

WHITTAKER, CLARK & DANIELS, INC.

MARKETING GUIDE
for
WC&D MATERIALS

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CF-BALL-1

PLAINTIFF'S
EXHIBIT
WCD-50

Rubber - high loading with little loss of softness, elongation or resilience

Putty caulks and sealants (low binder demand and good color)

Joint cements

Paper (high brightness and durability on aging)

Adhesives and carpet backing

Precipitated - Cosmetics, pharmaceuticals, paper

CALCIUM HYDROXIDE - plastics, cements, ammonia recovery in gas manufacture, hard rubber products, food additive as a buffer neutralizing agent

CALCIUM SULPHATE - filler in paints, molds, polishing powders, nutrient supplement, dyeing and calico printing, metallurgy (reduction of zinc minerals) - USP grade used in tablets as binder filler

CHALK (Whiting) - English whittings have long been noted for quality and consistency of classification - freedom from hard particles renders them non-abrasive to mild steel.

Paper - low abrasiveness of whiting finds particular use when good cutting properties are important, easy to disperse, good durability in filled papers, foam rubber, oil and alkyd based paints, adhesives, linoleum

CLAY (KAOLIN) - Calcined - paints, increase titanium efficiency

Hydrated - paper filling (smoother, whiter, brighter, more opaque sheet), paper coating (smoothness, high gloss, high brightness, good opacity, easy water dispersibility).

Ceramics - (plasticity and low shrinkage)

Rubber - reinforcement, imparts stiffness, tear resistance, hardness and abrasion resistance

Electrical insulation - calcined clay reduces tackiness and improves processability

Reinforced plastics (in thermosetting polyester)

COLORS - Lampblack - this pigment possesses excellent heat resistance and is permanent to light, acids and alkalis. Their physical and

FUNCTIONAL PIGMENTS
MAJOR REASONS FOR USE

ALUMINA - Calcined - ceramics (brake liners, nose cones, kiln furniture, burner elements, crucibles, etc.)

Hydrated - extender and filler pigment in adhesives, rubber, ink, paints, paper, plastic, cosmetics and dentrifices. Desirable properties are purity, high brightness, availability in submicron sizes, fire retardant capabilities, good dispersibility, low cost, and reinforcing qualities. As a spacer for titanium dioxide.

Tabular - refractories, electrical, insulators, kiln furniture, plastics, stair treads, silicone, rubber filler.

ANHYDROUS CALCIUM SULPHATE - filler in resin compounds of polyester/fiberglass type and as an extender in combination with high strength prime pigments in paint systems. As a nutrient in dietary formulations. As a filler in the preparation of pill and tablet coatings, etc.

BARIUM SULPHATE - used in paints specifically industrial. Also see BARYTES and BLANC FIXE

BARYTES - undercoats and primers (good build and holdout), chemical resistant coatings. Floor coatings - linoleum and composition flooring (highly resistant to abrasion and heavy traffic conditions)
Rubber - imparts weight and film toughness
Ceramics - glass

BENTONITE - Granular - waterproofing of pools, ponds and basements, purification flocculation of liquids

Powdered - refractory (lining), foundries (binder), drilling mud, cements and plasters as plasticizing agent.

U.S.P. - cosmetic and pharmacal applications - bacteria controlled

BLANC FIXE - used as pigment extender for paints and printing inks

Water paints - good opacity, inert to alkalies - light and heat
photographic paper - use as substrate for dyes, filler for rubber, linoleum oilcloth, resins, polymeric fibers and storage battery plates

CALCIUM CARBONATE - dry ground and water ground - paints, surface coatings and plastics (low binder demand, reduces chalking rate, color retardation of tints, increases mold resistance) good impact resistance

electrical characteristics make them valuable for the manufacture of arc carbons, brushes, and resistors. Their high tinting strength and hiding power (almost complete absorption of visible light) enhances their use in such products as blackboards, leather goods, crayons, and cement, as well as protective and decorative coatings, inks, and plastics

Ultramarine Blue - plastics - ultramarine blue and violet are used in plastic applications as colorants - their resistance to light and heat as well as insolubility make them highly acceptable
Also ease of dispersion.

Printing ink - regular as well as specially treated ultramarine for lithographic and off-set inks (hydrophobic & oleophilic)

Paint - ease of dispersion - heat stability - clean bright colors - acid resistant grade available for specific paint formulas

Laundry powders and bleaches - good alkali stability - good resistance to chlorine and peroxide (in the case of bleaches) excellent dispersion.

