

| Bulk Material | Maximum Particle Size (in.) | Bulk Density (lbs/ft ³) | % Trough Loading | Abrasiveness | Corrosiveness | Flowability |
|---------------------------------------|-----------------------------|-------------------------------------|------------------|--------------|---------------|-------------|
| Acetylenogen (Calcium Carbide) | + 1/2 | 70-90 | 30A | I | I | II |
| Adipic Acid | -100M | 45 | 30A | I | I | III |
| Alfalfa Meal | -1/8 | 14-22 | 30A | I | I | IV |
| Alfalfa Pellets | -1/2 | 41-43 | 45 | I | I | II |
| Alfalfa Seed | -1/8 | 10-15 | 45 | I | I | I |
| Almonds | -1/2 | 28-30 | 30A | I | I | III |
| Alum, fine | -1/8 | 45-50 | 30A | I | I | III |
| Alum, lumpy | + 1/2 | 50-60 | 30A | I | I | II |
| Alumina | -1/8 | 55-65 | 15 | III | I | II |
| Alumina, fine | -100M | 35 | 15 | III | I | II |
| Alumina, sized or briquette | -3 | 65 | 15 | III | I | III |
| Aluminate Gel (Aluminate Hydroxide) | -1/8 | 45 | 30A | I | I | III |
| Aluminum Chips, dry | -1/2 | 7-15 | 30A | I | I | IV |
| Aluminum Chips, oily | -1/2 | 7-15 | 30A | I | I | IV |
| Aluminum Hydrate (Aluminum Hydroxide) | -1/2 | 13-20 | 30A | I | I | III |
| Aluminum Oxide | -100M | 60-120 | 15 | III | I | I |
| Aluminum Ore (Bauxite) | -3 | 75-85 | 15 | III | I | II |
| Aluminum Silicate (Andalusite) | -1/2 | 49 | 30A | I | III | III |
| Aluminum Sulfate (Alum) | -1/2 | 45-58 | 45 | I | I | II |
| Ammonium Chloride, Crystalline | -100M | 45-52 | 30A | I | III | IV |
| Ammonium Nitrate | -1/8 | 45-62 | 30A | I | II | III |
| Ammonium Sulfate | -1/2 | 45-58 | 30A | I | II | III |
| Antimony Powder | -100M | • | 30A | II | I | II |
| Apple Pomace, dry | -1/2 | 15 | 30A | I | I | IV |
| Arsenate of Lead (Lead Arsenate) | -1/64 | 72 | 30A | I | I | III |
| Arsenic Oxide (Arsenolite) | -100M | 100-120 | 30A | I | • | III |
| Arsenic, pulverized | -100M | 30 | 45 | I | • | II |
| Asbestos Rock, ore | -3 | 81 | 15 | III | I | III |
| Asbestos, shredded | Fibers | 20-40 | 30B | II | I | IV |
| Ash, Black, ground | -1/8 | 105 | 30A | I | I | III |
| Ashes, Coal, dry | -1/2 | 35-45 | 30B | II | II | IV |
| Ashes, Coal, dry | -3 | 35-40 | 30B | II | II | IV |
| Ashes, Coal, wet | -1/2 | 45-50 | 30B | II | II | IV |
| Ashes, Coal, wet | -3 | 45-50 | 30B | II | II | IV |
| Asphalt, crushed | -1/2 | 45 | 30A | I | I | IV |
| Bagasse, dry | Fibers | 7-10 | 30A | I | I | IV |
| Bakelite | -1/8 | 30-45 | 45 | I | I | II |
| Baking Powder | -100M | 40-55 | 30A | I | I | III |
| Baking Soda (Sodium Bicarbonate) | -100M | 40-55 | 45 | I | I | II |
| Barite (Barium Sulfate) | +1/2 | 120-180 | 30B | II | I | III |
| Barite, powder | -100M | 120-180 | 30B | I | I | III |
| Barium Carbonate | -100M | 72 | 30B | I | I | IV |
| Bark, Wood | +1/2 | 10-20 | 30B | I | II | IV |
| Barley, fine ground | -1/8 | 24-38 | 30B | I | I | III |
| Barley, malted | -1/2 | 31 | 30A | I | I | III |
| Barley, meal | -1/2 | 28 | 30A | I | I | III |
| Barley, whole | -1/8 | 36-48 | 45 | I | I | II |
| Basalt | -1/8 | 80-105 | 15 | III | I | II |
| Bauxite, crushed | -3 | 75-85 | 30B | II | I | III |
| Bauxite, dry, crushed | -1/8 | 68 | 15 | I | I | II |
| Beans, Castor, meal | -1/8 | 35-40 | 30A | I | I | III |
| Beans, Castor, whole, shelled | -1/2 | 36 | 45 | I | I | I |
| Beans, Navy, dry | -1/2 | 48 | 45 | I | I | I |
| Beans, Navy, steeped | -1/2 | 60 | 45 | I | I | II |
| Beans, Soy | -1/2 | 45-50 | 45 | I | I | I |
| Beet Pulp, dry | • | 11-16 | • | • | • | • |
| Beet Pulp, wet | • | 25-45 | • | • | • | • |
| Bentonite | -100M | 50-60 | 45 | I | I | II |
| Bentonite, Crude | -3 | 34-40 | 30A | I | I | IV |
| Benzene Hexachloride | -100M | 56 | 30A | I | I | IV |
| Blood, dried | -3 | 35-45 | 30A | I | I | IV |
| Blood, dried, ground | -100M | 30 | 30A | I | I | III |
| Bluestone (Copper Sulfate) | -1/2 | 75-95 | 30A | I | III | III |
| Bone Ash (Tricalcium Phosphate) | -100M | 40-50 | 30A | I | I | IV |
