895	Powder Requirements: Pourability, max, s Bulk factor, max	25 3.0	...	...	...	...	21 3.0	...	...	25 3.0	...	25 2.8	25 3.5	...	...	...	...	...	...	20 3.0
D 792	General Requirements: Specific gravity, max, 23/23°C(73.4/73.4°F)	1.45	1.45	1.45	1.45	1.45	2.00	2.00	2.00	1.45	1.45	1.68	1.35	1.35	2.05	1.98	1.85	1.80	1.35	1.80
D 570	Water absorption, max, weight gain, %	0.80	0.80	1.50	1.75	1.75	0.07	0.20	0.25	0.80	0.80	0.5	1.5	1.5	0.30	0.50	1.0	0.40	0.4	0.07
D 256	Impact strength, min, J/m of notch	...	18	56	93	213	...	34	...	...	25	...	19	24	107	160	533	19	24	24
D 790	Flexural strength, min, MPa	...	0.34	1.05	1.75	4.0	...	0.64	...	...	0.46	...	0.35	0.45	2.0	3.0	10	0.35	0.45	0.45
D 648	Deflection temperature, min, °C	9000	9000	8000	9000	9000	8000	8000	7000	9000	9000	7000	7000	7000	12 000	12 000	20 000	8000	9000	12 000
D 794	Heat resistance tem- perature, min, °C	...	...	...	...	...	...	154	154	...	...	148	...	...	175	175	250	149	121	250
D 149	Electrical Requirements: Dielectric strength, min, step by step; kV/mm	10	8	...	...	...	12	...	...	...	...	...	...	...	...	...	...	...	...	...
D 257	Insulation resistance, min, MΩ	250	200	...	...	...	300	...	200	...	...	...	225	275	...	...	...	300	275	300
D 150	Dielectric constant, max; 60 Hz	...	...	...	...	...	5.0	...	...	...	...	...	...	...	...	...	...	...	...	...
D 150	Dissipation factor, max; 60 Hz	...	...	...	...	...	0.04	...	...	...	...	...	...	...	...	...	...	...	...	...
D 495	Arc resistance, min, s	0.05	...	...	...	...	0.015	...	...	...	...	...	...	...	...	180	...	150	...	...

Reichhold Chemicals, Inc.

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MOLDING COMPOUNDS

METRIC CONVERSION

METRIC CONVERSION

To Convert U.S. System	To Metric System	Multiply by	To Convert Metric System	To U.S. System	Multiply by
— LENGTH —					
mil	millimeter	0.0254	millimeter	mil	39.37
inch	millimeter	25.4	millimeter	inch	0.0394
inch	centimeter	2.54	centimeter	inch	0.3937
foot	centimeter	30.48	centimeter	foot	0.0328
foot	meter	0.3048	meter	foot	3.2808
yard	meter	0.9144	meter	yard	1.0936
— AREA —					
inch ²	millimeter ²	645.16	millimeter ²	inch ²	0.0016
inch ²	centimeter ²	6.4516	centimeter ²	inch ²	0.155
foot ²	centimeter ²	929.03	centimeter ²	foot ²	0.0011
foot ²	meter ²	0.09290	meter ²	foot ²	10.7638
yard ²	meter ²	0.8361	meter ²	yard ²	1.1959
— VOLUME, CAPACITY —					
inch ³	centimeter ³	16.3871	centimeter ³	inch ³	0.061
fluid ounce	centimeter ³	29.5735	centimeter ³	fluid ounce	0.0338
quart (liquid)	decimeter ³ (liter)	0.9464	decimeter ³ (liter)	quart (liquid)	1.0567
gallon	decimeter ³ (liter)	3.7854	decimeter ³ (liter)	gallon	0.2642
gallon	meter ³	0.0038	meter ³	gallon	264.17
foot ³	decimeter ³	28.3169	decimeter ³	foot ³	0.0353
foot ³	meter ³	0.0283	meter ³	foot ³	35.3144
yard ³	meter ³	0.7645	meter ³	yard ³	0.2759
barrel (liquid)	meter ³	0.1193	meter ³	barrel (liquid)	8.3822
— MASS —					
ounce	gram	28.3495	gram	ounce	0.03527
pound	gram	453.5924	gram	pound	0.0022
pound	kilogram	0.4536	kilogram	pound	2.2044
pound	metric ton	0.00045	metric ton	pound	2204.6
U.S. ton	metric ton	0.9072	metric ton	U.S. ton	1.1023
— DENSITY —					
lbs/ft ³	g/cm ³	0.0160	g/cm ³	lbs/ft ³	62.43
lbs/ft ³	kg/m ³	16.0185	kg/m ³	lbs/ft ³	0.0624
— TEMPERATURE —					
°F	°C	(°F-32)/(1.8)	°C	°F	1.8°C+32
°F	°K	(°F+459.67)/(1.8)	°K	°F	1.8°K-459.67
— PRESSURE —					
psi	kPa	6.8948	kPa	psi	0.145
psi	kg/cm ²	0.0703	kg/cm ²	psi	14.2247
— ENERGY AND POWER —					
ft-lb	joule	1.3558	joule	ft-lb	0.7376
U.S. horsepower	metric horsepower	1.0139	metric horsepower	U.S. horsepower	0.9863
U.S. horsepower	kW	0.7452	kW	U.S. horsepower	1.3419
Btu	joule	1054.8	joule	Btu	-0.00095
Btu	W-h	0.2930	W-h	Btu	3.413
Btu/hr/ft ² /°F/in.	W/m-K	0.1441	W/m-K	Btu/hr/ft ² /°F/in.	6.9396
Btu/lb	kJ/kg	2.326	kJ/kg	Btu/lb	0.4299
— OUTPUT —					
lbs/min	g/s	7.567	g/s	lbs/min	0.1322
lbs/hr	kg/h	0.4536	kg/h	lbs/hr	2.2046
— VELOCITY —					
in./min	cm/s	0.0423	cm/s	in./min	23.6407
ft/sec	m/s	0.3048	m/s	ft/sec	3.2808

