Claims:

1. A cutting ring for a concrete pump truck, comprising:

a ring-shaped matrix (10) comprising a wear-prone part; and

a wear-resistant layer arranged on the wear-prone part,

wherein the wear-resistant layer and the matrix (10) being integrally molded by casting;

wherein the matrix (10) comprises a first section (11) having a first line segment, a second section (12) and a third section (13) which are respectively located at the two sides of the first section (11), the first line segment passes through the center of a circle of the matrix (10) and two end points of the first line segment are both located on a circumference of the matrix (10), the type of the material of the wear-resistant layer located in the first section (11) is different from the type of the material of the wear-resistant layer located in the second section (12), and the type of the material of the wear-resistant layer located in the first section (11) is different from the type of the material of the wear-resistant layer located in the third section (13).

2. The cutting ring for the concrete pump truck according to claim 1, wherein the wear-prone part comprises a first end surface of the matrix (10) vertical to an axis direction of the matrix (10), the first end surface is provided with a groove, the wear-resistant layer comprises a first wear-resistant layer (20), and the first wear-resistant layer (20) is arranged in the groove.

3. The cutting ring for the concrete pump truck according to claim 2, wherein the groove is arranged in the circumferential direction of the matrix (10), so that the first wear-resistant layer (20) is of a ring shape.

4. The cutting ring for the concrete pump truck according to claim 1, wherein the wear-prone part comprises a first ring surface of the matrix (10) on an inner circumferential side of the matrix (10) and a second ring surface on an outer circumferential side of the matrix (10), the wear-resistant layer comprise a second wear-resistant layer (30) and a third wear-resistant layer (40), the second wear-resistant layer

(30) is arranged on the inner side of the first ring surface, and the third wear-resistant layer (40) is arranged on the outer side of the second ring surface.

5. The cutting ring for the concrete pump truck according to claim 4, wherein the wear-resistant layer (30) and the third wear-resistant layer (40) are both of ring shapes.

6. The cutting ring for the concrete pump truck according to claim 1, wherein the type of the material of the wear-resistant layer located in the second section (12) is the same as or different from the type of the material of the wear-resistant layer located in the third section (13).

7. The cutting ring for the concrete pump truck according to claim 1, wherein the total arc length of the first section (11) is larger than a sum of the arc length of the second section (12) and the arc length of the third section (13).

8. The cutting ring for the concrete pump truck according to claim 1, wherein the total arc length of the first section (11) is as twice as a sum of the arc length of the second section (12) and the arc length of the third section (13).

9. A concrete pump truck, comprising the cutting ring for the concrete pump truck according to any one of claims 1 to 8.

10. A manufacturing method of a cutting ring for a concrete pump truck, comprising:

providing a ring-shaped matrix model and a wear-resistant material;

coating the wear-resistant material on a wear-prone part of the matrix model; and

pouring a molten matrix raw material liquid into the matrix model coated with the wear-resistant material, wherein the matrix model is molten by heating, and the cutting ring is integrally molded by casting the matrix raw material liquid and the wear-resistant material;

wherein the matrix model comprises a first section (11) having a first line segment as well as a second section (12) and a third section (13) respectively located at the two sides of the first section (11),

the first line segment passes through the center of a circle of the matrix model and two end points of the first line segment are both located on a circumference of the matrix model, and the step of coating the wear-resistant material on the wear-prone part of the matrix model comprises:

coating a first wear-resistant material on the first section (11) of the matrix model, and coating a second wear-resistant material on the second section (12) and the third section (13), wherein the types of the first wear-resistant material and the second wear-resistant material are different.

11. The manufacturing method of the cutting ring for the concrete pump truck according to claim 10, wherein the wear-resistant material comprises wear-resistant particles Al_2O_3, wear-resistant particles WC or a mixture of wear-resistant particles Al_2O_3 and wear-resistant particles WC.

12. The manufacturing method of the cutting ring for the concrete pump truck according to claim 10, wherein the wear-resistant material comprises a mixture of wear-resistant particles Al_2O_3 and wear-resistant particles WC, and a mass fraction ratio of wear-resistant particles Al_2O_3 to wear-resistant particles WC in the mixture is 1:1 or 4:6.

13. The manufacturing method of the cutting ring for the concrete pump truck according to claim 10, wherein before the wear-resistant material is coated on the wear-prone part of the matrix model, the manufacturing method also comprises:

drying the wear-resistant material in an oven in advance, wherein the drying temperature is set as 180℃~300℃, heat preservation time is 1.5 h~3 h, and then cooling to room temperature; and

adding a liquid binding agent in the wear-resistant material.

14. The manufacturing method of the cutting ring for the concrete pump truck according to claim 10, wherein the step of coating the wear-resistant material on the wear-prone part of the matrix model comprises:

coating the wear-resistant material on the wear-prone part of the matrix model, wherein the coating thickness is larger than a preset thickness by 0.5 mm~ 1.5 mm, and the preset thickness is a thickness of a wear-resistant layer at a corresponding position of the cutting ring finished product.

15. The manufacturing method of the cutting ring for the concrete pump truck according to claim 14, wherein the coating thickness of the wear-resistant material is 4 mm~ 8mm.

16. The manufacturing method of the cutting ring for the concrete pump truck according to claim 10, wherein the step of pouring a molten matrix raw material liquid into the matrix model coated with the wear-resistant material, wherein the matrix model is molten by heating, and the cutting ring is integrally molded by casting the matrix raw material liquid and the wear-resistant material comprises:

raising a temperature of a furnace to 1500℃~1550℃ to melt a matrix raw material liquid containing elements Fe, Cr, C and Mn, and casting at a molten temperature of 1480℃~1520℃ after the matrix raw material liquid is completely molten, wherein the matrix model is molten after encountering the matrix raw material liquid, and the matrix raw material liquid and the wear-resistant material are integrated by casting; and

obtaining a cutting ring blank when the casting is cooled to 840℃~900℃, and then further machining to obtain a cutting ring finished product.