| Boneblack | -100M | 20-25 | 45 | I | I | II |
| Bonechar | -1/8 | 27-40 | 30A | I | I | III |
| Bonemeal | -1/8 | 50-60 | 30A | I | I | III |
| Bones, crushed | -3 | 35-50 | 30A | I | I | IV |
| Bones, ground | -1/8 | 50 | 30A | I | I | III |
| Bones, whole | Irregular | 35-50 | 30A | I | I | IV |

| Bulk Material | Maximum Particle Size (in.) | Bulk Density (lbs/ft ³) | % Trough Loading | Abrasiveness | Corrosiveness | Flowability |
|--------------------------------|-----------------------------|-------------------------------------|------------------|--------------|---------------|-------------|
| Borate of Lime | -100M | 60 | 30A | I | I | III |
| Borax, lumps | 1 1/2 to 2 | 55-60 | 30A | I | I | III |
| Borax, lumps | 2 to 3 | 60-70 | 30A | I | I | III |
| Borax, fine | -1/8 | 45-55 | 45 | I | II | II |
| Borax, screenings | -1/2 | 55-60 | 30A | I | I | III |
| Boric Acid | -1/8 | 55 | 45 | I | II | II |
| Boron | -100M | 75 | 15 | III | I | III |
| Bran, Rice/Rye/Wheat | -1/8 | 16-20 | 30A | I | I | III |
| Braunite (Manganese Oxide) | -100M | 120 | 30B | II | I | III |
| Bread Crumbs | -1/8 | 20-25 | 30A | I | I | III |
| Brewer's Grain, spent, dry | -1/2 | 14-30 | 30A | I | I | IV |
| Brewer's Grain, spent, wet | -1/2 | 55-60 | 30A | I | II | IV |
| Brick, ground | -1/8 | 100-120 | 15 | III | I | III |
| Bronze Chips | -1/8 | 30-50 | 30A | I | I | IV |
| Buckwheat | -1/8 | 37-42 | 45 | I | I | II |
| Calcine, Flour | -100M | 75-85 | A1-A2-A3 | I | I | III |
| Calcium Carbide | -3 | 70-90 | B4 | I | I | II |
| Calcium Phosphate | -100M | 40-50 | A1-A2-A3 | I | I | IV |
| Carbon, Activated, dry, fine | -1/8 | 8-20 | B4 | I | I | II |
| Carbon Black, fine | -100M | 4-7 | A2 | I | I | III |
| Casein | -1/8 | 36 | B4 | I | I | III |
| Cashew Nuts | -1/2 | 32-37 | B4 | I | I | IV |
| Cast Iron, chips | -1/2 | 130-200 | B4 | I | I | IV |
| Cement, mortar | -1/8 | 133 | C4 | I | I | III |
| Cerrusite (Lead Carbonate) | -1/64 | 240-260 | B4 | I | I | III |
| Chalk, crushed | -3 | 75-95 | B4 | I | I | II |
| Chalk, ground | -100M | 67-75 | B4 | I | I | II |
| Charcoal, ground | -100M | 18-28 | B4 | I | I | IV |
| Charcoal, lumps | -3 | 18-28 | B4 | I | I | IV |
| Chips, Pulpwood | +1/2 | 12-25 | B1 | I | I | III |
| Chocolate Cake, pressed | -3 | 40-45 | B2 | I | I | II |
| Clay, ceramic, dry, fine | -100M | 60-80 | A1-A2-A3 | I | I | III |
| Clay, dry, lumpy | -3 | 60-75 | B4 | I | I | III |
| Clover Seed | -1/8 | 45-48 | A1-A2-A3 | I | I | II |
| Coal, Anthracite, sized | -1/2 | 49-61 | B1-B2 | I | I | II |
| Coal, Bituminous, mined | -3 | 40-60 | A1-A2 | I | I | III |
| Coal, Bituminous, mined, sized | -3 | 45-55 | A1-A2 | I | I | III |
| Cocoa, Beans | -1/2 | 30-45 | A1-A2 | I | I | II |
| Cocoa, Nibs | -1/2 | 35 | B4 | I | I | II |
| Cocoa, Powdered | -100M | 30-35 | A2 | I | I | IV |
| Coconut | Shredded | 20-22 | B2 | I | I | IV |
| Coffee, ground, dry | -1/64 | 25 | A1-A2 | I | I | III |
| Coffee, ground, wet | -1/64 | 35-45 | A1-A2 | I | I | IV |
| Coffee, soluble | -1/64 | 19 | A2 | I | I | III |
| Coffee, chaff | -1/8 | 20 | A1-A2 | I | I | II |
| Coffee Beans, green | -1/2 | 25-32 | A1-A2 | I | I | II |
| Coffee Beans, roasted | -1/2 | 20-30 | A2 | I | I | II |
| Copperas (Ferrous Sulfate) | -1/2 | 50-75 | B4 | I | I | III |
| Copra, cake, ground | -1/8 | 40-45 | A1-A2-A3 | I | I | IV |
| Copra, cake, lumpy | -3 | 25-30 | B1-B2-B3 | I | I | III |
| Copra, lumpy | + 1/2 | 22 | B1-B2-B3 | I | I | III |
| Copra, meal | -1/8 | 40-45 | B4 | I | I | III |
| Cork, granulated | -1/2 | 12-15 | A1-A2-A3 | I | I | III |
| Cork, ground | -1/8 | 5-15 | A1-A2-A3 | I | I | III |
| Corn, cleanings | -1/8 | 20-30 | A1-A2-A3 | I | I | III |
| Corn, cracked | -1/8 | 40-50 | A1-A2-A3 | I | I | II |
| Corn, grits | -1/8 | 40-45 | A1-A2-A3 | I | I | III |
| Corn, shelled | -1/2 | 45 | A1-A2-A3 | I | I | II |