* Accurate to four decimal places



MOLDING COMPOUNDS

METRIC CONVERSION

STANDARD METRIC ABBREVIATIONS

A ampere	kg kilogram
bar bar	l liter
cd candela	m meter
C celsius ^D	N newton
g gram	Pa pascal
h hour	S siemens
Hz hertz	s second
J joule	t metric ton
K kelvin	V volt
	W watt

^DFormerly called Centigrade

METRIC PREFIXES^C

Numerical Value	Term	Abbreviation	Numerical Value	Term	Abbreviation
10 ⁻¹	deca	da	10 ⁻¹	deci	d
10 ⁻²	hecto	h	10 ⁻²	centi	c
10 ⁻³	kilo	k	10 ⁻³	milli	m
10 ⁻⁶	mega	M	10 ⁻⁶	micro	μ
10 ⁻⁹	giga	G	10 ⁻⁹	nano	n
10 ⁻¹²	tera	T	10 ⁻¹²	pico	p

^CThese prefixes may be used with all base SI units

MILLIMETERS INTO INCHES

Milli-meters	Inches	Milli-meters	Inches	Milli-meters	Inches
1	.03937	34	1.35858	67	2.63779
2	.07874	35	1.37795	68	2.67716
3	.11811	36	1.41732	69	2.71653
4	.15748	37	1.45669	70	2.75590
5	.19685	38	1.49606	71	2.79527
6	.23622	39	1.53543	72	2.83464
7	.27559	40	1.57480	73	2.87401
8	.31496	41	1.61417	74	2.91338
9	.35433	42	1.65354	75	2.95275
10	.39370	43	1.69291	76	2.99212
11	.43307	44	1.73228	77	3.03149
12	.47244	45	1.77165	78	3.07086
13	.51181	46	1.81102	79	3.11023
14	.55118	47	1.85039	80	3.14960
15	.59055	48	1.88976	81	3.18897
16	.62992	49	1.92913	82	3.22834
17	.66929	50	1.96850	83	3.26771
18	.70866	51	2.00787	84	3.30708
19	.74803	52	2.04724	85	3.34645
20	.78740	53	2.08661	86	3.38582
21	.82677	54	2.12598	87	3.42519
22	.86614	55	2.16535	88	3.46456
23	.90551	56	2.20472	89	3.50393
24	.94488	57	2.24409	90	3.54330
25	.98425	58	2.28346	91	3.58267
26	1.02362	59	2.32283	92	3.62204
27	1.06299	60	2.36220	93	3.66141
28	1.10236	61	2.40157	94	3.70078
29	1.14173	62	2.44094	95	3.74015
30	1.18110	63	2.48031	96	3.77952
31	1.22047	64	2.51968	97	3.81889
32	1.25984	65	2.55905	98	3.85826
33	1.29921	66	2.59842	99	3.89763
				100	3.93700

TABLE OF CUBIC EQUIVALENTS

1 c.c. = .061 cu. in. 1 cu. in. = 16.387 c.c.

Reichhold Chemicals, Inc.

