

YAMADA PUMPABLE POWDERS TECHNICAL SHEET

MATERIAL						Form# PP0519
	Angle of Slide	Angle of Repose	Moisture of Content	Density # Ft. 3	Screen Analysis (Mesh)	Pump Distance
A-10	31	29	0.2	73	195	Very short distances
Acetate - Colored	30	25	2.9	45.3	30	Not pumpable
Acid - Adipic	34	32	0.6	28.8	50	Not pumpable
Acids Mixed	35	36	3.2	60	70	Material compacts
Airfloated Kaolin	36	35	0.7	32	150	Coats piping
Aluminum Oxide (Semi-Fuse)	31	45	0.2	58	290	20' Vertical, 30' Horizontal
Aluminum Powder Magna Flake	35	31	5.2	32	200	23' Vertical, 30' Horizontal
Aluminum Powder (Atomized)	33	35	0.7	94	400	Short distances
Alluminum Hydroxide	36	47	11	21	100	Test
Aluminum Powder	-	-	0.4	70	325	10' Vertical, 15' Horizontal
Ancor M-100	32	37	0.7	166	220	Too heavy
Atlac	30	35	0.8	39	50	Not pumpable
Atomite	34	34	0.2	40	150	Pumps, but coats pipe
Baking Powder	30	29	11	71	150	20' Vertical 25' Horizontal
Barite (Ground)	34	40	1	114	290	Very short distances
Barium Carbonate Gassed	-	-	0	88	250	Very short distances
Barium Carbonate Gassed	38	45	0.4	88	250	Very short distances
Barium Carbonate	-	-	0.5	50	400	20' Vertical, 30' Horizontal
Bleaching Clay	32	35	15	30	280	35' Vertical, 40' Horizontal
Borosilcate Glass	-	-	-	10	70	
Brewers Yeast	34	38	6.5	29	70	Not pumpable
Bronze Powder (Fine)	38	31	0.1	124	210	Very short distances
Bronze Powder (Coarse)	38	32	0.1	124	180	Very short distances
Burgess 30	34	35	0.3	32	MICR	Pumps, but coats pipe
Cabosil	30	38	0.8	4.5	MICR	100' Vertical, 100' Horizontal
Calcium Carbon #2064	35	37	0.2	25	185	Pumps, but coats pipe
Calcium Carbon #5970	34	37	12	33.8	-	Coats piping
Calcium Carbonate	32	42	0.2	24	60	Not pumpable
Calcium Carbonate	32	35	0.7	19.5	400	Coats piping
Calcium Phosphate	32	30	2.6	27	160	50' Vertical, 50' Horizontal
Carbon Black Regal Srf	40	40	0.4	18.4	400	65' Vertical, 74' Horizontal
Carbon Black Sterling 50	35	45	1	3.2	400	65' Vertical, 74' Horizontal
Carbon (Activated)	36	44	11	21	150	55' Vertical, 60' Horizontal
Carbon (Ground)	34	27	1	79.3	40	Not pumpable
Carbon Black	23	27	0.1	31	400	40' Vertical, 55' Horizontal
Carbon Black	31	35	0.5	18.8	150	Maximum
Carbon Black #62	35	32	1.3	23	MICR	25' Vertical, 40' Horizontal
Carbon Black Vulcan 6	38	43	2.2	3.35	400	65' Vertical, 74' Horizontal
Carbonxylmethyl Cellulose	34	36	6.1	40	220	25' Vertical, 40' Horizontal

