

CLAIMS

1. A polishing pad having a polishing layer comprising a non-foamed polyurethane, wherein

the non-foamed polyurethane is a reaction cured body of a polyurethane raw material composition containing:

an isocyanate-terminated prepolymer A obtained by reacting a prepolymer A raw material composition containing a diisocyanate, a high-molecular-weight polyol (a) and a low-molecular-weight polyol;

an isocyanate-terminated prepolymer B obtained by reacting a prepolymer B raw material composition containing an isocyanate-modified body polymerized by adding three or more diisocyanates and a high-molecular-weight polyol (b); and

a chain extender; and

the addition amount of the isocyanate-terminated prepolymer B is 5 to 30 parts by weight with respect to 100 parts by weight of the isocyanate-terminated prepolymer A.

2. The polishing pad according to claim 1, wherein the high-molecular-weight polyol (a) is a polyether polyol having a number average molecular weight of 500 to 5000 and the diisocyanate is toluene diisocyanate and dicyclohexylmethane diisocyanate.

3. The polishing pad according to claim 1 or 2, wherein the high-molecular-weight polyol (b) is a polyether polyol having a number average molecular weight of 250 to 2000, the isocyanate-modified body is a hexamethylene diisocyanate-modified body of isocyanurate type and/or biuret type, and the isocyanate-terminated prepolymer B is a prepolymer synthesized at an NCO index of 3.5 to 6.0.

4. The polishing pad according to claim 1, wherein the non-foamed polyurethane has an Asker D hardness of 65 to 80 degrees.

5. The polishing pad according to claim 1, wherein the cut rate is more than 1 $\mu\text{m}/\text{minute}$ and 2 $\mu\text{m}/\text{minute}$ or less.

6. A method for producing a polishing pad, comprising the steps of mixing a first component containing 5 to 30 parts by weight of an isocyanate-terminated prepolymer B obtained by reacting a prepolymer B raw material composition containing an isocyanate-modified body polymerized by adding three or more diisocyanates and a high-molecular-weight polyol (b) with respect to 100 parts by weight of an isocyanate-terminated prepolymer A obtained by reacting a prepolymer A raw material composition containing a diisocyanate, a high-molecular-weight polyol (a) and a low-molecular-weight

polyol, with a second component containing a chain extender;
and curing the mixture to prepare a non-foamed polyurethane.

7. A method for producing a semiconductor device,
comprising the step of polishing the surface of a semiconductor
wafer by using the polishing pad according to claim 1.

CLAIMS

1. A polishing pad having a polishing layer comprising a non-foamed polyurethane, wherein

the non-foamed polyurethane is a reaction cured body of a polyurethane raw material composition containing:

an isocyanate-terminated prepolymer A obtained by reacting a prepolymer A raw material composition containing a diisocyanate, a high-molecular-weight polyol (a) and a low-molecular-weight polyol;

an isocyanate-terminated prepolymer B obtained by reacting a prepolymer B raw material composition containing an isocyanate-modified body polymerized by adding three or more diisocyanates and a high-molecular-weight polyol (b); and

a chain extender; and

the addition amount of the isocyanate-terminated prepolymer B is 5 to 30 parts by weight with respect to 100 parts by weight of the isocyanate-terminated prepolymer A.

2. The polishing pad according to claim 1, wherein the high-molecular-weight polyol (a) is a polyether polyol having a number average molecular weight of 500 to 5000 and the diisocyanate is toluene diisocyanate and dicyclohexylmethane diisocyanate.

3. The polishing pad according to claim 1, wherein the high-molecular-weight polyol (b) is a polyether polyol having a number average molecular weight of 250 to 2000, the isocyanate-modified body is a hexamethylene diisocyanate-modified body of isocyanurate type and/or biuret type, and the isocyanate-terminated prepolymer B is a prepolymer synthesized at an NCO index of 3.5 to 6.0.

4. The polishing pad according to claim 1, wherein the non-foamed polyurethane has an Asker D hardness of 65 to 80 degrees.

5. The polishing pad according to claim 1, wherein a cut rate which is a dressed amount (μm) per minute of the polishing layer by dressing the polishing layer is more than 1 $\mu\text{m}/\text{minute}$ and 2 $\mu\text{m}/\text{minute}$ or less.

6. A method for producing a polishing pad, comprising the steps of mixing a first component containing 5 to 30 parts by weight of an isocyanate-terminated prepolymer B obtained by reacting a prepolymer B raw material composition containing an isocyanate-modified body polymerized by adding three or more diisocyanates and a high-molecular-weight polyol (b) with respect to 100 parts by weight of an isocyanate-terminated

prepolymer A obtained by reacting a prepolymer A raw material composition containing a diisocyanate, a high-molecular-weight polyol (a) and a low-molecular-weight polyol, with a second component containing a chain extender; and curing the mixture to prepare a non-foamed polyurethane.

7. A method for producing a semiconductor device, comprising the step of polishing the surface of a semiconductor wafer by using the polishing pad according to claim 1.

8. The polishing pad according to claim 2, wherein the high-molecular-weight polyol (b) is a polyether polyol having a number average molecular weight of 250 to 2000, the isocyanate-modified body is a hexamethylene diisocyanate-modified body of isocyanurate type and/or biuret type, and the isocyanate-terminated prepolymer B is a prepolymer synthesized at an NCO index of 3.5 to 6.0.