P. O. Box 38, Middlesex Avenue
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MOLDING COMPOUNDS

1000 PIECES
LBS. TO GRAMS

WEIGHT IN POUNDS OF 1000 PIECES BASED ON WEIGHT OF ONE PIECE IN GRAMS

454 Grams = 1 Pound

Weight of One Piece (Grams)	Weight of 1000 Pieces (Pounds)	Weight of One Piece (Grams)	Weight of 1000 Pieces (Pounds)	Weight of One Piece (Grams)	Weight of 1000 Pieces (Pounds)
1	2.2	34	74.8	67	147.5
2	4.4	35	77.0	68	149.7
3	6.6	36	79.2	69	151.9
4	8.8	37	81.4	70	154.1
5	11.0	38	83.7	71	156.3
6	13.2	39	85.9	72	158.5
7	15.4	40	88.1	73	160.7
8	17.6	41	90.3	74	162.9
9	19.8	42	92.5	75	165.1
10	22.0	43	94.7	76	167.4
11	24.2	44	96.9	77	169.6
12	26.4	45	99.1	78	171.8
13	28.6	46	101.3	79	174.0
14	30.8	47	103.5	80	176.2
15	33.0	48	105.7	81	178.4
16	35.2	49	107.9	82	180.6
17	37.4	50	110.1	83	182.8
18	39.6	51	112.3	84	185.0
19	41.8	52	114.5	85	187.2
20	44.0	53	116.7	86	189.4
21	46.2	54	118.9	87	191.6
22	48.4	55	121.1	88	193.8
23	50.6	56	123.3	89	196.0
24	52.8	57	125.5	90	198.2
25	55.0	58	127.7	91	200.4
26	57.2	59	129.9	92	202.6
27	59.4	60	132.1	93	204.8
28	61.6	61	134.3	94	207.0
29	63.8	62	136.5	95	209.2
30	66.0	63	138.7	96	211.4
31	68.2	64	140.9	97	213.6
32	70.4	65	143.1	98	215.8
33	72.6	66	145.3	99	218.0
				100	220.2

Reichhold Chemicals, Inc.

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MOLDING COMPOUNDS

**SPECIFIC GRAVITY
INTO
OUNCES & GRAMS**

CONVERSION OF SPECIFIC GRAVITY INTO OUNCES AND GRAMS PER CUBIC INCH

Specific Gravity	Ounces Per Cubic Inch	Grams Per Cubic Inch	Specific Gravity	Ounces Per Cubic Inch	Grams Per Cubic Inch
1.25	0.723	20.488	1.61	0.931	26.388
1.26	0.728	20.651	1.62	0.937	26.552
1.27	0.734	20.815	1.63	0.942	26.716
1.28	0.740	20.979	1.64	0.948	26.880
1.29	0.746	21.143	1.65	0.954	27.044
1.30	0.752	21.307	1.66	0.960	27.207
1.31	0.757	21.471	1.67	0.965	27.371
1.32	0.763	21.635	1.68	0.971	27.535
1.33	0.769	21.799	1.69	0.977	27.699
1.34	0.775	21.963	1.70	0.983	27.863
1.35	0.780	22.127	1.71	0.989	28.027
1.36	0.786	22.290	1.72	0.994	28.191
1.37	0.792	22.454	1.73	1.000	28.355
1.38	0.798	22.618	1.74	1.006	28.519
1.39	0.804	22.782	1.75	1.012	28.519
1.40	0.809	22.946	1.76	1.017	28.844
1.41	0.815	23.110	1.77	1.022	29.009
1.42	0.821	23.274	1.78	1.028	29.172
1.43	0.827	23.438	1.79	1.033	29.336
1.44	0.832	23.602	1.80	1.039	29.500
1.45	0.838	23.766	1.81	1.046	29.664
1.46	0.844	23.929	1.82	1.051	29.828
1.47	0.850	24.093	1.83	1.058	29.992
1.48	0.856	24.257	1.84	1.062	30.156
1.49	0.861	24.421	1.85	1.070	30.320
1.50	0.867	24.585	1.86	1.074	30.483
1.51	0.873	24.749	1.87	1.080	30.647
1.52	0.879	24.913	1.88	1.087	30.811
1.53	0.884	25.077	1.89	1.092	30.975
1.54	0.890	25.241	1.90	1.099	31.139
1.55	0.896	25.405	1.91	1.104	31.303
1.56	0.902	25.568	1.92	1.110	31.466
1.57	0.908	25.732	1.93	1.116	31.631
1.58	0.913	25.896	1.94	1.121	31.794
1.59		26.060	1.95	1.128	31.958
1.60	0.925	26.244			

Factor used in converting to ounces per cubic inch = specific gravity multiplied by 0.5778.
Factor used in converting to grams per cubic inch = specific gravity multiplied by 16.389.

Reichhold Chemicals, Inc.

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MOLDING COMPOUNDS

**STEAM
PSI/
TEMPERATURES**

TEMPERATURES OF SATURATED STEAM AT DIFFERENT STEAM GAUGE PRESSURES

The following table can be used to estimate mold temperatures from the steam pressure gauge readings. The temperature indicated for any specific pressure gauge reading is the temperature at the location of the pressure gauge. Mold temperatures will vary from 10 to 40°F lower depending on the following factors: distance of the pressure gauge from the mold, insulation on the piping and the mold, whether the mold is insulated from the platen, the size of the mold, type of steam heating (cored molds or steam platens), room temperature, and the presence of drafts.