| Corn Cobs, ground | -1/2 | 17 | A1-A2-A3 | I | I | II |
| Corn Cobs, whole | Irregular | 12-15 | B1-B2 | I | I | II |
| Corn Ear | -16 | 56 | B1-B2 | I | I | III |
| Corn Fiber Feed | -1/8 | 15-35 | • | I | I | III |
| Corn Fiber, dewatered | -1/8 | 10-25 | A1-A2-A3 | I | I | III |
| Corn Fiber, wet | -1/8 | 15-50 | A1-A2-A3 | I | I | III |
| Corn Germ | -1/8 | 21 | A1-A2-A3 | I | I | III |
| Corn Germ, dewatered | -1/8 | 30-35 | A1-A2-A3 | I | I | III |
| Corn Germ, dry | -1/8 | 30-40 | A1-A2-A3 | I | I | III |
| Corn Germ, expanded cake | -1/8 | 30-40 | A1-A2-A3 | I | I | III |
| Corn Germ, oil meal | -1/8 | 30-35 | A1-A2-A3 | I | I | III |
| Corn Oil, cake | -7 | 25 | A1-A2 | I | I | IV |

| Bulk Material | Maximum Particle Size (in.) | Bulk Density (lbs/ft ³) | % Trough Loading | Abrasiveness | Corrosiveness | Flowability |
|---|-----------------------------|-------------------------------------|------------------|--------------|---------------|-------------|
| Corn Seed | -1/2 | 45 | A1-A2-A3 | I | I | II |
| Corn Sugar | -1/8 | 30-35 | A2 | I | I | III |
| Corn Sugar, crystalline, dry | -1/8 | 25-60 | A2 | I | I | III |
| Corn Sugar, crystalline, wet | -1/8 | 30-60 | A2 | I | I | III |
| Corn Meal | -1/8 | 32-40 | A1-A2 | I | I | III |
| Cottonseed, cake, crushed | -1/2 | 40-45 | A1-A2 | I | I | IV |
| Cottonseed, cake, lumpy | -7 | 40-45 | B1-B2 | I | I | IV |
| Cottonseed, dry, delinted | -1/2 | 22-40 | A1-A2 | I | I | II |
| Cottonseed, dry, not delinted | -1/2 | 18-25 | A1-A2 | I | I | IV |
| Cottonseed, flakes | -1/2 | 20-25 | A1-A2 | I | I | III |
| Cottonseed, hulls | -1/8 | 12 | A1-A2 | I | I | III |
| Cottonseed, meal, expeller | -1/8 | 25-30 | C1-C2 | I | I | IV |
| Cottonseed, meal, extracted | -1/8 | 35-40 | A1-A2 | I | I | IV |
| Cottonseed, meal, dry | -1/8 | 40 | A1-A2 | I | I | III |
| Cottonseed, meal, rolled | -1/2 | 35-40 | A1-A2 | I | I | IV |
| Cracklings, crushed | -3 | 40-50 | B1-B2-B3 | I | I | IV |
| Calcium Magnesium Carbonate | + 1/2 | 90-100 | B4 | II | I | II |
| Carborundum* | -3 | 100 | C4 | III | I | II |
| Celite (Diatomaceous Earth) | -1/64 | 11-17 | C4 | II | I | III |
| Cement, aerated (Portland) | -100M | 60-75 | B4 | II | I | I |
| Cement, clinker | -3 | 75-95 | D4 | II | I | III |
| Cement, Portland | -100M | 94 | B4 | II | I | II |
| Chrome Ore | -3 | 125-140 | C4 | II | I | III |
| Clay, brick, dry, fines | -1/2 | 100-120 | C4 | II | I | III |
| Clay, calcined | -1/8 | 80-100 | C4 | II | I | III |
| Clinker, Cement | -3 | 75-95 | D4 | II | I | III |
| Coke, breeze | -1/2 | 25-35 | C4 | III | I | III |
| Coke, loose | -7 | 25-35 | D4 | III | I | III |
| Coke, Petrol, calcined | -7 | 35-45 | D4 | III | I | III |
| Concrete, Pre-Mix, dry | -1/2 | 85-120 | C4 | II | I | III |
| Copper Ore | + 1/2 | 120-150 | D4 | II | I | III |
| Copper Ore, crushed | + 1/2 | 120-150 | C4 | II | I | III |
| Corn Filter Aid | -1/8 | 15-50 | C4 | III | I | III |
| Cryolite, dust (Kryalith) | -100M | 75-90 | B4 | II | I | III |
| Cryolite, lumpy (Kryalith) | -16 | 90-110 | B4 | II | I | III |
| Cullet, fine | -1/2 | 80-120 | D4 | III | I | III |
| Cullet, lump | -16 | 80-120 | D4 | III | I | III |
| Calcium Lactate | -3 | 26-29 | B1-B2 | I | II | IV |
| Carbon Black, pelleted | -1/8 | 20-25 | • | I | • | I |
| Caustic Soda (Sodium Hydroxide) | -1/8 | 88 | D4 | I | III | III |
| Caustic Soda, flakes (Sodium Hydroxide) | -1/2 | 47 | D4 | I | III | IV |
| Cinders, Blast Furnace | -3 | 57 | D4 | II | II | III |
| Cinders, Coal | -3 | 40 | D4 | II | II | III |
| Coal, Anthracite (Culm and River) | -1/8 | 55-61 | B1-B2 | I | II | III |
| Coal, Bituminous, mined, slack | -1/2 | 43-50 | B1-B2 | I | II | IV |
| Coal, Lignite | -3 | 37-45 | B4 | I | II | III |
| Compost | -7 | 30-50 | C1-C2 | I | II | IV |
| Copper Sulfate (Bluestone) | -1/2 | 75-95 | B1-B2-B3 | I | III | III |