Other uses - rubber paper coating - plastic flooring - sugar manufacture - crayons (wax) - pencils - leathercloth - roofing granules

Cosmetic - organic - these are certified by the FDA as meeting purity standards for use in drugs and cosmetics. Referred to as certified D & C colors. Used in cosmetics only and not around the area of the eyes. Do not confuse with F D & C colors used in food.

Cosmetic - Inorganic - these are purified iron oxides for use in makeup products, lotions, powders and tablets. Ultramarine blue, iron blue, chromium green hydrate, chromium oxide, carbon black, are also found in this category

CRAYONS - "Clover Brand" soapstone crayons are a natural cut talc for use by metal workers to mark steel with ability to withstand heat of an acetylene torch without destroying marks.

CUSTOM BLENDING - controlled blending of dry white pigments to customer specification. This does not include colors, fragrances, pharmaceuticals or toxic substances.

Example: Stearate & Talc blend
Controlled density blends of calcium carbonates, etc.

FELDSPAR - Porcelain insulators

Ceramic products - dinnerware, pottery, plumbing fixtures, floor and wall tile, etc.

Porcelain enamel - such as enamel frits, enamel bathroom fixtures, ranges, etc.

Glass products - window glass, plate glass, fiberglass, glass blocks, glass tubing, glass bottles, etc.

Foam latex - filler in carpets and furniture padding

Abrasive Cleaners - Bon Ami, cake soap, window sprays, etc.

Plastics applications such as PVC, epoxies and polyesters

FLINT - a graded or powdered quartz used where a controlled particle size is required as an abrasive or inert filler

FULLERS EARTH - Filtering operations (to decolorize, clarify, neutralize, deodorize, and remove taste) oils distillates petrolatums, vegetable oils, pesticide carrier, refining and reclaiming oil

- HYDRO MAGMA - is a trade name of Merck & Company for magnesium hydroxide paste for use in manufacture of milk of magnesia

KAOLIN - also referred to as clay or aluminum silicate. Used in pharmaceuticals or cosmetics as a medicinal kaolin suspension agent or filler in powders or tablets. Available in N.F. and bacteria controlled state.

MAGLITE - a trade name of Merck & Company for their specialty grades of magnesium oxides for their use in neoprene rubber, plastics, paint, adhesives, or steel.

MAGNESIUM CARBONATE - the technical light grade is sold under trade name "Magcarb". Purified grade meets N.F. specification in light and heavy density.

MAGNESIUM HYDROXIDE POWDER - purified grade for use in antacid. technical grades for use in plastics. Sold under Merck trade name "Marinco"

MAGNESIUM OXIDE POWDER - in light and heavy grades for pharmaceuticals USP quality. Technical grades see Maglite.

MAGNESIUM SILICATE (Talc) - Paper - talc products produced from appropriate ores and ground to optimum particle size provide highly useful high brightness fillers for paper manufacture. Partial replacement for titanium dioxide. The hydrophobic nature of talc makes the ultra-fine grades efficient pitch adsorbers.

Paint - talc pigments are normally self-suspending in paint vehicles. They assist in keeping associated pigments also suspended. Talc disperses with relative ease in most paint vehicles. Certain talcs impart flattening effect that can be used to control gloss of enamels (specifically #399 Lo-micron Magnesium Silicate S.F.). Both acicular and platy talcs improve bonding properties, film toughness and durability of paints. Platy talcs are especially prized in metal primers due to their excellent sanding properties - in top coats due to their contribution to burnish resistance and good scrubability.

Traffic Paints - latex paints - house paints - industrial undercoats and structural steel primers.

Ceramics - talc improves the dry pressing and other operations used for forming ceramic bodies - permits faster firing schedules at lower temperatures.

Plastics - talc is a reinforcing filler in plastic compositions

Electrical wire insulation, sheeting, refrigerator gasketing, vinyl asbestos tile

Cosmetics - the utilization of talcs in cosmetics ranges from dusting powders (200 mesh) to micro-fine talc designed for aerosol application.

Rubber - dusting of unvulcanized rubber to prevent surface sticking

MARBLE (Flour-Dust) - this pigment is similarly used to Calcium Carbonate (as previously reported). It is actually ground marble, a metamorphic, highly crystalline, carbonate rock that is either high calcium or dolomite in nature. Used in paints, putty, caulks, adhesives, and joint cements.

MICA - wallpaper and coated papers (imparts a silky or pearly lustre)

Nacreous pigments - mica is used as a flake substrate for coating with various metal oxides to obtain pearlescent effects in vehicles.

Rubber - dusting to overcome tackiness (mold release), dry lubricant - in tire production (vulcanization)

Paints - exterior (reduces penetration) reduces running and sagging.