Celite #266	37	40	3	7.6	400	65' Vertical, 74' Horizontal
Celite (Standard)	37	42	0.4	14	400	65' Vertical, 74' Horizontal
Celite 379	38	41	4.4	14	400	65' Vertical, 74' Horizontal
Celite 512	38	45	-	13	400	65' Vertical, 74' Horizontal
Celite 545	36	42	0.1	26	400	65' Vertical, 74' Horizontal
Cellulose Acetate	32	30	1.8	52.5	20	Not pumpable
Cellulose Triacetate	28	30	3	41.3	35	Not pumpable
Cement	-	-	0.3	80	275	8' Vertical, 10' Horizontal
Ceramic	33	37	0.1	57	150	18' Vertical, 27' Horizontal
Ceramic Oxide	27	31	0.1	75	160	Short runs
Ceramic Powder	-	-	0.3	43	225	25' Vertical, 30' Horizontal
Ceramic Zercom	-	-	0.6	112	290	Not pumpable
Champion Clay	34	33	0.3	32	100	Pumps, but coats pipe
Chocolate Sugar Mix	30	28	2	54	50	Too large
Clay	31	33	0.5	37	180	22' Vertical, 30' Horizontal
Clay	32	40	4	68	170	20' Vertical, 30' Horizontal
Clay (Attapulgate)	37	38	9.7	22	200	Coats piping
Clay (Lustra)	37	37	3.3	48	-	Coats piping
Clay from Metal Coil	36	40	1.4	57	225	20' Vertical, 25' Horizontal
Clay K&T	-	-	2.8	38	160	38' Vertical, 55' Horizontal
Clay Sample	34	35	1.9	49	-	Not pumpable
Clay Sample	33	30	2.9	33.5	35	Not pumpable
Coal ARL/MC 100%	35	54	8.8	55.2	-	Not pumpable
Coal ARL/MC 100%	35	37	4.4	57.6	20	Not pumpable
Coal ARL/MC 100%	35	54	9.8	36.3	14	Not pumpable
Coal ARL/MC 100%	35	54	9.8	54.1	20	Not pumpable
Coal ARL/MC 100%	35	37	2.6	50.9	28	Not pumpable
Coal ARL/MC 100%	34	42	6.4	45	20	Not pumpable
Coal ARL/MC 100%	37	47	5.8	43	20	Not pumpable
Coarse Powder	38	31	0.1	84	150	Very short run
Cocoa	33	39	6.3	40	225	50' Vertical, 48' Horizontal
Cocoa	30	38	5.5	34	-	50' Vertical, 48' Horizontal
Coke - Graphite Mix	36	40	0.5	27	150	25' Vertical, 45' Horizontal
Copper (Powdered)	35	34	0.3	211	325	Too heavy
Copper Powdered Magna Flake	37	31	6.1	93	200	Very short distances
Copper (Atomized)	24	27	0	329	200	Not pumpable
Copper (Atomized)	21	27	0	329	80	Not pumpable
Cymel (Melamine) Mold	35	42	4.2	34	100	40' Vertical, 45' Horizontal
Dehyd. Lime Powder	32	44	11	35	MICR	35' Vertical, 28' Horizontal
Diatomaceous Earth	40	32	1	16.5	70	Too large particles
Dicalite 476	-	-	0.8	9	200	Maximum runs
Cicyanamide	27	42	0	-	150	Test
Dowicide	-	-	-	-	-	Not pumpable
Dream Whip	35	37	3.3	19	-	Material compacts
Dried Animal Blood	29	35	28	33	80	Not pumpable
Dry Carbon Black Powder	25	30	0.8	25	MICR	50' Vertical, 48' Horizontal
Elkhorn #22 Carbon	38	51	8.2	35	20	Not pumpable
Elkhorn #22 Carbon	26	49	6	42.7	6	Not pumpable
Elkhorn #22 Carbon	32	44	3.7	25	100	Not pumpable