| Corn, steeped | -3 | 40-60 | • | • | • | • |
| Cupric Sulfate (Copper Sulfate) | -1/2 | 75-95 | B1-B2-B3 | I | III | III |
| Diatomaceous Earth (Diatomite) | -1/64 | 11-17 | 30B | II | I | III |
| Dicalcium Phosphate | -1/64 | 40-50 | 30A | I | I | III |
| Disodium Phosphate | -1/64 | 25-31 | 30A | I | I | III |
| Distiller's Grain, spent, dry | -1/8 | 30 | 30A | I | I | III |
| Distiller's Grain, spent, wet | -1/2 | 40-60 | 30A | I | I | IV |
| Dolomite, crushed | -1/2 | 80-100 | 30B | II | I | III |
| Dolomite, lumpy | +1/2 | 90-100 | 30B | II | I | III |
| Earth, Loam, dry, loose | -1/2 | 76 | 30B | II | I | III |
| Ebonite | -1/2 | 63-70 | 30A | I | I | III |
| Egg, powder | -1/64 | 16 | 30A | I | I | III |
| Epsom Salts (Magnesium Sulfate) | -1/64 | 40-50 | 30A | I | I | III |
| Ethanedioic Acid (Oxalic Acid) | -1/8 | 60 | 30A | I | III | III |
| Feldspar, ground | -100M | 65-80 | 15 | III | I | III |
| Feldspar, lumps | -7 | 90-100 | 15 | III | I | III |
| Feldspar, powder | -200M | 100 | 30B | II | I | III |
| Feldspar, screenings | -1/2 | 75-80 | 15 | III | I | III |
| Ferrous Sulphate | -1/2 | 50-75 | 30A | I | I | III |
| Ferrous Sulfide (Iron Sulfide), lumps | -1/2 | 120-135 | 30B | II | I | II |
| Ferrous Sulfide (Iron Sulfide), mesh | -100M | 105-120 | 30B | II | I | III |
| Fish Meal | -1/2 | 35-40 | 30A | I | I | IV |

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|--------------------------------------|-----------------------------|-------------------------------------|------------------|--------------|---------------|-------------|
| Fish Scraps | -7 | 40-50 | 30A | I | I | IV |
| Flaxseed | -1/8 | 43-45 | 30A | I | I | III |
| Flaxseed Cake (Linseed Cake) | -7 | 48-50 | 30A | I | I | IV |
| Flaxseed Meal (Linseed Meal) | -1/8 | 25-45 | 30A | I | I | IV |
| Flour, Graphite | -100M | 28 | 30A | I | I | III |
| Flour, Oat | -100M | 35 | 30A | I | I | III |
| Flour, Potato | -200M | 48 | 30A | I | I | III |
| Flour, Silica | -1/64 | 80 | 30B | II | I | IV |
| Flour, Soybean | -1/64 | 25-35 | 30A | I | I | III |
| Flour, Wheat | -1/64 | 33-40 | 30A | I | I | IV |
| Flour, Wood | -1/8 | 16-36 | 30A | I | I | III |
| Flour Calcine | -100M | 75-85 | 30A | I | I | III |
| Flue Dust, Basic Oxygen Furnace | -1/64 | 45-60 | 30B | II | I | III |
| Flue Dust, Blast Furnace | -1/64 | 110-125 | 30B | II | I | III |
| Flue Dust, Boiler H, dry | -1/64 | 30-45 | 30B | II | I | III |
| Fluorspar (Calcium Fluoride) | -1/8 | 80-100 | 30B | II | I | III |
| Fluorspar, lumps | -7 | 90-110 | 30B | II | I | III |
| Flyash | -1/64 | 30-45 | 30B | II | I | III |
| Flyash, Coal | -1/64 | 30-60 | 30B | II | I | III |
| Flyash, Fluidized Bed | -1/64 | 60-90 | 30B | II | I | III |
| Foundry Sand, dry | -1/8 | 90-110 | 15 | III | I | III |
| Fuller's Earth, Oil Filter, burned | -1/8 | 40 | 15 | III | I | II |
| Fuller's Earth, Oil Filter, raw | -1/8 | 35-40 | 30B | II | I | II |
| Fuller's Earth, Oil Filter, spent | 35% oil | 60-65 | 15 | III | I | III |
| Galena (Lead Sulfide) | -100M | 240-260 | 30A | II | I | II |
| Gelatin, granulated | -1/8 | 32 | 30A | I | I | III |
| Gilsonite | -1/2 | 37 | 30B | II | II | III |
| Glass, Batch | -1/2 | 80-100 | 15 | III | I | III |
| Glue, ground | -1/8 | 40 | 30A | II | I | IV |
| Glue, pearl | -1/2 | 40 | 30A | I | I | III |
| Glue, veg., powdered | -1/64 | 40 | 30A | I | I | IV |
| Gluten Cake, wet | -1/2 | 30-50 | 30A | I | I | IV |
| Gluten, Meal, dry | -1/8 | 30-40 | 30A | I | I | III |
| Granite, broken | +1/2 | 95-100 | 15 | III | I | II |
| Granite, fine | -1/2 | 80-90 | 15 | III | I | II |
| Grape Pomace | -3 | 15-20 | 30A | I | I | IV |
| Graphite Flakes | -1/8 | 40 | 45 | I | I | II |
| Graphite Flour | -100M | 28 | 30A | I | I | III |
| Graphite Ore | +1/2 | 65-75 | 30A | I | I | III |
| Grass Seed | -1/8 | 10-32 | 30A | I | I | III |
| Guano, dry | -1/2 | 70 | 30A | I | I | III |
