Claims:

1. A polishing pad useful for polishing at least one of semiconductor, magnetic and optical substrates comprising:

a polymeric matrix, the polymeric matrix having a polishing surface;

polymeric microelements distributed within the polymeric matrix and at the polishing surface of the polymeric matrix; the polymeric microelements having an outer surface and being fluid-filled for creating texture at the polishing surface; and

alkaline-earth metal oxide-containing regions distributed within each of the polymeric microelements, the alkaline-earth metal oxide-containing regions being spaced to coat less than 50 percent of the outer surface of the polymeric microelements; and less than 0.1 weight percent total of the polymeric microelements being associated with i) alkaline-earth metal oxide-containing particles having a particle size of greater than 5 μm; ii) alkaline-earth metal oxide-containing regions covering greater than 50 percent of the outer surface of the polymeric microelements; and iii) polymeric microelements agglomerated with alkaline-earth metal oxide-containing particles to an average cluster size of greater than 120 μm.

2. The polishing pad of claim 1 wherein the alkaline-earth metal oxide-containing regions associated with the polymeric microelements have an average size of 0.01 to 3 μm.

3. The polishing pad of claim 1 wherein the polymeric microelements have an average size of 5 to 200 microns.

4. The polishing pad of claim 1 wherein the alkaline-earth metal oxide-containing regions cover 1 to 40 percent of the outer surface of the polymeric microelements.

5. A polishing pad useful for polishing at least one of semiconductor, magnetic and optical substrates comprising:

a polymeric matrix, the polymeric matrix having a polishing surface;

polymeric microelements distributed within the polymeric matrix and at the polishing surface of the polymeric matrix; the polymeric microelements having an outer surface and being fluid-filled for creating texture at the polishing surface; and

alkaline-earth metal oxide-containing regions distributed within each of the polymeric microelements, the alkaline-earth metal oxide being calcium oxide, magnesium oxide or a mixture of calcium and magnesium oxides, the alkaline-earth metal oxide-containing regions being spaced to coat 1 to 40 percent of the outer surface of the polymeric microelements; and less than 0.05 weight percent total of the polymeric microelements being associated with i) alkaline-earth metal oxide-containing particles having a particle size of greater than 5 μm; ii) alkaline-earth metal oxide-containing regions covering greater than 50 percent of the outer surface of the polymeric microelements; and iii) polymeric microelements agglomerated with alkaline-earth metal oxide-containing particles to an average cluster size of greater than 120 μm.

6. The polishing pad of claim 5 wherein the alkaline-earth metal oxide-containing regions distributed on the polymeric microelements have an average particle size of 0.01 to 2 microns.

7. The polishing pad of claim 5 wherein the polymeric microelements have an average size of 10 to 100 microns.

8. The polishing pad of claim 5 wherein the alkaline-earth metal oxide-containing regions cover 2 to 30 percent of the outer surface of the polymeric microelements.

The invention claimed is:

1. A polishing pad useful for polishing at least one of semiconductor, magnetic and optical substrates comprising: a polymeric matrix, the polymeric matrix having a polishing surface;

polymeric microelements distributed within the polymeric matrix and at the polishing surface of the polymeric matrix; the polymeric microelements having an outer surface and being fluid-filled for creating texture at the polishing surface; and

alkaline-earth metal oxide-containing regions distributed within each of the polymeric microelements, the alkaline-earth metal oxide-containing regions being spaced to coat less than 50 percent of the outer surface of the polymeric microelements; and less than 0.1 weight percent total of the polymeric microelements being associated with i)alkaline-earth metal oxide-containing particles having a particle size of greater than 5 μm; ii) alkaline-earth metal oxide-containing regions covering greater than 50 percent of the outer surface of the polymeric microelements; and iii) polymeric microelements agglomerated with alkaline-earth metal oxide-containing particles to an average cluster size of greater than 120 μm.

2. The polishing pad of claim 1 wherein the alkaline-earth metal oxide-containing regions associated with the polymeric microelements have an average size of 0.01 to 3 μm.

3. The polishing pad of claim 1 wherein the polymeric microelements have an average size of 5 to 200 microns.

4. The polishing pad of claim 1 wherein the alkaline-earth metal oxide-containing regions cover 1 to 40 percent of the outer surface of the polymeric microelements.

5. A polishing pad useful for polishing at least one of semiconductor, magnetic and optical substrates comprising: a polymeric matrix, the polymeric matrix having a polishing surface;

polymeric micro elements distributed within the polymeric matrix and at the polishing surface of the polymeric matrix; the polymeric microelements having an outer surface and being fluid-filled for creating texture at the polishing surface; and

alkaline-earth metal oxide-containing regions distributed within each of the polymeric microelements, the alkaline-earth metal oxide being calcium oxide, magnesium oxide or a mixture of calcium and magnesium oxides, the alkaline-earth metal oxide-containing regions being spaced to coat 1 to 40 percent of the outer surface of the polymeric microelements; and less than 0.05 weight percent total of the polymeric microelements being associated with i) alkaline-earth metal oxide-containing particles having a particle size of greater than 5 μm; ii) alkaline-earth metal oxide-containing regions covering greater than 50 percent of the outer surface of the polymeric microelements; and iii) polymeric microelements agglomerated with alkaline-earth metal oxide-containing particles to an average cluster size of greater than 120 μm.

6. The polishing pad of claim 5 wherein the alkaline-earth metal oxide-containing regions distributed on the polymeric microelements have an average particle size of 0.01 to 2 microns.

7. The polishing pad of claim 5 wherein the polymeric microelements have an average size of 10 to 100 microns.

8. The polishing pad of claim 5 wherein the alkaline-earth metal oxide-containing regions cover 2 to 30 percent of the outer surface of the polymeric microelements.