Steam Gauge Pressure lb/sq. in.	Temperature Deg. F	Steam Gauge Pressure lb/sq. in.	Temperature Deg. F
35	281	130	355
40	287	135	358
45	293	140	360
50	300	145	363
55	303	150	365
60	308	155	368
65	312	160	370
70	316	165	373
75	320	170	375
80	324	175	377
85	328	180	379
90	331	185	381
95	334	190	383
100	338	195	385
105	341	200	387
110	344	205	389
115	347	210	391
120	350	215	393
125	352	220	395
		225	397

Reichhold Chemicals, Inc.

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MOLDING COMPOUNDS

TEMPERATURE CONVERSION TABLE

Fahrenheit	Celsius	Fahrenheit	Celsius	Fahrenheit	Celsius	Fahrenheit	Celsius	Fahrenheit	Celsius	Fahrenheit	Celsius
-40	-40.0	189	87.2	234	112.2	280	137.8	325	162.8	370	187.8
-30	-34.4	190	87.8	235	112.8	281	138.3	326	163.3	371	188.3
-20	-28.9	191	88.3	236	113.3	282	138.9	327	163.9	372	188.9
-10	-23.3	192	88.9	237	113.9	283	139.4	328	164.4	373	189.4
0	-17.8	193	89.4	238	114.4	284	140.0	329	165.0	374	190.0
10	-12.2	194	90.0	239	115.0	285	140.6	330	165.6	375	190.6
20	-6.7	195	90.6	240	115.6	286	141.1	331	166.1	376	191.1
30	-1.1	196	91.1	241	116.1	287	141.7	332	166.7	377	191.7
40	4.4	197	91.7	242	116.7	288	142.2	333	167.2	378	192.2
45	7.2	198	92.2	243	117.2	289	142.8	334	167.8	379	192.8
50	10.0	199	92.8	244	117.8	290	143.3	335	168.3	380	193.3
55	12.8	200	93.3	245	118.3	291	143.9	336	168.9	381	193.9
60	15.6	201	93.9	246	118.9	292	144.4	337	169.4	382	194.4
65	18.3	202	94.4	247	119.4	293	145.0	338	170.0	383	195.0
70	21.1	203	95.0	248	120.0	294	145.6	339	170.6	384	195.6
75	23.9	204	95.6	249	120.6	295	146.1	340	171.1	385	196.1
80	26.7	205	96.1	250	121.1	296	146.7	341	171.7	386	196.7
85	29.4	206	96.7	251	121.7	297	147.2	342	172.2	387	197.2
90	32.2	207	97.2	252	122.2	298	147.8	343	172.8	388	197.8
95	35.0	208	97.8	253	122.8	299	148.3	344	173.3	389	198.3
100	37.8	209	98.3	254	123.3	300	148.9	345	173.9	390	198.9
105	40.6	210	98.9	255	123.9	301	149.4	346	174.4	391	199.4
110	43.3	211	99.4	256	124.4	302	150.0	347	175.0	392	200.0
115	46.1	212	100.0	257	125.0	303	150.6	348	175.6	393	200.6
120	48.9	213	100.6	258	125.6	304	151.1	349	176.1	394	201.1
125	51.7	214	101.1	259	126.1	305	151.7	350	176.7	395	201.7
130	54.4	215	101.7	260	126.7	306	152.2	351	177.2	396	202.2
135	57.2	216	102.2	261	127.2	307	152.8	352	177.8	397	202.8
140	60.0	217	102.8	262	127.8	308	153.3	353	178.3	398	203.3
145	62.8	218	103.3	263	128.3	309	153.9	354	178.9	399	203.9
150	65.6	219	103.9	264	128.9	310	154.4	355	179.4	400	204.4
155	68.3	220	104.4	265	129.4	311	155.0	356	180.0	405	207.2
160	71.1	221	105.0	266	130.0	312	155.6	357	180.6	410	210.0
165	73.9	222	105.6	267	130.6	313	156.1	358	181.1	415	212.8
170	76.7	223	106.1	268	131.1	314	156.7	359	181.7	420	215.6
175	79.4	224	106.7	269	131.7	315	157.2	360	182.2	425	218.3
180	82.2	225	107.2	270	132.2	316	157.8	361	182.8	430	221.1
181	82.8	226	107.8	271	132.8	317	158.3	362	183.3	435	223.9
182	83.3	227	108.3	272	133.3	318	158.9	363	183.9	440	226.7
183	83.9	228	108.9	273	133.9	319	159.4	364	184.4	445	229.4
184	84.4	229	109.4	274	134.4	320	160.0	365	185.0	450	232.2
185	85.0	230	110.0	275	135.0	321	160.6	366	185.6	460	237.8
186	85.6	231	110.6	276	135.6	322	161.1	367	186.1	470	243.3
187	86.1	232	111.1	277	136.1	323	161.7	368	186.7	480	248.9
188	86.7	233	111.7	278	136.7	324	162.2	369	187.2	490	254.4
										500	260.0

Reichhold Chemicals, Inc.

