



Material Technologies

For Rubber, Plastics, Adhesives, Sealants & Specialty Coatings

AKZONOBEL

PERKADOX® Organic Peroxides
TRIGONOX® Organic Peroxides
KETJENBLACK® Conductive Carbon Black

ALBEMARLE

SAYTEX® Brominated FR

BASF

ASP®, BUCA® Hydrous Aluminosilicates
CATALPO® Hydrous Aluminosilicates
SATINTONE® Calcined Aluminosilicates
TRANSLINK® Calcined & Treated Aluminosilicates
ULTREX® Extender Pigments

BIRLA CARBON

ASTM Carbon Blacks
EP Enhanced Performance Carbon Black
ULTRA® Rubber Blacks

BUDENHEIM USA, INC.

Phosphorus & Nitrogen Flame Retardants

CENOBAR

BLANC FIXE Synthetic Barium Sulfate
Lithopone

CENOSTAR CORPORATION

CENOSPHERES
GLASS BUBBLES

CHARTER NEX FILMS

Cast Embossed PE Films

CHASE CORPORATION

DUALITE® E Polymeric Microspheres
DUALITE® U Polymeric Microspheres

CHEM-TREND

MONO-COAT® Mold Release Agents
CHEM-TREND PM® Mold Release Agents

DAISO

EPICHLOMER® ECO

DOW CHEMICAL

THIXON® Solvent-Based Adhesives
MEGUM® Solvent & Water-Based Adhesives
ROBOND® Water-Based Adhesives
MOR-FLOCK® Flocking Adhesives

DUPONT

KEVLAR® Aramid Pulp and Staple

ELKEM MATERIALS

SIDISTAR® Silicon Dioxide

GLASSVEN

RUBBERSIL® Precipitated Silica
RUBBERSIL® Sodium Aluminosilicate

HEXPOL COMPOUNDING

PROFLEX® NBR/PVC

HOLLAND COLOURS

Holcosil – LSR Silicone Colorant

IMERYS

Dry & Wet Ground Calcium Carbonate
Surface Treated Calcium Carbonate

IMERYS TALC

MISTRON® Talc

KEYSTONE

KEYSTONE Mineral Filler
325 BA Mineral Black
123 SA Mineral Black
FFF Rottenstone

LUBRIZOL CORPORATION

PEARLCOAT® TPU
PEARLBOND™ TPU
PEARLSTICK™ TPU

MARTIN MARIETTA

ELASTOMAG® Magnesium Oxide
MAGSHIELD® Magnesium Hydroxide

MINMETALS, Inc. (L.A.)

BRIGHTSUN® Antimony Oxide

NORAC

NORSTAB® Ca/Zn Heat Stabilizers
COAD® Metallic Stearates
Ester Lubricants & Blends

PERFORMANCE CHEMICALS, LLC

CALZIN® Strip & Slab Dip

QUALICE, LLC

CPAR Chlorinated Paraffin
CPAR 70 Solid

RAIN CARBON, INC.

NOVARES® C9 Hydrocarbon Resins
NOVARES® C-1 Resins
NOVARES® Liquid Modifying Resins
RUETASOLV® High Boiling Point Solvent

RJ MARSHALL

H-TEC™ ATH
C-TEC™ Zinc Stannate
C-TEC™ Zinc Borate

ROYAL

ARAMID BLEND – ROY-TUFF™
RHEOMETER Test Film
ROY CAL H Ground Oyster Shell
RUBBERMAKERS Sulfur
ROYAL BRANDED CLAYS-HARD & SOFT

SHIRAIISHI CALCIUM

VISCOLITE® Precipitated Calcium Carbonate
HAKUENKA® Precipitated Calcium Carbonate
VISCOEXCEL® Precipitated Calcium Carbonate
WHITON JP® Food Grade PCC

SI GROUP

Curing & Tackifying Phenolic Resins
ETHANOX® Antioxidants

SOLTEX

SOLTEX® Polybutene

SOLVAY SPECIALTY POLYMERS USA

TECNOFLON® FKM & FFKM
POLYMIST® PTFE
ALGOFLON® PTFE

TOKUYAMA

REOLOSIL® Fumed Silica

TORAY

THIOKOL® Liquid Polysulfide
CTPI® Cure Retarder

TRANSCONTINENTAL PACKAGING

DARTEK® Cure Wrap Tape
DARTEK® Composite Film

TRI-Iso TRYLINE

Titanium Dioxide

WACKER CHEMICAL CORPORATION

ELASTOSIL® HCR Solid Silicone Rubber
ELASTOSIL® LR Liquid Silicone Rubber

ZOCHEM, INC.