Primers & metal coatings - to reduce moisture penetration

Aluminum paints - to replace a portion of the aluminum flake

Sealers (reinforcing action)

Traffic paints - wearability, good adhesion, reduced cracking

Wallboard and joint cements - reduced shrinkage and cracking

Texture paints - reduced cracking adds stability and firmness

Mastics - Plastics - Block fillers

MINERAL COLLOID - Albagel hydro-purified inorganic colloid applicable in the modification of aqueous systems. These products are useful in the preparation of dilute water suspensions and to obtain the greatest degree of viscosity and thickening with the minimum of solids.

Albagel Premium - is specifically prepared to meet the U.S. Pharmacopoeia specification for bentonite.

Albagen - hydro-purified inorganic colloid of limited reactivity. This product has unique characteristics. Its lower alkaline reaction assures a more uniform constant behavior. It overcomes objectionable use of products which release considerable amounts of free sodium ions when hydrated. The lower pH range is an attractive consideration.

These colloids are used as emulsifiers in creams, film formers and binders, as a penetrant, demulcent and protective colloid, dessicant, acid neutralizer and buffer - foam stabilizer. Clarifies sorbent - lubricant - thickener.

Bentolite "L" - low iron, low viscosity, white calcium bentonite, excellent white firing ceramic plasticizer.

Gelwhite - low viscosity suspending agent for aqueous systems. Gellant, thickener, emulsion stabilizer. Excellent color - catalyst

PYROPHYLLITE - this is chemically a clay but has the appearance and physical properties of talc. The principal use is as a carrier for agricultural toxicants. This product is also used in water paints, dry wall plastics and as a filler for plastics.

QUARTZ (Silica) - see crystalline silica for applications

SERECITE - low grade mica used for dusting. Mainly is used in some of the applications reported for mica.

SILICA - Amorphous - Paint - flat paints, undercoaters, paste wood fillers (easy brushing improved adhesion) floor paints, deck paints (good wear resistance and antislip)

Plastics - (polyester and epoxy)

Elastomers (polyurethane, silicone rubber) adhesive, toiletries (toothpaste)

Ceramics - glazes, electrical resistors, insecticides (compatible carrier)

Crystalline - latex paints - increased sheen, uniformity, improved burnish resistance, excellent flattening characteristic, excellent weathering, brushing and leveling.

Undercoats - harsh texture imparts tooth which assists in bonding

Traffic paints - (wear resistance), silicone elastomers (semi reinforcement, rubber sealants, coatings, adhesives)

SOAPSTONE (Talc) - is a greenish gray color. It is characterized by a soapy feel.

STEARATES - the function of metallic stearates depends upon their physical and chemical properties. Most of the many uses of these compounds can be attributed to one or more of the following basic characteristics:

1. Gelling action in hydrocarbon solvents and petroleum, vegetable, and animal oils.
2. Surface active and related electrical properties
3. Water repellant characteristics
4. Lubricating action
5. Plasticizing action
6. Covering and adhesive qualities

Plastics- Phenolics - zinc and calcium stearate are used in phenolic molding compounds.

Polystyrene - in polystyrene zinc stearate acts as a lubricant and color dispersing agent.

Polyethylene - improved mold release and less down time

Polypropylene - as a lubricant and pigment dispersant

ABS - magnesium and calcium stearate for ABS molding compounds

Rigid PVC - calcium stearate - internal and external lubricant, prevents scorching in pipe extrusion

Plastisols - aluminum stearate - gelling properties either to modify viscosity or to form plastigels.

Calcium stearate - viscosity modifier and mold release - good heat stability

Reinforced polyester - calcium and zinc stearate to facilitate mold release, less machine down time - minimize surface bloom -
~~prevent loss of adhesion~~

Paint, varnish and lacquer - in coatings aluminum stearate aids in suspension of associated pigments and control flow - effective as flattening agents. In sanding sealers they weaken the film to make it easier to sand and lubricating the sandpaper to prevent it from gumming up.

Waterproofing - metallic stearates are highly water repellent and their fine particle size, high bulk and large surface area make them efficient waterproofing agents. Cement waterproofing, waterproofing cordage oils and masonry coatings

Rubber - zinc stearate is a good lubricant for rubber compounds. ~~It is an effective dusting agent to prevent uncured stock from sticking together.~~ Being soluble in rubber at elevated temperatures it will be absorbed in the rubber during the final cure.

Metallurgy - zinc stearate as a lubricant

Cosmetics - zinc stearate is widely used throughout the industry in face powders, presscake, dusting powder, creams and makeup specialties.

Food - as conditioning agent to prevent caking and to insure free flow of hygroscopic powders. As a lubricant or die release agent in tableting pressed candies.