P. O. Box 36, Middlesex Avenue
Carteret, N. J. 07008 (201) 541-4201

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MOLDING COMPOUNDS

**DECIMALS &
MILLIMETERS
INTO INCHES**

**DECIMAL AND MILLIMETER EQUIVALENTS
OF INCH FRACTIONS**

Inches	Equivalent	Millimeters	Inches	Equivalent	Millimeters
1/64	.015625		33/64	.515625	
1/32	.03125	0.79	17/32	.53125	13.49
3/64	.046875		35/64	.546875	
1/16	.0625	1.59	9/16	.5625	14.29
5/64	.078125		37/64	.578125	
3/32	.09375	2.38	19/32	.59375	15.08
7/64	.109375		39/64	.609375	
1/8	.125	3.18	5/8	.625	15.88
9/64	.140625		41/64	.640625	
5/32	.15625	3.97	21/32	.65625	16.67
11/64	.171875		43/64	.671875	
3/16	.1875	4.76	11/16	.6875	17.46
13/64	.203125		45/64	.703125	
7/32	.21875	5.56	23/32	.71875	18.26
15/64	.234375		47/64	.734375	
1/4	.25	6.35	3/4	.75	19.05
17/64	.265625		49/64	.765625	
9/32	.28125	7.14	25/32	.78125	19.84
19/64	.296875		51/64	.796875	
5/16	.3125	7.94	13/16	.8125	20.64
21/64	.328125		53/64	.828125	
11/32	.34375	8.73	27/32	.84375	21.43
23/64	.359375		55/64	.859375	
3/8	.375	9.53	7/8	.875	22.23
25/64	.390625		57/64	.890625	
13/32	.40625	10.32	29/32	.90625	23.02
27/64	.421875		59/64	.921875	
7/16	.4375	11.11	15/16	.9375	23.81
29/64	.453125		61/64	.953125	
15/32	.46875	11.91	31/32	.96875	24.61
31/64	.484375		63/64	.984375	
1/2	.50	12.70	1	1.000	25.40

Reichhold Chemicals, Inc.

P. O. Box 38, Middlesex Avenue
Carteret, N. J. 07008 (201) 541-4201

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MOLDING COMPOUNDS

METRIC CONVERSION

METRIC CONVERSION

To Convert U.S. System	To Metric System	Multiply by.	To Convert Metric System	To U.S. System	Multiply by
— LENGTH —					
mil	millimeter	0.0254	millimeter	mil	39.37
inch	millimeter	25.4	millimeter	inch	0.0394
inch	centimeter	2.54	centimeter	inch	0.3937
foot	centimeter	30.48	centimeter	foot	0.0328
foot	meter	0.3048	meter	foot	3.2808
yard	meter	0.9144	meter	yard	1.0936
— AREA —					
inch ²	millimeter ²	645.16	millimeter ²	inch ²	0.0016
inch ²	centimeter ²	6.4516	centimeter ²	inch ²	0.155
foot ²	centimeter ²	929.03	centimeter ²	foot ²	0.0011
foot ²	meter ²	0.09290	meter ²	foot ²	10.7638
yard ²	meter ²	0.8361	meter ²	yard ²	1.1959
— VOLUME, CAPACITY —					
inch ³	centimeter ³	16.3871	centimeter ³	inch ³	0.061
fluid ounce	centimeter ³	29.5735	centimeter ³	fluid ounce	0.0338
quart (liquid)	decimeter ³ (liter)	0.9464	decimeter ³ (liter)	quart (liquid)	1.0567
gallon	decimeter ³ (liter)	3.7854	decimeter ³ (liter)	gallon	0.2642
gallon	meter ³	0.0038	meter ³	gallon	264.17
foot ³	decimeter ³	28.3169	decimeter ³	foot ³	0.0353
foot ³	meter ³	0.0283	meter ³	foot ³	35.3144
yard ³	meter ³	0.7645	meter ³	yard ³	0.2759
barrel (liquid)	meter ³	0.1193	meter ³	barrel (liquid)	8.3822
— MASS —					
ounce	gram	28.3495	gram	ounce	0.03527
pound	gram	453.5924	gram	pound	0.0022
pound	kilogram	0.4536	kilogram	pound	2.2044
pound	metric ton	0.00045	metric ton	pound	2204.6
U.S. ton	metric ton	0.9072	metric ton	U.S. ton	1.1023
— DENSITY —					
lbs/ft ³	g/cm ³	0.0160	g/cm ³	lbs/ft ³	62.43
lbs/ft ³	kg/m ³	16.0185	kg/m ³	lbs/ft ³	0.0624
— TEMPERATURE —					
°F	°C	(°F-32)/(1.8)	°C	°F	1.8°C+32
°F	°K	(°F+459.67)/(1.8)	°K	°F	1.8°K-459.67
— PRESSURE —					
psi	kPa	6.8948	kPa	psi	0.145
psi	kg/cm ²	0.0703	kg/cm ²	psi	14.2247
— ENERGY AND POWER —					
ft-lb	joule	1.3558	joule	ft-lb	0.7376
U.S. horsepower	metric horsepower	1.0139	metric horsepower	U.S. horsepower	0.9863
U.S. horsepower	kW	0.7457	kW	U.S. horsepower	1.3418
Btu	joule	1054.8	joule	Btu	-0.00095
Btu	W-h	0.2930	W-h	Btu	3.413
Btu/hr/ft ² /°F/in.	W/m-K	0.1441	W/m-K	Btu/hr/ft ² /°F/in.	6.9396
Btu/lb	kJ/kg	2.326	kJ/kg	Btu/lb	0.4299
— OUTPUT —					
lbs/min	g/s	7.567	g/s	lbs/min	0.1322
lbs/hr	kg/h	0.4536	kg/h	lbs/hr	2.2046
— VELOCITY —					
in./min	cm/s	0.0423	cm/s	in./min	23.6407
ft/sec	m/s	0.3048	m/s	ft/sec	3.2808