Elkhorn #22 Carbon	32	44	3.7	30.5	65	Not pumpable
Elkhorn #22 Carbon	37	51	5.5	33.2	35	Not pumpable
Ethulose (New Formula)	-	-	-	20	-	No data
Feldspar	32	40	0.2	55	200	15' Vertical, 40' Horizontal
Fiber Hemp w/Kieselg	48	44	1	10.1	150	90' Vertical, 90' Horizontal
Filter - Cel	37	40	3.7	3.5	400	65' Vertical, 74' Horizontal
Fine Powder	36	30	0.1	70	325	15' Vertical, 24' Horizontal
Fire Brick Clay	32	37	1.9	80	65	Not pumpable particles
Flint	31	40	0.2	64	250	15' Vertical, 40' Horizontal
Flour	35	41	13	42	220	50' Vertical, 48' Horizontal
Flour (Malt)	32	39	11	45.7	200	20' Vertical, 25' Horizontal
Flour (Wood)	37	37	8	11	140	70' Vertical, 70' Horizontal
Flour Dry Cereal	34	27	7.3	58.5	150	30' Vertical, 40' Horizontal
Flourspar	-	-	-	160	325	Not pumpable
Flue Dust	30	38	0.9	34	180	50' Vertical, 40' Horizontal
Glass Micro Spheres	-	-	-	10	15	
Graphite	-	-	1	68	120	Short runs
Graphite (Granular)	34	35	0.1	58	60	Not pumpable
Graphite 20/20	33	35	0.3	26.4	325	40' Vertical, 47' Horizontal
Ground Cracklings	26	39	8	37.7	60	Not pumpable
Gypsum Hair Fiber	32	43	6.3	50	120	Short runs
Gypsum Structo-Lite	31	38	4.8	39	80	No data
Gypsum Wood Fiber	32	43	6.3	62	190	Short runs
Huber Clay	37	38	0.6	23	90	Coats piping
Hydrafine Clay	-	-	0.7	28	300	22' Vertical, 15' Horizontal
Hydrasperfed	32	39	0.7	52	80	No data
Hydrated	33	45	2	35.5	200	40' Vertical, 45' Horizontal
Hyflo	34	52	-	6.3	400	65' Vertical, 74' Horizontal
Ilmenite Ore	37	38	0.1	143	290	Very short distances
Inc-01-NA-Case	35	40	5.4	19.7	150	65' Vertical, 70' Horizontal
Inc-10-NA-Case	36	35	6.1	18	150	65' Vertical, 70' Horizontal
Inc-11-NA-Case	37	36	5.9	18	150	65' Vertical, 70' Horizontal
Inc-12-NA-Case	39	37	7.9	19.5	150	65' Vertical, 70' Horizontal
Inc-14-NA-Case	34	36	6.6	18	150	65' Vertical, 70' Horizontal
Inc-20-21-42-SOD-Case	33	36	5.7	18	150	65' Vertical, 70' Horizontal
Inc-27-NA-Case	37	35	5.2	17.5	150	65' Vertical, 70' Horizontal
Inc-28-NA-Case	38	36	6.1	17.5	150	65' Vertical, 70' Horizontal
Instant Coffee	27	34	6.2	18	70	Not pumpable particles
Iron (Powdered)	30	34	0.1	129	185	Too heavy
Iron Dust	34	37	0.1	56	195	Very short distances
Iron Ore (Fine Ground)	33	38	0.1	128	250	Not pumpable
Kee Bee Cake Flour	-	-	6.4	39.5	325	20' Vertical, 35' Horizontal
Lactose RR34784-4	34	34	4.2	33	300	44' Vertical, 40' Horizontal
Laminac	30	35	1.4	52.5	60	Not pumpable
Lead Powdered	28	34	0.3	422	325	Too heavy
Lead Ballast	-	-	0.2	138	90	Not pumpable
Lead Oxide	33	32	0.8	224	200	Too heavy
Lehigh Anthracite	35	42	4.9	55.8	20	Not pumpable
Lehigh Anthracite	36	39	5.5	55.4	35	Not pumpable