| Gypsum, calcined | -1/8 | 55-60 | 30A | I | I | III |
| Gypsum, calcined, powdered | -100M | 60-80 | 30A | I | I | III |
| Gypsum, raw | -3 | 70-80 | 30A | I | I | II |
| Green Vitriol (Ferrous Sulfate) | -1/2 | 50-75 | 30B | II | I | II |
| Hay, chopped | -1/2 | 8-12 | 30A | I | I | III |
| Hexanedioic Acid (Adipic Acid) | -100M | 45 | 30A | I | I | III |
| Hominy | -1/2 | 35-50 | 30A | I | I | II |
| Hops, spent, dry | -3 | 35 | 30A | I | I | III |
| Hops, spent, wet | -3 | 50-55 | 30A | I | II | IV |
| Hydroxybenzoic Acid (Salicylic Acid) | -1/8 | 29 | 15 | III | I | III |
| Ice, crushed | -3 | 35-45 | 30A | I | I | III |
| Ice, cubed | -3 | 33-35 | 30A | I | I | III |
| Ice, flaked | -1/2 | 40-45 | 30A | I | I | III |
| Ice, shells | -3 | 33-35 | 30A | I | I | IV |
| Ilmenite Ore | -3 | 140-160 | 15 | III | I | III |
| Iron Ore | -1/64 | 120-180 | 15 | III | I | III |
| Iron Oxide Pigment | -100M | 25 | 30B | II | I | III |
| Iron Oxide, Millscale | -1/2 | 75 | 30B | I | I | III |
| Kafir (Corn) | -1/2 | 40-45 | 30A | I | I | II |
| Kaolin Clay | -3 | 63 | 30A | I | I | II |
| Kaolin Talc | -1/64 | 42-56 | 30A | I | I | III |
| Lactose | -1/64 | 32 | 30A | I | I | III |
| Lead Arsenate | -1/64 | 72 | 30A | I | I | III |
| Lead Arsenite | -1/64 | 72 | 30A | I | I | III |
| Lead Carbonate | -1/64 | 240-260 | 30A | I | I | III |
| Lead Ore | -1/8 | 200-270 | 30A | I | I | III |
| Lead Ore | -1/2 | 180-230 | 30B | II | I | III |
| Lead Oxide, Red Lead | -100M | 30-150 | 30A | II | I | III |
| Lead Oxide, Red Lead | -200M | 30-180 | 30A | II | I | III |

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|--|-----------------------------|-------------------------------------|------------------|--------------|---------------|-------------|
| Lead Sulfide | -100M | 240-260 | 30A | II | I | III |
| Lignite, air-dried | -3 | 37-45 | 30A | I | II | III |
| Lime, hydrated | -1/8 | 40 | 30A | I | I | III |
| Lime, hydrated, pulverized | -1/64 | 32-40 | 30A | I | I | III |
| Lime, unslaked | -1/8 | 60 | 30A | I | I | III |
| Lime, pebble, unslaked | -1/2 | 53-56 | 45 | I | I | II |
| Limestone, agricultural | -1/8 | 68 | 30A | II | I | III |
| Limestone, crushed | +1/2 | 85-90 | 30B | II | I | III |
| Limestone, dust | -1/64 | 55-95 | 30B | II | I | IV |
| Limonite, ore | -1/2 | 120 | 15 | III | I | IV |
| Lindane (Benzene Hexachloride) | -100M | 56 | 30A | I | I | IV |
| Litharge (Lead Oxide) | -100M | 30-150 | 30A | II | I | III |
| Lithopone | -200M | 45-50 | 30A | I | I | III |
| Magnesium Chloride (Magnesite) | -1/2 | 33 | 30A | I | I | IV |
| Magnesium Sulfate (Epsom Salts) | -1/64 | 40-50 | 30A | I | I | III |
| Maize | -1/8 | 40-45 | 45 | I | I | I |
| Malt, dry, ground | -1/8 | 20-30 | 30A | I | I | III |
| Malt, dry, whole | -1/2 | 20-30 | 30A | I | I | III |
| Malt, wet or green | -1/2 | 60-65 | 30A | I | I | III |
| Malt, meal | -1/8 | 36-40 | 30A | I | I | II |
| Malt, sprouts | -1/2 | 13-15 | 30A | I | I | III |
| Manganese Dioxide | -100M | 70-85 | 30A | I | II | III |
| Manganese Ore | +1/2 | 125-140 | 15 | III | I | III |
| Manganese Oxide | -100M | 120 | 30B | II | I | III |
| Manganese Sulfate | -1/2 | 70 | 15 | III | I | III |
| Marble, crushed | -1/8 | 80-95 | 15 | III | I | III |
| Marl (Clay) | + 1/2 | 80 | 30B | II | I | III |
| Meat, ground | -1/4 | 50-55 | 30A | I | II | IV |
| Meat, scraps, with bone | Scraps | 40 | 30B | II | I | IV |
| Mica, flakes | -1/8 | 17-22 | 30B | II | I | I |
| Mica, ground | -1/8 | 13-15 | 30B | II | I | III |
| Mica, pulverized | -100M | 13-15 | 30B | II | I | III |
| Milk, dried, flakes | -1/8 | 5-6 | 30A | I | I | III |
| Milk, dried, whole | -100M | 20 | 30A | I | I | III |
| Milk, malted | -1/64 | 27-30 | 30A | I | I | IV |
| Milk, powdered | -1/8 | 20-45 | 45 | I | I | II |
| Milk, powdered, whole | -1/8 | 20-36 | 30A | I | I | III |
| Milk Sugar (Lactose) | -100M | 32 | 30A | I | I | III |