^a Accurate to four decimal places



MOLDING COMPOUNDS

METRIC CONVERSION

STANDARD METRIC ABBREVIATIONS

A ampere	kg kilogram
bar bar	l liter
cd candela	m meter
C celsius ^D	N newton
g gram	Pa pascal
h hour	S siemens
Hz hertz	s second
J joule	t metric ton
K kelvin	V volt
	W watt

^DFormerly called Centigrade

METRIC PREFIXES^C

Numerical Value	Term	Abbreviation	Numerical Value	Term	Abbreviation
10 ⁻¹	deca	da	10 ⁻¹	deci	d
10 ⁻²	hecto	h	10 ⁻²	centi	c
10 ⁻³	kilo	k	10 ⁻³	milli	m
10 ⁻⁶	mega	M	10 ⁻⁶	micro	μ
10 ⁻⁹	giga	G	10 ⁻⁹	nano	n
10 ⁻¹²	tera	T	10 ⁻¹²	pico	p

^CThese prefixes may be used with all base SI units

MILLIMETERS INTO INCHES

Milli-meters	Inches	Milli-meters	Inches	Milli-meters	Inches
1	.03937	34	1.35858	67	2.63779
2	.07874	35	1.37795	68	2.67716
3	.11811	36	1.41732	69	2.71653
4	.15748	37	1.45669	70	2.75590
5	.19685	38	1.49606	71	2.79527
6	.23622	39	1.53543	72	2.83464
7	.27559	40	1.57480	73	2.87401
8	.31496	41	1.61417	74	2.91338
9	.35433	42	1.65354	75	2.95275
10	.39370	43	1.69291	76	2.99212
11	.43307	44	1.73228	77	3.03149
12	.47244	45	1.77165	78	3.07086
13	.51181	46	1.81102	79	3.11023
14	.55118	47	1.85039	80	3.14960
15	.59055	48	1.88976	81	3.18897
16	.62992	49	1.92913	82	3.22834
17	.66929	50	1.96850	83	3.26771
18	.70866	51	2.00787	84	3.30708
19	.74803	52	2.04724	85	3.34645
20	.78740	53	2.08661	86	3.38582
21	.82677	54	2.12598	87	3.42519
22	.86614	55	2.16535	88	3.46456
23	.90551	56	2.20472	89	3.50393
24	.94488	57	2.24409	90	3.54330
25	.98425	58	2.28346	91	3.58267
26	1.02362	59	2.32283	92	3.62204
27	1.06299	60	2.36220	93	3.66141
28	1.10236	61	2.40157	94	3.70078
29	1.14173	62	2.44094	95	3.74015
30	1.18110	63	2.48031	96	3.77952
31	1.22047	64	2.51968	97	3.81889
32	1.25984	65	2.55905	98	3.85826
33	1.29921	66	2.59842	99	3.89763
				100	3.93700

TABLE OF CUBIC EQUIVALENTS

1 c.c. = .061 cu. in. 1 cu. in. = 16.387 c.c.

Reichhold Chemicals, Inc.

