finish. The co-efficient of friction of this surface measured 0.20.

EXAMPLE 14

Ten parts by weight of epoxy resin (Union Carbide Corporation ERL-2,400) and 3 parts by weight of an amine hardener (Union Carbide Corporation ZZL 0822) were mixed carefully to produce a homogeneous composite. To this mixture was added 71 percent by weight of spherical Al_2O_3 particles, sized −270 to +325 Tyler mesh. The overall mixture was then stirred slowly until the particles were uniformly distributed throughout the composite whereupon the mixture was poured into a steel die with a cavity measuring 3 inches long, 25/32 inches outside diameter, and ½ inch inside diameter. The filled die was then placed in an oven and heated to 100°C. for 1 hour. The die was then separated and the epoxy-Al_2O_3 tube removed. The outside surface of the tube was grit blasted as in example 13; however, a −325 mesh rutile (TiO_2) was used as the abrasive. This removed the excess epoxy layer thus exposing the Al_2O_3 spheres which were slightly roughened. The surface was further finished by polishing with a long nap (felt) metallographic wheel, charged with a 1 micron diamond, for about 5 minutes. The coefficient of friction of this surface measured 0.21.

EXAMPLE 15

A quantity of spherical Al_2O_3 particles, sized −270 to +325 Tyler mesh, were added to Nicrobraze 500 in a glass beaker until the mixture had the consistency of a thick pancake batter. Nicrobraze 500 is a liquid fugitive binder made by the Wall Colmonoy Co. and is used for fastening powdered brazing compounds to metal surfaces. A ⅜ inch diameter steel rod, grit blasted with 60 mesh Al_2O_3, was dipped into the Al_2O_3 Nicrobraze mixture to a 1 inch depth and immediately removed. The as-coated rod was then heated for 1 hour at 100°C. to drive off all the solvent and thereafter cooled to room temperature. The rod was further painted with a mixture of 10 parts by weight of epoxy resin (Union Carbide Corporation ERL-2,400) and 3 parts by weight of an amine hardener (Union Carbide Corporation ZZL 0822) and then placed in an oven at 100°C. for 1 hour. The rod, upon removal from the oven, was cooled to ambient and a measurement of its surface revealed a coefficient of friction of 0.195.

What is claimed is:

1. A low friction, wear-resistant material for guiding moving lengths of textile films and fibers, said material having at least a surface composed of uniformly disposed spheroidal to spherical shaped wear-resistant particles having a microhardness of at least about 500 Diamond Pyramid Hardness and a size between about 270 Tyler mesh and about 325 Tyler mesh, said particles partially embedded in a matrix such that the surfaces of the particles are exposed to provide a uniformly wavy low friction surface having a surface friction value of between about 0.17 and about 0.35.

2. The material of claim **1** wherein said wear-resistant particles are uniformly dispersed throughout the material to provide a homogeneous material.

3. The material of claim **1** wherein said material consists of a substrate having at least one outer layer of the wear-resistant particles embedded in a matrix.

4. The material of claim **3** wherein said substrate is selected from a group consisting of metals, metal alloys and plastics; said wear-resistant particles are selected from at least one of the groups consisting of metal oxides, metal carbides, metal borides, metal nitrides and metal silicides; and said matrix is selected from at least one of the groups consisting of rubber, resins, ceramics, glasses and metals.

5. The material of claim **2** wherein said wear-resistant particles are selected from at least one of the groups consisting of metal oxides, metal carbides, metal borides, metal nitrides and metal silicides, and said matrix is selected from at least one of the groups consisting of rubber, resins, ceramics, glasses and metals.

6. The material of claim **4** wherein said metal oxide is selected from at least one of the groups consisting of alumina, silica, chromium sequioxide, beryllium oxide, zirconium oxide, stannic oxide, titanium dioxide and the rare earth oxides.

7. The material of claim **5** wherein said metal oxide is selected from at least one of the groups consisting of alumina, silica, chromium sequioxide, beryllium oxide, zirconium oxide, stannic oxide, and titanium dioxide.

8. The material of claim **4** wherein said resin matrix is selected from a group consisting of thermosetting and thermoplastic binders.

9. The material of claim **5** wherein said resin matrix is selected from a group consisting of thermosetting and thermoplastic binders.

10. The material of claim **4** wherein said substrate is low carbon steel; said matrix is epoxy resin; and said wear-resistant particles are substantially spherical alumina particles.

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