Pharmaceuticals - tableting lubricant. Zinc stearate as a nutrient in dietary food supplements.

General use in textile compounds, wood preservatives, artificial leather, crayons, waxes, inks, silk screen and masking, bricks, tile, adhesive paper coatings

TALC

see listing under MAGNESIUM SILICATE

TELLURIUM - a secondary vulcanizing agent in rubber

TERRA ALBA - see listing under CALCIUM SULPHATE

TITANIUM DIOXIDE - purified grades meeting specifications for CTFA, NF and USP. For use in pharmaceuticals, cosmetics, food products.

TRIPOLI - abrasive compounds, buffing compounds, buffing wheels, scouring soaps and powders, polishes (hardness) suitable particle shape and porous, auto polish

VOLCLAY BENTONITE - see listing under BENTONITE

WHITING - see listing under CHALK

ZINC OXIDE USP - for use in pharmaceuticals and cosmetics



TALC USE ENCYCLOPEDIA

Abrasives: Even though extremely soft mineralogically, talc is used to give the final high polish to stainless steel and certain metal alloys. It is used also for tumbling soft plastics that would be marred by harder abrasives.

Typical Talcs:

Powdered: 618, 1600, 486, 3016

Granular: 2676, 2408

Adhesives: Talc is used as a filler in many types of adhesives to increase the spreading rate.

Typical Talcs: 11, 367, 399, 2407, 2426

"After-Shave" Powder (cosmetic): See "Face Powder"

Agricultural Dusting: See "Insecticides"

Art Carvings: Use massive Block or Lava Talc (white, green, gray, black) Wonderstone.

Art Pottery: Body component to increase resistance to crazing, to reduce moisture expansion and to reduce firing temperature.

Typical Talcs: 786, 783, 610, 1772

Artificial Flowers: Used to dust the stamen so as to prevent sticking and to extend the tinting colors.

Artificial Fruit: Used as a filler and for dusting surface.

Typical Talcs: 5, 618, 1600, 2401

Artificial Leather (plastic vinyl coating):
both as a filler and as a dusting agent.

Used

Typical Talcs:

Dusting: 367, 150, 11, 1648, 2407,
2426

Filler:

Lo-Micron types: 399, 2130, 490

Powdered: 5, 130, 618, 2401

Asphalt Coatings (paint):

Inert filler. Can
be supplied with guaranteed ignition loss if requested.

Typical Talcs: 367, 470, 1367, 1371

Asphalt Packing: Inert filler.

Typical Talcs: 470, 1367, 1751

Asphalt Roofing:

Coarse talc for surfacing.
powdered talc for backing.

Inert filler and parting com-
pound.

Generally processed to cus-
tomer specification.

Typical Talcs:

Granular: 943, 1751, 1769

Powdered: 367, 1768

Asphalt Shingles:

Compound.

Inert filler and parting com-

Typical Talcs: 1076, 1372, 1769

Asphalt Tiles:

Compound.

Inert filler and parting com-

Typical Talcs: 367, 470

Baby Powders: Used as the principal ingredient. Selected on basis of purity, softness and color.

Typical Talcs: 1, 1625, 454, 643, 1600,
1755, 2406, 647, 7, 461, 1222, 8, 618, 766, 2427,
1736.

Barber Supplies (cosmetic): Principal ingredient in powders.

Typical Talcs: 4, 5, 618, 2401

Battery Boxes: Inert filler.

Typical Pyrophyllite: 29, 15

Bituminous Coatings: Inert filler - can be supplied with a guaranteed ignition loss if requested by customer.

Typical Talcs: 9, 367, 470, 1367, 1836

Body Powders: Used as principal ingredient. Selected on basis of purity, softness and color.

Typical Talcs: 1, 1625, 454, 1606, 1602, 12,
12, 2427, 643, 7, 232, 461, 4, 2406, 2403, 1224, 766,
40 - See 15 Pyrophyllite

Boiler Coverings: Used as filler.

Typical Talcs: 367, 9, 150

Book Binders: Dusting to dry pastes and inks

Typical Talcs: 406, 11, 1514, 2402, 637

Buttons:

Inert filler and tumbling.

Typical Talcs:

5, 783, 618, 1600

Cable

See "Pulling Cable".

Ceramic Backings:

Filler in paste to stiffen and

Extend

Typical Talcs:

5, 1750, 1153, 637, 2402,

2425

Ceramic Paint:

See "Surface Coatings".

Ceramic Compounds:

See "Surface Coatings".

Ceramic

See "Refractory Cement".

Ceramics

See "Art Pottery"

"Cooking Ware"

Dinnerware (semi-por-
celain)"

"Electrical Insulators"

"Heat Insulators"

"Hobbyists"

"Kiln Furniture, etc."