P. O. Box 38, Middlesex Avenue

Carteret, N. J. 07008 (201) 541-4201

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MOLDING COMPOUNDS

**1000 PIECES
LBS. TO GRAMS**

**WEIGHT IN POUNDS OF 1000 PIECES
BASED ON WEIGHT OF ONE PIECE IN GRAMS**

454 Grams = 1 Pound

Weight of One Piece (Grams)	Weight of 1000 Pieces (Pounds)	Weight of One Piece (Grams)	Weight of 1000 Pieces (Pounds)	Weight of One Piece (Grams)	Weight of 1000 Pieces (Pounds)
1	2.2	34	74.8	67	147.5
2	4.4	35	77.0	68	149.7
3	6.6	36	79.2	69	151.9
4	8.8	37	81.4	70	154.1
5	11.0	38	83.7	71	156.3
6	13.2	39	85.9	72	158.5
7	15.4	40	88.1	73	160.7
8	17.6	41	90.3	74	162.9
9	19.8	42	92.5	75	165.1
10	22.0	43	94.7	76	167.4
11	24.2	44	96.9	77	169.6
12	26.4	45	99.1	78	171.8
13	28.6	46	101.3	79	174.0
14	30.8	47	103.5	80	176.2
15	33.0	48	105.7	81	178.4
16	35.2	49	107.9	82	180.6
17	37.4	50	110.1	83	182.8
18	39.6	51	112.3	84	185.0
19	41.8	52	114.5	85	187.2
20	44.0	53	116.7	86	189.4
21	46.2	54	118.9	87	191.6
22	48.4	55	121.1	88	193.8
23	50.6	56	123.3	89	196.0
24	52.8	57	125.5	90	198.2
25	55.0	58	127.7	91	200.4
26	57.2	59	129.9	92	202.6
27	59.4	60	132.1	93	204.8
28	61.6	61	134.3	94	207.0
29	63.8	62	136.5	95	209.2
30	66.0	63	138.7	96	211.4
31	68.2	64	140.9	97	213.6
32	70.4	65	143.1	98	215.8
33	72.6	66	145.3	99	218.0
				100	220.2

Reichhold Chemicals, Inc.

P. O. Box 38, Middlesex Avenue
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MOLDING COMPOUNDS

**SPECIFIC GRAVITY
INTO
OUNCES & GRAMS**

**CONVERSION OF SPECIFIC GRAVITY INTO
OUNCES AND GRAMS PER CUBIC INCH**

Specific Gravity	Ounces Per Cubic Inch	Grams Per Cubic Inch	Specific Gravity	Ounces Per Cubic Inch	Grams Per Cubic Inch
1.25	0.723	20.488	1.61	0.931	26.388
1.26	0.728	20.651	1.62	0.937	26.552
1.27	0.734	20.815	1.63	0.942	26.716
1.28	0.740	20.979	1.64	0.948	26.880
1.29	0.746	21.143	1.65	0.954	27.044
1.30	0.752	21.307	1.66	0.960	27.207
1.31	0.757	21.471	1.67	0.965	27.371
1.32	0.763	21.635	1.68	0.971	27.535
1.33	0.769	21.799	1.69	0.977	27.699
1.34	0.775	21.963	1.70	0.983	27.863
1.35	0.780	22.127	1.71	0.989	28.027
1.36	0.786	22.290	1.72	0.994	28.191
1.37	0.792	22.454	1.73	1.000	28.355
1.38	0.798	22.618	1.74	1.006	28.683
1.39	0.804	22.782	1.75	1.012	28.519
1.40	0.809	22.946	1.76	1.017	28.844
1.41	0.815	23.110	1.77	1.022	29.009
1.42	0.821	23.274	1.78	1.028	29.172
1.43	0.827	23.438	1.79	1.033	29.336
1.44	0.832	23.602	1.80	1.039	29.500
1.45	0.838	23.766	1.81	1.046	29.664
1.46	0.844	23.929	1.82	1.051	29.828
1.47	0.850	24.093	1.83	1.058	29.992
1.48	0.856	24.257	1.84	1.062	30.156
1.49	0.861	24.421	1.85	1.070	30.320
1.50	0.867	24.585	1.86	1.074	30.483
1.51	0.873	24.749	1.87	1.080	30.647
1.52	0.879	24.913	1.88	1.087	30.811
1.53	0.884	25.077	1.89	1.092	30.975
1.54	0.890	25.241	1.90	1.099	31.139
1.55	0.896	25.405	1.91	1.104	31.303
1.56	0.902	25.568	1.92	1.110	31.466
1.57	0.908	25.732	1.93	1.116	31.631
1.58	0.913	25.896	1.94	1.121	31.794
1.59		26.060	1.95	1.128	31.958
1.60	0.925	26.244			

Factor used in converting to ounces per cubic inch = specific gravity multiplied by 0.5778.

Factor used in converting to grams per cubic inch = specific gravity multiplied by 16.389.

Reichhold Chemicals, Inc.

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9/78



MOLDING COMPOUNDS

**STEAM
PSI/
TEMPERATURES**

TEMPERATURES OF SATURATED STEAM AT DIFFERENT STEAM GAUGE PRESSURES

The following table can be used to estimate mold temperatures from the steam pressure gauge readings. The temperature indicated for any specific pressure gauge reading is the temperature at the location of the pressure gauge. Mold temperatures will vary from 10 to 40°F lower depending on the following factors: distance of the pressure gauge from the mold, insulation on the piping and the mold, whether the mold is insulated from the platen, the size of the mold, type of steam heating (cored molds or steam platens), room temperature, and the presence of drafts.