Lehigh Anthracite	39	40	5.5	37.4	100	No data
Lehigh Anthracite	25	26	3.8	62	6	Not pumpable
Lehigh Anthracite	38	40	5.4	30	65	Not pumpable
Lignin Powder	37	36	4.8	25	220	50' Vertical, 48' Horizontal
Lignosol	32	40	0.4	68	120	38' Vertical, 55' Horizontal
Lime (Hydrated)	36	35	0.7	33	150	25' Vertical, 30' Horizontal
Lime FS (Granular)	24	31	0.1	70	45	Not pumpable
Litharge	-	-	0.9	212	250	Not pumpable
Lot #1445	42	37	2	2.6	150	Maximum
Magnetite (Iron Oxide)	32	38	0.5	178	70	Not pumpable
Magnesia MgO	34	36	1.5	32	280	25' Vertical, 40' Horizontal
Magnesium IN Silicate	37	45	18	27	120	Test
Magnesium Silicate	-	-	-	45-60	50-80	
Magnesium Oxide	29	31	0.3	121	150	Not pumpable
Mapico Red #1	32	35	0.1	46	170	30' Vertical, 40' Horizontal
Mapico Red #2	33	35	1.1	40	170	30' Vertical, 40' Horizontal
Material #48	35	40	12	32.4	250	30' Vertical, 40' Horizontal
Meat Meal	29	46	8	41.7	70	Not pumpable
Melamine	32	38	1	49	160	30' Vertical, 40' Horizontal
Micro Cell	30	38	4.5	8	300	100' Vertical, 80' Horizontal
Milk (Powdered)	44	45	4	23	200	Material compacts
Milk (Whole Roller)	30	93	3	30.1	6	Not pumpable
Milk Powder (Skim)	28	32	3.2	35	190	44' Vertical, 40' Horizontal
Milk Skim Granulated	34	36	5.6	20	80	Not pumpable
Milk Spray Skim	35	30	4	47.5	160	40' Vertical, 45' Horizontal
Milk Spray Whole	28	30	4.3	46.7	150	40' Vertical, 45' Horizontal
Moly Powder	-	-	-	178	230	Too heavy
Moly Sulphide	39	35	0.1	156	325	Too heavy
Moulding Starch	-	-	8.8	44	210	13' Vertical, 20' Horizontal
Mylar (Flake)	32	32	0.7	32.5	-	Not pumpable
Ore Crushed Concentrate	37	37	1.8	72.5	80	Not pumpable
Phosphate Rock Dust	34	44	1.2	54	260	15' Vertical, 30' Horizontal
Plaster	33	38	5.4	58	200	Short runs, coats piping
Plastic Resin with C.B.	40	42	1	28	300	35' Vertical, 50' Horizontal
Plastic (Quick - setting)	33	46	5.9	57	150	No data
Polyethylene Powder	-	-	-	-	-	No data
Polyethylene Powder	23	37	0.2	18.5	40	Too large
Polyethylene Powder	33	25	4.5	22.1	60	Not pumpable
Polyphenylene	-	-	-	20	100	Short distances
Polyvinyl Chloride	33	36	1	64.7	80	No data
Polyvinyl Chloride PVC	35	27	3.7	42.7	150	30' Vertical, 40' Horizontal
Porcelain (Coors)	27	31	0.5	73.4	100	No data
Potassium Chloride	27	30	0.6	62.5	60	Not pumpable
Powder 30-XD	39	33	1	21.9	150	40' Vertical, 45' Horizontal
Powdered Sugar	32	36	0.6	39	220	35' Vertical, 50' Horizontal
Pulverized Milk Crum	30	37	3	50	80	No data on distance
PVC Resin	31	35	0.8	44	70	Not pumpable
Q-Cel	-	-	-	15	20-60	
Quso F-20	34	35	8.6	9.9	100	Not pumpable