"Refractory Cements"

"Saggers"

"Steatite"

"Wall Tile"

In general

~~are~~ not used by manufacturers of vitrified
~~ceramic~~ ware, floor tile, etc.

Ceramics:

Selection depends on customer

specification and use.

Typical Talcs:

232, 454, 462, 618, 150, 5,

461, 11, 367, 9,

2401

(4)

Chewing Gum (tablets): Dusting to prevent sticking. U. S. P. is generally specified.

Typical Talcs: 1, 662, 1755

Cleaning Compounds: Filler and extender.

Typical Talcs: 160, 1751, 2402, 2425, 3016

Coated Papers and Paste Board: See "Paper".

Coated Wire: See "Wire".

Color Pigments: Inert filler and extender.

Typical Talcs: 454, 490, 399, 1625

Confectionery Products: Dusting to prevent sticking.

Typical Talcs: 1, 662, 454, 1625.

Cooking Ware (ceramic): Used as a body ingredient to increase resistance to heat shock.

Typical Talcs: 486, 11, 481, 1736

Cordage, Twine: Lubricant and filler.

Typical Talcs: 5, 367, 783, 11, 2401

Cork Products: Dusting molds, lubricating.

Typical Talcs: 406, 483, 367, 150, 9, 1, 1600, 662, 1625, 1750, 637

Cosmetics:

See "After-Shave Powder"
See "Face Powder"
"Baby Powder"
"Barber Supplies"
"Body Powder"
"Creams"
"Face Powder"
"Liquid Powder"
"Lotions"
"Pan Cake"
"Rouge"

Crayons:

CLOVER Brand for metal
marking - all standard. See "Soapstone" (Talc)
Crayons under "Specialties".

Creams (cosmetic): Used as a filler or extender.

Typical Talcs: 1, 662, 1222, 1625

Dental Supplies: Investment casting, as a filler
and extender.

Typical Talcs: 150, 13, 486
As a dusting powder, U.S.P. 1, 662, 1222, 1755
1625

Innerware (semi-porcelain ceramics): Component
part of body to increase resistance to heat shock and
to decrease tendency to craze.

Typical Talcs: 786, 783, 610, 1772

Drugs: Carrier and diluent of chemicals in pills,
powders and liquids. Lubricant in tablet manufacture.

Typical Talcs: 454, 662, 1625, 12, 490,
1602, 1755, 1222, 1640, 232, 1603, 618, 2406, 2427

Dusting, Miscellaneous: Can be supplied according to customer specifications; vary widely as to use.

Typical Talcs: 1, 1625, 1600, 643, 677, 8, 1736, 399, 1153, 367, 4, 5, 1750, 160, 2401, 1367

Electrical Insulators: As a body component to improve di-electric properties.

Typical Talcs: 486, 1211, 1736, 2786, 5486

Enamel: See "Surface Coatings".

Engraving: Dusting

Typical Talcs: 643, 1603, 486, 11

Exterminating: See "Insecticides".

Fabricated Plastic Products: Used as filler.

Typical Talcs: 399, 461, 4, 1648, 2403

Face Powder: * Major ingredient.

Typical Talcs: 1, 1625, 1606, 1612, 647, 2427, 1729, 1600, 7, 1640, 1153, 2406, 1603, 8, 618

Fats (edible): Filtering

Typical Talcs: 662, 1, 1755, 647

Felt: Used as a filler.

Typical Talcs: 150, 783, 367, 5.

Fertilizer: Used as carrier and diluents.

Typical Talcs: 367, 1750

(7)

Fibre Board: Used as filler.

Typical Talcs: 367, 13, 643, 1648, 1750,
1153, 5

Fillers, Miscellaneous: Used to fill and
extend all types of products.

Typical Talcs: 1, 1625, 399, 490, 1602, 677,
1603, 1153, 5, 367, 1750, 2401, 2408, 2676, 1836

Filtration: Used to filter perfumes,
essential oils and drugs.

Typical Talcs: 454, 1625, 1, 2407, 2426

Finishing (textiles): Filler, dusting to dry inks.

Typical Talcs: 150, 677, 486, 1648, 2441,
2442

Floors, Magnesite: Used as filler.

Typical Talcs: 367, 1750, 9, 1153.

Foods: Polishing grains.

Typical Talcs: 235, 456, 1635

Dusting of confections.

Typical Talcs: 1, 662, 1625, 1755

Extenders

Typical Talcs: 1, 662, 399

Footwear (rubber and plastic): Filler and dusting.

Typical Talcs: 367, 1750, 1603, 399

(2)

Foundries: Used as dust mold facing,
parting compound for core and lubricant.