ZOCO USP Zinc Oxide
ZOCO Tech Grade Zinc Oxide

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PARTICLE SIZE CONVERSION TABLE					
SEIVE MESH ¹	MICRON	MILLI-METER	INCH	MIL	HEGMAN FINENESS ²
	0.0	0.000	0.0000	0.00	8.0
	6.4	0.006	0.0003	0.25	7.5
1200	10.2	0.010	0.0004	0.40	
	12.7	0.127	0.0005	0.50	7.0
	19.1	0.019	0.0008	0.75	6.5
625	20.3	0.020	0.0008	0.80	
	25.4	0.025	0.0010	1.00	6.0
	30.5	0.031	0.0012	1.20	
	31.8	0.032	0.0125	1.25	5.5
400	38.1	0.038	0.0015	1.50	5.0
	40.6	0.041	0.0016	1.60	
325	44.5	0.045	0.0018	1.75	4.5
	50.8	0.051	0.0020	2.00	4.0
270	53.3	0.053	0.0021	2.10	
	57.2	0.057	0.0023	2.25	3.5
230	61.0	0.061	0.0024	2.40	
	63.5	0.064	0.0025	2.50	3.0
	69.9	0.070	0.0028	2.75	2.5
	71.1	0.071	0.0028	2.80	
200	73.7	0.074	0.0029	2.90	
	76.2	0.076	0.0030	3.00	2.0
	81.3	0.081	0.0032	3.20	
	82.6	0.083	0.0033	3.25	1.5
170	88.9	0.089	0.0035	3.50	1.0
	95.3	0.095	0.0038	3.75	0.5
140	101.6	0.102	0.0040	4.00	0.0
120	125.0	0.125	0.0049	4.90	
100	149.0	0.149	0.0059	5.90	
80	177.0	0.177	0.0070	7.00	
70	210.0	0.210	0.0083	8.30	

1) STANDARD SIEVE MESH: ASTM E.11-81/ISO565. The sieve numbers are the approximate number of openings per linear inch.
2) HEGMAN FINENESS: ASTM D1210-96. Fineness of dispersion of pigment-vehicle systems by Hegman-type gage.

SIZE & SCALE			
NAME	SYMBOL	VALUE	EQUIVALENT (in METERS)
picometer	pm	10 ⁻¹²	0.000 000 000 001
nanometer	nm	10 ⁻⁹	0.000 000 001
micrometer	µm	10 ⁻⁶	0.000 001
millimeter	mm	10 ⁻³	0.001
centimeter	cm	10 ⁻²	0.01
decimeter	dm	10 ⁻¹	0.1
meter	m	1	1
decameter	dam	10	10
hectometer	hm	10 ²	100
kilometer	km	10 ³	1 000
megameter	Mm	10 ⁶	1 000 000
gigameter	Gm	10 ⁹	1 000 000 000
tetrameter	Tm	10 ¹²	1 000 000 000 000

CONVERSION FORMULAS

Mass

- 1 Metric Ton (t) = 2204.6 pounds lb
- 1 Metric Ton (t) = 1000 kilograms kg
- 1 kilogram (kg) = 2.205 pounds lb
- 1 pound (lb) = 0.454 kilograms kg
- 1 Short Ton (tn) = 2,000 pounds lb

Length

- 1 meter (m) = 39.37 inches in
- 1 meter (m) = 3.281 feet ft
- 1 mil (mil) = 25.4 micron µm

Temperature

°C = (°F - 32) / 1.8
°F = (°C * 1.8) + 32

SPECIFIC GRAVITY/DENSITY CONVERSION

	g/cc	kg/m ³	lbs/gal	lbs/cu-ft
g/cc	1	1000	8.3454	62.43
kg/m ³	0.0010	1	0.0083	0.0624
lbs/gal	0.1198	119.83	1	7.4805
lbs/cu-ft	0.0160	16.018	0.1337	1
	g/cc	kg/m³	lbs/gal	lbs/cu-ft

Read across, then down. Example, 1 g/cc (red column) = 1000 (2nd numeric column) kg/m³ (blue bottom header). NOTE: cm³ = g/cc

HARDNESS SCALES COMPARISON

SHORE A	20	30	40	50	60	70	80	90	95										
SHORE D								45	55	65	75	85							
ROCKWELL R									50	70	90	100	110	110	120	130	140	150	

POLYMERS	
by Decreasing Polarity	
Polymer	Abbr.
MORE POLAR	
Nylon	PA
Polysulfide	T
Polyurethane	PU
Nitrile (High ACN)	NBR
Epoxy	EP
Polycarbonate	PC
Polyvinyle Acetate	PVA
Nitrile (Med ACN)	NBR
Acrylic Rubber	ACM
Epichlorihydrin	ECO
Chlorosulfonated	CSM
Polyvinyl Chloride	PVC
Polystyrene	PS
Polychloroprene	CR
Nitrile (Low ACN)	NBR
Chlorinated PE	CPE
Styrene-Butadiene Rubber	SBR
Polybutadiene	BR
Natural Rubber	NR
Halo Butyl	HIIR
Ethylene-Propylene Diene	EPDM
Ethylene-Propylene Rubber	EPR
Butyl Rubber	IIR
Fluoroelastomer	FKM
Silicone	Q
LESS POLAR	

TEMP	
°C	°F
538	1000
500	932
482	900
475	887
450	842
427	800
425	797
400	752
375	707
371	700
350	662
325	617
316	600
300	572
275	527
260	500
250	482
232	450
225	437
204	400
200	392
191	375
177	350
175	347
163	325
150	302
149	300
135	275
125	257
121	250
100	212
38	100
21	70
10	50
0	32
-4	25
-10	14
-12	10
-18	0
-25	-13
-32	-25
-46	-50
-50	-58
-73	-100
-100	-148
-157	-250
-200	-328
-273	-460