| Mill Scale (Steel) | Irregular | 120-125 | 30B | II | II | IV |
| Milo, ground | -1/8 | 32-36 | 30A | I | I | II |
| Milo, maize (Kafir) | -1/8 | 40-45 | 45 | I | I | I |
| Molybdenite Powder | -1/8 | 107 | 30A | II | I | II |
| Monosodium Phosphate | -1/8 | 50 | 30B | II | I | III |
| Mortar, wet | Irregular | 150 | 30B | II | II | IV |
| Muriate of Potash | -1/8 | 77 | 15 | III | III | II |
| Mustard Seed | -1/8 | 45 | 45 | I | I | I |
| Naphtalene Flakes | -1/8 | 45 | 30A | I | I | III |
| Nicotinic Acid (Niacin) | -1/64 | 35 | 30A | I | I | III |
| Oakite (Trisodium Phosphate) | -1/8 | 60 | 30B | II | I | II |
| Oats | -1/2 | 26 | 45 | I | I | II |
| Oats, crimped | -1/2 | 19-26 | 30A | I | I | III |
| Oats, crushed | -1/8 | 22 | 30A | I | I | IV |
| Oats, flour | -100M | 35 | 30A | I | I | III |
| Oats, hulls | -1/8 | 8-12 | 30A | I | I | III |
| Oats, rolled | -1/2 | 19-24 | 30A | I | I | III |
| Oleo (Margarine) | Irregular | 59 | 30A | I | I | IV |
| Orange Peels, dry | Irregular | 15 | 30A | I | I | IV |
| Oxalic Acid, Crystal—Ethane Diacid Crystal | -1/8 | 60 | 30A | I | III | III |
| Oyster Shells, ground | -1/2 | 50-60 | 30B | II | II | III |
| Oyster Shells, whole | -3 | 80 | 30B | II | II | III |
| Paper Pulp, stock | 5% | 62 | 30A | I | I | IV |
| Paper Pulp, stock | 6-15% | 60-62 | 30A | I | I | IV |
| Paraffin Cake, broken | -1/2 | 45 | 30A | I | I | IV |
| Peanuts, meal | -1/8 | 30 | 30A | I | I | III |
| Peanuts, clean, shelled | -3 | 15-20 | 30A | I | I | III |
| Peanuts, raw, uncleaned, unshelled | -3 | 15-20 | 30B | I | I | III |
| Peanuts, shelled | -1/2 | 35-45 | 30A | I | I | III |
| Peas, dried | -1/2 | 45-50 | 45 | I | I | I |
| Perlite, expanded | -1/2 | 8-12 | 30B | II | I | III |
| Phosphate Disodium | -1/8 | 50-60 | 30A | I | I | III |

| Bulk Material | Maximum Particle Size (in.) | Bulk Density (lbs/ft ³) | % Trough Loading | Abrasiveness | Corrosiveness | Flowability |
|---|-----------------------------|-------------------------------------|------------------|--------------|---------------|-------------|
| Phosphate Acid, Fertilizer | -1/8 | 60 | 45 | I | II | II |
| Phosphate Rock, broken | + 1/2 | 75-85 | 30B | II | I | III |
| Phosphate Rock, pulverized | -1/8 | 60 | 30B | II | I | III |
| Phosphate of Soda (Disodium Phosphate) | -1/64 | 25-31 | 30A | I | I | III |
| Phosphate Sand, granular | -1/8 | 90-100 | 15 | III | I | III |
| Phosphoprotein (Casein) | -1/8 | 36 | 30B | II | I | II |
| Phosphoric Acid (Phosphate Acid) | -100M | 60 | 30A | I | I | II |
| Plaster of Paris (Gypsum) | -200M | 60-80 | 30B | II | I | III |
| Polyethylene, pellets | -1/8 | 35 | 30A | I | I | III |
| Polystyrene Beads | -1/8 | 40 | 30A | I | I | II |
| Polyvinyl Chloride, pellets | Irregular | 20-30 | 30A | I | II | IV |
| Polyvinyl Chloride, powder | -100M | 20-30 | 30A | I | II | IV |
| Potash, dry (Muriate of Potash) | -1/8 | 70 | 15 | III | III | III |
| Potash, mine run (Muriate of Potash) | +1/2 | 75 | 15 | III | III | III |
| Potassium Carbonate | -1/8 | 51 | 30B | II | II | III |
| Potassium Chloride, pellets | -1/2 | 120-130 | 30A | I | II | II |
| Potassium Nitrate | -1/2 | 76 | 30B | II | II | I |
| Potassium Nitrate | -1/8 | 80 | 30B | II | II | II |
| Potassium Sulfate | -1/8 | 42-48 | 30B | II | I | IV |
| Potato, flour | -200M | 48 | 30A | I | I | III |
| Pumice | -1/8 | 42-48 | 30B | II | I | IV |
| Pyrite, pellets | -1/2 | 120-130 | 30B | II | I | II |
| Quartz | -1/2 | 80-90 | 15 | III | I | II |
| Quartz | -100M | 70-80 | 15 | III | I | II |
| Quicklime (Lime, unslaked) | -1/8 | 60 | 30A | I | I | III |
| Red Lead (Lead Oxide) | -100M | 30-150 | 30A | II | I | III |
| Rice, hulled | -1/2 | 45-49 | 45 | I | I | II |
| Rice, hulls | -1/8 | 20-21 | 30A | I | I | III |
| Rice, polished | -1/2 | 30 | 45 | I | I | I |
| Rice, rough | -1/2 | 32-36 | 30A | I | I | III |