Typical Talcs: 367, 160, 1153

Fungicides: Carrier and diluent.

Typical Talcs: 150, 367

Graphite Crucibles: As an extender and to increase
resistance to heat shock.

Typical Talcs: 11, 486

Greases: Lubricant extender.

Typical Talcs: 367, 11, 1153, 399

Gray Iron Casting: See "Foundries".

Gutta Percha: Inert Filler.

Typical Talcs: 367, 399, 2405

Hats (felt body): See "Felt".

Heat Insulators (ceramics): Principal
component used to increase resistance to heat shock.

Typical Talcs: 11, 486, 1772, 1736

Hobbyist (ceramic): See "Art Pottery".

Hospitals: Pharmaceutical -- see "Drugs"

Talcum for dusting gloves and rubber sheets.

Typical Talcs: 454, 399, 662, 1755, 2406,
2427

ink (printing):

Filler and extender.

Typical Talcs:
2776

1514, 486, 399, 40, 1736,

Non-offset:

4, 2403

Insecticides:

Used as carrier and diluent
in airplane dusting, emulsions and hand spray dust-
ing.

Typical Talcs:

Northeastern:

1750, 29, 5, 2401

Southern:

367, 9, 2367

Central:

29, 160, 2367

Western:

29

In sulated Wire:

See "Wire".

In sulation:

Filler and extender.

Typical Talcs:

367, 1750

In sulators (ceramic):

Major component part of body.

Typical Talcs:

Block or Lava - to be machined.

Heat Insulators -

Typical Talcs:

486, 11, 481

Electronic Insulators -

Typical Talcs:

486, 1211, 1736, 2786, 5486

Jewelry:

See "Precision Casting".

Semi-gems carved from compact Block
or Lava Talc (white, green, gray, black).

Kiln Furniture: Used as a body component to increase resistance to heat shock.

Typical Talcs: 11, 486, 461

Lacquers: See "Surface Coatings".

Latex: See "Rubber".

Lava Insulators: Used Block or Lava Talc.
Available only in limited quantities. Must be compact and free from laminations or flaws.

Lead Pencils: Filler and lubricant.

Typical Talcs: 367, 150, 406, 8

Leather (artificial): Filler and dusting.

Typical Talcs: 150, 232, 618, 5, 2401

Leather (natural): Dusting, sizing.

Typical Talcs: 232, 367, 399, 5, 2401

Linoleum: Filler and dusting.

Typical Talcs: 1750, 367, 618

Liquid Powder (cosmetic): See "Face Powder".

Lotions (cosmetic):

Typical Talcs: 1625, 1600, 1755, 12

Lubricant:

Typical Talcs: 367, 1600, 1625, 11

(11)

<u>Malleable Iron Casting:</u>	See "Foundries".
<u>Medicine:</u>	See "Drugs".
<u>Metal Finishing:</u>	See "Abrasives".
<u>Models:</u> or Lava Talc. Used to carve models of intricate details. In some cases can be heat hardened.	Carved from compact Block
<u>Polys:</u>	Dusting and lubricating.
<u>Typical Talcs:</u>	367, 1750, 11, 5.
<u>Monuments (polishing):</u>	See "Abrasives".
<u>Mortician Supplies:</u>	Dusting powder.
<u>Typical Talcs</u>	454, 1600, 1625, 4, 2403
<u>Nails:</u>	Lubricant in nailing machines.
<u>Typical Talcs:</u>	367, 150, 11, 1153
<u>Cloth:</u>	Filler and dusting.
<u>Typical Talcs:</u>	367, 399
<u>Oils:</u>	See "Filtration".
<u>Pay Cake Make-up (cosmetic):</u> component.	Used as principal
<u>Typical Talcs:</u> 1600, 1222, 1	1625, 1755, 1602, 454, 829,
<u>Paints:</u>	See "Surface Coatings".

Paper (filler): Color and softness being of importance.

Typical Talcs: 399, 1731, 7, 643, 4, 1736, 2403, 367, 1750, 1153, 486

Paper Board: Filler

Typical Talcs: 367, 1750, 232, 1153

Paper and Paste Board (coated): Coating - color is generally important.

Typical Talcs: 399, 1731, 1625, 490, 1600, 1736, 2404, 2424

Parting Compounds: See "Dusting Agents".

Paste: Filler and Extender.

Typical Talcs: 367, 150, 5, 2401

Pencils: See "Lead Pencils".

Perfumes: See "Filtration".

Petroleum Refining: See "Filtration".

Pharmaceutical: See "Drugs".

Phonograph Records: Filler

Typical Talcs: 406, 677

Pitch: See "Asphalt Compounds"

Plastics: Filler, dusting, polishing.