R-6789-40M Montax	33	35	5.6	77	200	8' Vertical, 12' Horizontal
R-6848 Upgraded SD H	33	36	6.3	45	325	50' Vertical, 48' Horizontal
R-6902-40M Monax	31	37	6.4	69	80	Not pumpable
RB	32	38	0.2	73	195	Very short distances
Salt Fine Flake Alberger	23	28	0.1	63.5	70	Not pumpable
Salt Flake Alberger	22	28	0.1	62	30	Not pumpable
Salt Granulated Alberger	22	27	0.1	59	30	Not pumpable
Scotchkote 101	29	30	0	37.3	145	40' Vertical, 45' Horizontal
Silica	29	35	1	58	200	20' Vertical, 28' Horizontal
Silica	-	-	1.3	1.69	-	Maximum
Silica Powder	-	-	0.2	61.5	200	22' Vertical, 15' Horizontal
Silica Powder	-	-	0.2	61	180	25' Vertical, 30' Horizontal
Silica (Amorphus)	31	40	1.3	58	320	20' Vertical, 30' Horizontal
Silica (Soft Amorphus)	33	41	0	51	185	20' Vertical, 30' Horizontal
Silico Sand	34	40	0.1	71	200	18' Vertical, 10' Horizontal
Soda Ash (Dense)	27	36	0.1	62	80	Not pumpable
Soda Ash (Light)	31	38	0.2	43	200	18' Vertical, 25' Horizontal
Sodium Bicarbonate	31	47	15	51	325	50' Vertical, 48' Horizontal
Sodium Bicarbonate	35	40	15	65	100	No data
Sodium Silicate	-	-	-	12	10	
Sodium Sulfate	33	38	0.1	97	195	Very short distances
Solution (Powdered)	34	37	0.1	70.1	140	Short run
Sothorn Bentonite Clay	31	33	14	60	200	25' Vertical, 40' Horizontal
Starch	25	27	10	26	42	Not pumpable
Starch (Pearl)	28	35	8.8	30	130	26' Vertical, 30' Horizontal
Starch 4001	28	37	12	33	220	18' Vertical, 28' Horizontal
Starch 4372	28	34	12	43	220	18' Vertical, 28' Horizontal
Starch Potato	-	-	-	45	-	Test
Starch Potato	25	34	14	45	80	Not pumpable
Stayzine Starch	-	-	8.9	46	325	
Stone Ground Wheat	-	-	6.6	46	200	25' Vertical, 30' Horizontal
Sugar (Powdered)	29	30	0.4	48.5	150	28' Vertical, 39' Horizontal
Sugar Powdered with Starch	31	45	0.6	42	145	70' Vertical, 75' Horizontal
Suger Powdered	27	40	1.2	50	150	38' Vertical, 55' Horizontal
Sugar (Confectionary)	33	37	0.6	39	200	44' Vertical, 40' Horizontal
Sugared Form Particles	28	32	0	51.5	80	Not pumpable
T61C7	32	38	0.1	109	220	Very short distances
Talcum	-	-	1.5	38	160	26' Vertical, 30' Horizontal
Tea Powder	38	42	6.8	2.75	150	65' Vertical, 70' Horizontal
Tea Powder	37	41	8	2.74	150	65' Vertical, 70' Horizontal
Tetrasodium Pyrophosphate	25	40	1.2	65.8	150	20' Vertical, 25' Horizontal
Titanium Dioxide	-	-	0.7	96	280	Not pumpable
Titanium Powdered Milled	39	33	0.8	163	200	Too heavy
Titanium Unmilled	39	33	0.8	197	200	Too heavy
Titanox	35	40	0	70	-	Not pumpable
Tobacco	37	39	8	24	220	44' Vertical, 40' Horizontal
Tobacco (Regular)	34	39	7	20.9	200	65' Vertical, 74' Horizontal
Tobacco BB Grind	-	-	6.6	28.5	160	40' Vertical, 45' Horizontal
Tobacco March Spec.	27	42	5.8	27.6	180	40' Vertical, 45' Horizontal

Tobacco Rotab #2	33	31	5.8	27.3	150	50' Vertical, 50' Horizontal
Tobacco Rotab #3	-	-	5.6	25.3	180	40' Vertical, 45' Horizontal
Tungsten Powder	35	37	0.7	232	230	Too heavy
Ultramarine Blue	33	50	1.8	22.8	200	40' Vertical, 50' Horizontal
Ultramarine Blue	30	37	1.7	35.6	150	23' Vertical, 30' Horizontal
Ultramarine Blue Crs	31	36	3.1	58.4	150	15' Vertical, 25' Horizontal
Urea (Beetle) Mold Powder	36	40	4.9	37.8	150	40' Vertical, 45' Horizontal
Water Paint Powder	-	-	1	62	180	22' Vertical, 30' Horizontal
Welding Powder	33	35	1.8	53	325	20' Vertical, 30' Horizontal
Western Bentoniteclay	31	32	6.8	60	160	25' Vertical, 40' Horizontal
Whiting	31	34	0.3	33	150	Coats piping
Wood Flour	-	-	5	12	150	50' Vertical, 48' Horizontal
Zeolex 23	32	33	4.7	16	135	65' Vertical, 70' Horizontal
Zeolex 23SD Sodium Solid	32	33	10	24	135	65' Vertical, 70' Horizontal
Zinc Sulfate	33	36	1	91	200	Very short distances
Zirconium Silicate	28	22	0.4	169	80	Not pumpable

Note:

The chart data has been compiled from many sourcees believed to be reliable.

No gaurantee is implied or expressly stated herein.