| Rice Bran | -1/8 | 20 | 30A | I | I | III |
| Rice Grits | -1/8 | 42-45 | 30A | I | I | III |
| Rosin | -1/2 | 65-68 | 30A | I | I | IV |
| Rubber, pelleted | -3 | 50-55 | 30A | I | I | IV |
| Rubber, reclaimed, ground | -1/2 | 23-50 | 30A | I | I | IV |
| Rye | -1/8 | 42-48 | 45 | I | I | I |
| Rye, bran | -1/8 | 15-20 | 30A | I | I | III |
| Rye, feed | -1/8 | 33 | 30A | I | I | III |
| Rye, meal | -1/8 | 35-40 | 30A | I | I | III |
| Rye, middlings | -1/8 | 42 | 30A | I | I | III |
| Rye, shorts | -1/2 | 32-33 | 30A | I | I | III |
| Safflower, cake | -3 | 50 | 30B | II | I | II |
| Safflower, meal | -1/8 | 50 | 30A | I | I | III |
| Safflower Seed (Safflower) | -1/8 | 45 | 45 | I | I | I |
| Sal Ammoniac (Ammonium Chloride) | -100M | 45-52 | 30A | I | III | IV |
| Salicylic Acid | -1/8 | 29 | 15 | III | I | III |
| Salt, dry coarse | -1/2 | 45-60 | 30B | II | II | III |
| Salt, dry fine | -1/8 | 70-80 | 30B | II | II | III |
| Salt Cake, dry, coarse (Sodium Sulfate) | -1/8 | 85 | 30B | II | II | III |
| Salt Cake, dry, pulverized (Sodium Sulfate) | -1/8 | 65-85 | 30B | II | II | III |
| Saltpeter (Potassium Nitrate) | -1/2 | 76 | 30B | II | II | I |
| Sand, Dry Bank, damp | -1/8 | 110-130 | 15 | III | I | IV |
| Sand, Dry Bank, dry | -1/8 | 90-110 | 15 | III | I | III |
| Sand, Foundry, prepared | -1/8 | 90 | 15 | III | I | III |
| Sand, Foundry, shakeout | -3 | 90-100 | 15 | III | I | III |
| Sand, Silica, dry | -1/8 | 90-100 | 15 | III | I | II |
| Sand, Silica, resin-coated | -1/8 | 104 | 15 | III | I | II |
| Sand, Zircon, resin-coated | -100M | 115 | 15 | III | I | II |
| Sawdust, dry | -1/8 | 10-13 | 30A | I | I | IV |
| Sea-Coal | -1/8 | 65 | 30B | II | I | III |
| Seed, Alfalfa | -1/8 | 10-15 | 45 | I | I | I |
| Seed, Clover | -1/8 | 45-48 | 45 | I | I | II |
| Seed, Corn | -1/2 | 45 | 45 | I | I | II |
| Seed, Grass | -1/8 | 10-32 | 30A | I | I | III |
| Seed, Mustard | -1/8 | 45 | 45 | I | I | I |
| Seed, Safflower | -1/8 | 45 | 45 | I | I | I |
| Seed, Sesame | -1/8 | 27-41 | 30B | II | I | II |
| Seed, Sorghum (Milo or Kafir) | -1/8 | 32-36 | 30A | I | I | II |
| Seed, Sunflower | -1/2 | 19-38 | 45 | I | I | I |
| Seed, Timothy | -1/8 | 36 | 30A | I | I | III |

| Bulk Material | Maximum Particle Size (in.) | Bulk Density (lbs/ft ³) | % Trough Loading | Abrasiveness | Corrosiveness | Flowability |
|------------------------------------|-----------------------------|-------------------------------------|------------------|--------------|---------------|-------------|
| Sesame Seed | -1/8 | 27-41 | 30B | II | I | II |
| Shale, crushed | -1/2 | 85-90 | 30B | II | I | III |
| Shellac, powdered or granulated | -1/8 | 31 | 30A | I | I | III |
| Silica Flour | -1/64 | 80 | 30B | II | I | IV |
| Silica Gel (Silicic Acid) | -3 | 45 | 15 | III | I | III |
| Silicon Dioxide (Quartz) | -1/2 | 80-90 | 15 | III | I | II |
| Slag, Blast Furnace, crushed | -3 | 130-180 | 15 | III | I | III |
| Slag, Furnace, granular, dry | -1/2 | 60-65 | 15 | III | I | III |
| Slaked Lime (Lime, hydrated) | -1/8 | 40 | 30A | I | I | III |
| Slate, crushed | -1/2 | 80-90 | 30B | II | I | III |
| Slate, ground | -1/8 | 82-85 | 30B | II | I | III |
| Sludge, Sewage, dry | Irregular | 40-50 | 30B | II | II | IV |
| Sludge, Sewage, dry, ground | -1/8 | 45-55 | 30B | II | II | IV |
| Snow, fresh | -1/8 | 5-12 | 30A | I | I | IV |
| Snow, packed | +1/2 | 15-35 | 30A | I | I | IV |
| Soap, beads or granules | -1/8 | 15-35 | 30A | I | I | III |
| Soap, chips | -1/2 | 15-25 | 30A | I | I | III |
| Soap Detergent | -1/8 | 15-50 | 30A | I | I | III |
| Soap Flakes | -1/8 | 5-15 | 30A | I | I | III |
| Soap Powder | -1/8 | 20-30 | 30A | I | I | II |
| Soapstone (Talc) | -200M | 40-50 | 30A | I | I | IV |
| Soda Ash, heavy (Sodium Carbonate) | -1/8 | 55-65 | 30B | II | I | III |
| Soda Ash, light (Sodium Carbonate) | -1/64 | 20-35 | 30B | II | I | III |