Typical Talcs:

Filler: 367, 399, 11, 130

(15)

Tumbling (polishing):	1600, 643, 1153, 2408, 2676
<u>Porcelain Insulators:</u>	Body component.
Typical Talcs:	481, 1211
<u>Pottery:</u>	Component part of body to reduce tendency to craze.
Typical Talcs:	783, 786, 610
<u>Precision and Centrifugal Casting Compound:</u>	
Mixed with plaster to increase resistance to heat Shock.	
Typical Talcs:	380, 486, 11
<u>Printing Inks:</u>	See "Ink".
<u>Pulling Cable:</u>	Utility companies use soap- stone to give added slip.
Typical Talcs:	367, 150
<u>Putty:</u>	Improves slip under knife.
Typical Talcs:	150, 11, 1153.
<u>Refractory Cement:</u>	Component material to increase resistance to heat shock.
Typical Talcs:	481, 11, 486, 1772
<u>Refractories (ceramic):</u>	Component body material to increase resistance to heat shock.
Typical Talcs:	11, 160, 481, 1736, 486

Rice: Polishing.

Typical Talcs: 235, 456, 1635

Roof Coatings: Filler and dusting - generally supplied according to customer specification.

Typical Talcs:

Powdered: 483, 470, 1768, 160

Granular: 1368, 1371

See "Specialties"

Rouge (cosmetic):

Typical Talcs: 399, 1731, 1625, 1606, 643, 1222, 7, 1755

Rubber: Talc is used as a filler and for dusting. The selection on the proper grade of talc depends upon the properties of the final product.

Typical Talcs:

Adhesives: 406, 11, 150, 232

Dusting: 367, 11, 1153, 150, 1836

Fabrics (sheeting): 399, 677, 406, 11

Filling: 367, 1750, 11, 5, 2401

Footwear (soft): 367, 11

Gloves: 11, 677, 399

Hard Products: 367, 1750

Heels and Soles: 367, 160, 1750, 11

Insulated Wire and Cable: 11, 406, 399, 1603

Latex: 367, 11, 486, 2407, 2426

Mannequins and Dolls: 399, 11

Mats, Flooring: 9, 1153

Mechanical Goods: 4, 9, 367, 1750

Molds: 367, 160, 1750

16

Soft Products:	11, 406, 486
Sponge and Foam:	11, 677, 399
Surgical Sundries:	11, 454, 1222,
1755, 2427	
Synthetic:	1603, 1153
Thread:	406, 1603, 399, 643
Tile:	367, 160, 1313,
1750	
Tires:	483, 1750, 9, 367
Tubes and Tubing:	367, 1750, 11

Sagger: Used as a body component to
rease resistance to heat shock.

Typical Talcs: 486, 11, 160, 1736

Sealing Compound:

Typical Talcs: 367, 150, 11, 1153

Shapbuilding: CLOVER Brand Crayons for
marking metal - all standard sizes.

Shoes: Prevents white shoes from oil
grotting in manufacturing process. Extender in polish.

Typical Talcs: 399, 5, 618, 2401

Salks: Delustering.

Typical Talcs: 399, 1600, 643, 1731

Slide Fasteners: Tumbling

Typical Talcs: 1373, 1750, 2408, 2676

Soap: Filler and Extender

Typical Talcs: 5, 130, 2405

Stuary, Cast: Dusting of molds and filler.

(17)
Statues (carved): Block or Lava Talc used in a compact form and carved either by hand or by power machines. (White, green, gray, black.)

Steam Pipe and Boiler Covering: Filler

Typical Talcs: 367, 1750, 5, 2401

Steatite Insulators for Electronics: Major component of body to give di-electric properties.

Typical Talcs: 1211, 486, 1736, 2786, 5486

Steel Castings: See "Foundry".

Steel (polishing, stainless): See "Abrasives".

SURFACE COATINGS:

Asphalt Coatings: Used as a filler - generally not as finely ground as usual talcs - must have low ignition loss.

Recommended Talc: 1367

Caulking Compounds: Talc, because of the fibrous nature of its particle and the oil absorption, is a necessary ingredient to a limited extent in caulking compounds.

Typical Talcs: 367, 1836

Color in Oil: Sometimes extended with talcs for suspension purposes and for lower cost.

Typical Talcs: 2130, 648, 399, 2405

Eggshell Enamels: Used as the extending pigment for controlling the matt effect without employing agents which tend to give soft or cheesy film.

Typical Talcs: 200 1731 1065

Enamel Undercoat: Talcs are used for flow control characteristics which give smooth, sandable surfaces.

