Material Technologies

For Rubber, Plastics, Adhesives, Sealants & Specialty Coatings

ALBEMARLE
- **SAYTEX®** Brominated FR

AMG ANTIMONY
- **HTS** Antimony Trioxide

ARLANXEO KELTAN KSA PERFORMANCE POLYMERS
- **EPDM** Ethylene-Propylene Rubber

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

CHASE CORPORATION
- **DUALITE®** E Polymeric Microspheres
- **DUALITE®** U Polymeric Microspheres

CHEM-TREND
- **MONO-COAT®** Mold Release Agents
- **CHEM-TREND PM®** Mold Release Agents
- **IPMC-1200** Mold Cleaner

CNG FILMS
- Cast Embossed PE Films

DOW CHEMICAL
- **MOR-FLOCK®** Flocking Adhesives

DUPONT
- **KEVLAR®** Aramid Pulp and Staple
- Specialty Adhesives & Polymers

DUPONT TRANSPORTATION & INDUSTRIAL
- **THIXON®** Solvent-Based Adhesives
- **MEGUM®** Solvent Based Adhesives
- **MEGUM W®** Water-Based Adhesives

ELKEM MATERIALS
- **SIDISTAR®** Silicon Dioxide
- **SIDISHIELD®** Silicon Dioxide

H&R GROUP, US, INC.
- **Tudalen®** Paraffinic Oils
- **Tudalen®** Aromatic Oils

HEXPOL COMPOUNDING
- **PROFLEX®** NBR/PVC

HOLLAND COLOURS
- **Holcosil®** LSR & RTV Silicone Colorant

KETTLITZ
- **KEZADOL** Surface Coated Calcium Oxide
- **SILANOGRAN** Silane Granulate
- **MEDIAPLAST** Low Polarity Plasticizer
- **HAFTOLAT EPM** Process Aid

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

MAGRIS TALC
- **MISTRON®** Talc

MARTIN MARIETTA
- **ELASTOMAG®** Magnesium Oxide
- **MAGSHIELD®** Magnesium Hydroxide

NORAC
- **NORSTAB®** Ca/Zn Heat Stabilizers
- **COAD®** Metallic Stearates
- **LIGOPHOB** Sodium Soaps
- **LIGOSTAR** Metallic Soaps
- Ester Lubricants & Blends

NOURYON POLYMER CATALYST
- **PERKADOX®** Organic Peroxides
- **TRIGONOX®** Organic Peroxides
- **KETJENBLACK®** Conductive Carbon Black

NOURYON
- **Expancel Spheres**
- **Expancel** Blowing Agents

PERFORMANCE CHEMICALS, LLC
- **CALZIN®** Strip & Slab Dip

RAIN CARBON, INC.
- **NOVARES®** C9 Hydrocarbon Resins
- **NOVARES®** C-I 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-TUF™**
- **RHEOMETER** Test Film
- **ROY CAL H** Ground Oyster Shell
- **RUBBERMAKERS** Sulfur
- **ROYAL BRANDED CLAYS-HARD & SOFT**

SHIRAISHI CALCIUM
- **VISCOLITE®** Precipitated Calcium Carbonate
- **HAKUENKA®** Precipitated Calcium Carbonate
- **VISCOEXCEL®** Precipitated Calcium Carbonate

SILKIMYA
- **REFORSIL®** Precipitated Silica

SOLTEX
- **SOLTEX®** Polybutene

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®** LSR Liquid Silicone Rubber
- **ELASTOSIL®** RTV 2 Silicone Rubber
- **SILPURAN®** Medical Grade Silicone

ZOCHEM, INC.
- French Press Zinc Oxide

HM ROYAL INC.
We're Material People

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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 FINESS: 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

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

SPECIFIC GRAVITY/DENSITY CONVERSION

	g/cc	kg/m³	lbs/gal	lbs/cu-ft
g/cc	1	1000	8.3454	62.43
kg/m³	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

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		

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