| Sodium Aluminate, ground | -1/8 | 72 | 30B | II | I | III |
| Sodium Aluminum Sulphate | -100M | 75 | 30B | II | I | III |
| Sodium Bicarbonate (Baking Soda) | -100M | 40-55 | 45 | I | I | II |
| Sodium Nitrate | -3 | 70-80 | 45 | I | III | II |
| Sodium Phosphate | -1/8 | 50-60 | 30A | I | I | III |
| Sodium Sulfate, dry, coarse | -1/8 | 85 | 30B | II | II | III |
| Sodium Sulfate, dry, pulverized | -1/8 | 65-85 | 30B | II | II | III |
| Sodium Sulfit | -1/8 | 96 | 30B | II | I | IV |
| Sorghum Seed (Milo or Kafir) | -1/8 | 32-36 | 30A | I | I | II |
| Soybean, dust | -1/64 | 25-35 | 30A | I | I | III |
| Soybean, cake | -1/2 | 40-43 | 30A | I | I | III |
| Soybean, cracked | -1/2 | 30-40 | 30B | II | I | III |
| Soybean, flour | -1/64 | 25-35 | 30A | I | I | III |
| Soybean, meal, cold | -1/8 | 35-45 | 30A | I | I | III |
| Soybean, meal, hot | -1/8 | 40 | 30A | I | II | III |
| Soybean, whole | -1/2 | 45-50 | 30B | II | I | II |
| Soybean Flakes, raw | -1/2 | 15-35 | 30A | I | I | III |
| Soybean Flakes, spent | -1/4 | 18-20 | 30A | I | I | II |
| Starch | -1/64 | 25-50 | 45 | I | I | I |
| Steel Turnings (Chips), crushed | -3 | 100-150 | 30B | II | I | IV |
| Stibium (Antimony) | -100M | • | 30A | II | I | II |
| Sugar, Powdered | -100M | 50-60 | 30A | I | I | III |
| Sugar, raw, cane | -1/8 | 55-65 | 30A | I | I | III |
| Sugar, refined, granulated, dry | -1/8 | 50-55 | 30A | I | I | III |
| Sugar, refined, granulated, wet | -1/2 | 55-65 | 30A | I | I | III |
| Sugar Beet, pulp, dry | -1/2 | 12-15 | 30B | II | I | II |
| Sugar Beet, pulp, wet | -1/2 | 25-45 | 30A | I | I | III |
| Sulphur, crushed | -1/2 | 50-60 | 30A | I | I | III |
| Sulphur, ground | -1/64 | 50-60 | 30A | I | I | II |
| Sulphur, lumps | -3 | 80-85 | 30A | I | I | III |
| Sunflower Seed | -1/2 | 19-38 | 45 | I | I | I |
| Taconite, pellets | +1/2 | 116-130 | 15 | III | I | II |
| Talc | -1/2 | 80-90 | 30B | II | I | III |
| Talc, powder | -200M | 50-60 | 30B | II | I | III |
| Tanbark, ground | -1/8 | 55 | 30A | I | I | IV |
| Timothy Seed | -1/8 | 36 | 30A | I | I | III |
| Titanium Dioxide (Ilmenite) | -3 | 140-160 | 15 | III | I | III |
| Tobacco, scraps | -3 | 15-25 | 30A | I | I | IV |
| Tobacco, snuff | -1/8 | 30 | 30A | I | I | IV |
| Tricalcium Phosphate | -1/64 | 40-50 | 30A | I | I | IV |
| Triple Super Phosphate | -1/8 | 50-55 | 30B | II | III | III |
| Trisodium Phosphate | -1/2 | 60 | 30B | II | I | III |
| Trisodium Phosphate, granular | -1/8 | 60 | 30B | II | I | III |
| Trisodium Phosphate, pulverized | -1/64 | 50 | 30B | II | I | III |
| Tung Nuts | -3 | 25-30 | 30A | I | I | I |
| Tung Nut Meats, crushed | -3 | 28 | 30A | I | I | II |
| Uintaite (Bentonite) | -100M | 50-60 | 45 | I | I | II |

| Bulk Material | Maximum Particle Size (in.) | Bulk Density (lbs/ft ³) | % Trough Loading | Abrasiveness | Corrosiveness | Flowability |
|--------------------------|-----------------------------|-------------------------------------|------------------|--------------|---------------|-------------|
| Urea Prills, Coated | -1/8 | 43-46 | 45 | I | I | II |
| Vermiculite, expanded | -1/2 | 16 | 30A | I | I | III |
| Vermiculite, ore | -3 | 80 | 30B | II | I | III |
| Vetch | -1/8 | 48 | 30B | II | I | I |
| Vulcanite (Ebonite) | -1/2 | 63-70 | 30A | I | I | III |
| Walnut Shells, crushed | -1/8 | 35-45 | 30B | II | I | III |
| Wheat | -1/2 | 45-48 | 45 | I | I | II |
| Wheat, cracked | -1/8 | 40-45 | 45 | I | I | II |
| Wheat, germ | -1/8 | 18-28 | 45 | I | I | II |
| White Lead, dry | -1/64 | 75-100 | 30B | II | I | III |
| Wood Bark | +1/2 | 8-16 | 30B | I | I | IV |
| Wood Chips, screened | -3 | 10-30 | 30A | I | I | IV |
| Wood Flour | -1/8 | 16-36 | 30A | I | I | III |
| Zinc Concentrate Residue | -1/8 | 75-80 | 15 | III | I | III |
| Zinc Oxide, heavy | -100M | 30-35 | 30A | I | I | IV |
| Zinc Oxide, light | -100M | 10-15 | 30A | I | I | IV |