Recommended Talcs: 1731, 399, 1767

Exterior House Paints (white and colored): Because of particle distribution, some talcs aid in the durability characteristics of outside house paints.

Typical Talcs: 233, 971, 2405, 463, 1060, 1065, 1104

Colored Exterior Paint: 5, 233, 1767, 2405

Glazing Compounds: These materials are similar to caulking compounds and talcs are used for their consistency characteristics.

Recommended Talcs: 462, 367, 150, 1065, 1767, 2405

Inert Filler:

Typical Talcs: 399, 1731, 1060, 2130, 462, 1065, 1767, 1641, 5, 367, 648, 1104, 2405

Interior Flat Wall Paint: Used in long oil flat wall paint of low side sheen.

Recommended Talcs: 399, 1731, 1030, 2405 - excellent sole extender used with titanium calcium flat paints.

Note: On deep tone flats, 399 reduces some mar resistance to the dry film and aids in suspension of other ingredients.

Lacquer Surfacers: Need to be sanded and therefore talcs are introduced to give slip.

Typical Talcs: 400 406 367 677 399 1030 1767

Metal Primer Surfacers: Made with suitable vehicle, these need some platy talc to lend slip to the film for easy sanding and clean cutting.

Typical Talcs: 367, 677, 399, 1767, 1030

Some talcs also improve the adherence characteristic of this type material

Recommended Talcs: 1767, 399, 1768

Military Specifications: Information upon request.

Paper Lacquers: Sometimes a lower sheen than the usual glossy finish is desired - this is easily accomplished.

Typical Talcs: 399, 406, 677, 1731, 1090

Protein Emulsion: Filler and extender.

Typical Talcs: 11, 1641, 2405

Putty: Generally a small amount of talc is used in putty to hold oil in the mass to minimize bleeding and to improve knifing when applying.

Typical Talcs: 462, 367, 1090, 2405

Resin Emulsion: Filler and extender.

Typical Talcs: 11, 1104, 1641, 2405

Sanding Surfacers: Need an ingredient to give easy sanding characteristics which are found in platy talcs. Talcs are used to impart easy sanding and good cutting for the other ingredients in the formula.

Typical Talcs: 461, 462, 618, 399, 1767, 1030, 1768

Sheen Control: Use approximately 1/4 oz.
per gallon - reduce gloss from 90 reading on 60%
Glossmeter to 75 reading.

Recommended Talcs: 399, 1731

Toy Enamel: In some toy enamels, manu-
facturers desire all ingredients to be of known purity
and therefore U. S. P. talcs are recommended for
this type of surface coating.

Recommended Talcs: 1, 1736

Wood Filler: Incorporate talc in this type
formulation for filling properties to prevent shrinking
and for clean wiping.

Recommended Talcs: 367, 461, 1060, 1767, 1768

Wrinkle Finish: Employ talc to give uniform
sheen and help control other characteristics of the
wrinkle.

Typical Talcs: 399, 1731

Surgical: Heart operations. Data on
request.

Textiles: Filler weighting.

Typical Talcs: 643, 11, 1648, 2441, 2442,
2450

Tile, Wall (ceramic): Component body
material to reduce tendency to craze.

Typical Talcs: 786, 783, 610, 463.

Tires and Tubes: Filler and dusting.

21

Toilet Preparations: See specific type.

Tumbling Compounds: See "Abrasives"

Vinyl Resins: Used both as a filler and for dusting.

Typical Talcs: 399, 367, 461, 2424, 2404

Wall Board: Filler

Typical Talcs: 367, 1750, 1153, 2408, 2676

Wall Tile (ceramic) See "Tile".

Welding: Soapstone Crayons to mark both cold and hot metal to lay out cutting patterns.

CLOVER Brand Metal Worker's Crayons - all popular sizes.

Whiteware (ceramics): Component body material to reduce tendency to craze.

Typical Talcs: 786, 783, 610

Wire (insulation and coating): Used as a filler in rubber and plastic coatings. Also for dusting.

Typical Talcs: 406, 677, 11, 399

Wire Drawing: Lubricant in drawing.

Typical Talcs: 367, 150, 1153

Zippers: Used to tumble.

Typical Talcs: 1373, 2408, 2676



TALC BY SPECIAL PROPERTIES

Best Color	1625	454	1602	2427
Oil Absorption:				
High	399	1731	1446	
Low	4	5	130	
pH:				
High	4	5	130	
Low	1153	160	462	1153
Slip:				
High	1625	1602	643	454
Bulk:				
High	399	2755	1	
Low	4	5	130	
Lo-Micron Particle Size	2755	399	1731	
U. S. P.	1755	2755	662	
Fibrous	13	233		