Steam Gauge Pressure lb/sq. in.	Temperature Deg. F	Steam Gauge Pressure lb/sq. in.	Temperature Deg. F
35	281	130	355
40	287	135	358
45	293	140	360
50	300	145	363
55	303	150	365
60	308	155	368
65	312	160	370
70	316	165	373
75	320	170	375
80	324	175	377
85	328	180	379
90	331	185	381
95	334	190	383
100	338	195	385
105	341	200	387
110	344	205	389
115	347	210	391
120	350	215	393
125	352	220	395
		225	397

Reichhold Chemicals, Inc.

P. O. Box 38, Middletown Avenue
Carteret, N. J. 07008 (201) 541-4201

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MOLDING COMPOUNDS

TEMPERATURE CONVERSION TABLE

Fahrenheit	Celsius	Fahrenheit	Celsius	Fahrenheit	Celsius	Fahrenheit	Celsius	Fahrenheit	Celsius	Fahrenheit	Celsius
-40	-40.0	189	87.2	234	112.2	280	137.8	325	162.8	370	187.8
-30	-34.4	190	87.8	235	112.8	281	138.3	326	163.3	371	188.3
-20	-28.9	191	88.3	236	113.3	282	138.9	327	163.9	372	188.9
-10	-23.3	192	88.9	237	113.9	283	139.4	328	164.4	373	189.4
0	-17.8	193	89.4	238	114.4	284	140.0	329	165.0	374	190.0
10	-12.2	194	90.0	239	115.0	285	140.6	330	165.6	375	190.6
20	- 6.7	195	90.6	240	115.6	286	141.1	331	166.1	376	191.1
30	- 1.1	196	91.1	241	116.1	287	141.7	332	166.7	377	191.7
40	4.4	197	91.7	242	116.7	288	142.2	333	167.2	378	192.2
45	7.2	198	92.2	243	117.2	289	142.8	334	167.8	379	192.8
50	10.0	199	92.8	244	117.8	290	143.3	335	168.3	380	193.3
55	12.8	200	93.3	245	118.3	291	143.9	336	168.9	381	193.9
60	15.6	201	93.9	246	118.9	292	144.4	337	169.4	382	194.4
65	18.3	202	94.4	247	119.4	293	145.0	338	170.0	383	195.0
70	21.1	203	95.0	248	120.0	294	145.6	339	170.6	384	195.6
75	23.9	204	95.6	249	120.6	295	146.1	340	171.1	385	196.1
80	26.7	205	96.1	250	121.1	296	146.7	341	171.7	386	196.7
85	29.4	206	96.7	251	121.7	297	147.2	342	172.2	387	197.2
90	32.2	207	97.2	252	122.2	298	147.8	343	172.8	388	197.8
95	35.0	208	97.8	253	122.8	299	148.3	344	173.3	389	198.3
100	37.8	209	98.3	254	123.3	300	148.9	345	173.9	390	198.9
105	40.6	210	98.9	255	123.9	301	149.4	346	174.4	391	199.4
110	43.3	211	99.4	256	124.4	302	150.0	347	175.0	392	200.0
115	46.1	212	100.0	257	125.0	303	150.6	348	175.6	393	200.6
120	48.9	213	100.6	258	125.6	304	151.1	349	176.1	394	201.1
125	51.7	214	101.1	259	126.1	305	151.7	350	176.7	395	201.7
130	54.4	215	101.7	260	126.7	306	152.2	351	177.2	396	202.2
135	57.2	216	102.2	261	127.2	307	152.8	352	177.8	397	202.8
140	60.0	217	102.8	262	127.8	308	153.3	353	178.3	398	203.3
145	62.8	218	103.3	263	128.3	309	153.9	354	178.9	399	203.9
150	65.6	219	103.9	264	128.9	310	154.4	355	179.4	400	204.4
155	68.3	220	104.4	265	129.4	311	155.0	356	180.0	405	207.2
160	71.1	221	105.0	266	130.0	312	155.6	357	180.6	410	210.0
165	73.9	222	105.6	267	130.6	313	156.1	358	181.1	415	212.8
170	76.7	223	106.1	268	131.1	314	156.7	359	181.7	420	215.6
175	79.4	224	106.7	269	131.7	315	157.2	360	182.2	425	218.3
180	82.2	225	107.2	270	132.2	316	157.8	361	182.8	430	221.1
181	82.8	226	107.8	271	132.8	317	158.3	362	183.3	435	223.9
182	83.3	227	108.3	272	133.3	318	158.9	363	183.9	440	226.7
183	83.9	228	108.9	273	133.9	319	159.4	364	184.4	445	229.4
184	84.4	229	109.4	274	134.4	320	160.0	365	185.0	450	232.2
185	85.0	230	110.0	275	135.0	321	160.6	366	185.6	460	237.8
186	85.6	231	110.6	276	135.6	322	161.1	367	186.1	470	243.3
187	86.1	232	111.1	277	136.1	323	161.7	368	186.7	480	248.9
188	86.7	233	111.7	278	136.7	324	162.2	369	187.2	490	254.4
										500	260.0

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