The clamping ring 10 abuts the fabric W_1 on the first outer side 5 and is connected to the grinding layer 2.

The grinding disc 1 is circular in shape. The reinforcing fabrics 6, 8 and/or the fabrics W_1 to W_4 are arranged concentrically to the axis of rotation M. The reinforcing fabrics 6, 8 and/or the fabrics W_1 to W_4 are annular.

The fabrics W_1 to W_4 have a respective diameter D_1 to D_4. The fabrics are generally designated W_i and the corresponding diameter D_i with i = 1, 2, 3, 4. The index i specifies the respective fabric W_i. The following applies to the respective diameter D_i: $D_i < D_{A1}$ and $D_i < D_{A2}$. In particular, the following applies to the respective diameter D_i: $0.25 \cdot D_S \leq D_i \leq 0.75 \cdot D_S$, in particular $0.3 \cdot D_S \leq D_i \leq 0.7 \cdot D_S$, and in particular $0.35 \cdot D_S \leq D_i \leq 0.65 \cdot D_S$. Preferably, $D_1 = D_2 = D_3 = D_4$.

The grinding layer 2 is free of further reinforcing fabrics between the reinforcing fabrics 6, 8, so that the grinding layer 2 is in particular free of a reinforcing fabric arranged centrally in the grinding layer 2. Preferably, the grinding layer 2 is also free of further additional fabrics between the reinforcing fabrics 6, 8.

The grinding disc 1 forms a clamping region 11 in the radial direction to the axis of rotation M and a working region 12 surrounding the clamping region 11. The working region 12 is divided in the radial direction to the axis of rotation M into an inner working region 13 and an outer working region 14 surrounding it. The working region 12, i.e. the inner working region 13 and the outer working region 14, are annular. The inner working region 13 extends in the radial direction as far as the fabrics W_1 to W_4 extend. The clamping region 11 and the inner working region 13 thus form a

Patent Claims

1. Grinding disc comprising
   - a grinding layer (2),
     -- which is formed of grinding grains (4) bound by means of a binding agent (3),
     -- which has a grinding layer diameter D_S,
     -- which forms a first outer side (5) and a second outer side (7),
   - a first reinforcing fabric (6),
     -- which is embedded in the grinding layer (2) on the first outer side (5),
     -- which has a first fabric diameter D_{A1}, wherein: $D_{A1} \geq 0.8 \cdot D_S$,
   - a second reinforcing fabric (8),
     -- which is embedded in the grinding layer (2) on the second outer side (7),
     -- which has a second fabric diameter D_{A2}, wherein: $D_{A2} \geq 0.8 \cdot D_S$,

   characterized

   in that at least one fabric (W_1 to W_4) is arranged on at least one of the reinforcing fabrics (6, 8), and

   in that the at least one fabric (W_1 to W_4) has a respective diameter D_i, wherein: $D_i < D_{A1}$ and $D_i < D_{A2}$.

2. Grinding disc according to claim 1, **characterized** **in that** the grinding layer (2) between the reinforcing fabrics (6, 8) is free of reinforcing fabrics.

3. Grinding disc according to claim 1 or 2, **characterized**

in that the at least one fabric (W_1 to W_4) is arranged relative to the at least one reinforcing fabric (6, 8) on a side facing away from the grinding layer (2).

4. Grinding disc according to at least one of claims 1 to 3, **characterized in that** at least one fabric (W_1, W_2) is arranged on the first reinforcing fabric (6) and at least one fabric (W_3, W_4) is arranged on the second reinforcing fabric (8).

5. Grinding disc according to at least one of claims 1 to 4, **characterized in that** a plurality of fabrics (W_1 to W_4) are arranged on at least one of the reinforcing fabrics (6, 8).

6. Grinding disc according to at least one of claims 1 to 5, **characterized in that** the following applies for the respective diameter D_i: $0.25 \cdot D_S \leq D_i \leq 0.75 \cdot D_S$, in particular $0.3 \cdot D_S \leq D_i \leq 0.7 \cdot D_S$, and in particular $0.35 \cdot D_S \leq D_i \leq 0.65 \cdot D_S$.

7. Grinding disc according to at least one of claims 1 to 6, **characterized in that** the at least one fabric (W_1 to W_4) is arranged in a clamping region (11) and/or outside an outer working region (14), which is usable for cutting off, and/or in an inner working region (13), which is usable for rough machining, of the grinding disc (2).

8. Grinding disc according to at least one of claims 1 to 7, **characterized in that** the at least one fabric (W_1 to W_4) delimits a reinforced region (15) of the grinding disc (2) with a thickness d_1 and an unreinforced re-

gion (16) of the grinding disc (2) with a thickness d_2, wherein the following applies: $0.95 \leq d_1/d_2 \leq 1.05$, in particular $0.99 \leq d_1/d_2 \leq 1.01$, and in particular $0.995 \leq d_1/d_2 \leq 1.005$.

9. Grinding disc according to at least one of claims 1 to 8, **characterized by** a thickness d, wherein the following applies: $2 \text{ mm} \leq d \leq 7 \text{ mm}$, in particular $3 \text{ mm} \leq d \leq 6 \text{ mm}$, and in particular $4 \text{ mm} \leq d \leq 5 \text{ mm}$.

10. Grinding disc according to at least one of claims 1 to 8, **characterized by** a thickness d, wherein the following applies: $0.8 \text{ mm} \leq d \leq 4 \text{ mm}$, in particular $1.2 \text{ mm} \leq d \leq 3.2 \text{ mm}$, and in particular $1.6 \text{ mm} \leq d \leq 2.5$ mm.

11. Grinding disc according to at least one of claims 1 to 10, **characterized**
in that the at least one fabric (W_1, W_2 and W_3, W_4) which is assigned to one of the reinforcing fabrics (6, 8) has, in total, a respective weight per unit area G_j, wherein the following applies: $50 \text{ g/m}^2 \leq G_j \leq 500 \text{ g/m}^2$, in particular $75 \text{ g/m}^2 \leq G_j \leq 450 \text{ g/m}^2$ mm, and in particular $100 \text{ g/m}^2 \leq G_j \leq 400 \text{ g/m}^2$.

12. Grinding disc according to at least one of claims 1 to 11, **characterized**
in that the at least one fabric (W_1 to W_4) has a respective thread width b_i, wherein the following applies: $0.1 \text{ mm} \leq b_i \leq 1.8 \text{ mm}$, in particular $0.3 \text{ mm} \leq b_i \leq 1.5 \text{ mm}$, and in particular $1 \text{ mm} \leq b_i \leq 1.2 \text{ mm}$.

13. Grinding disc according to at least one of claims 1 to 12, **characterized**

in that the at least one fabric (W_1 to W_4) has a respective value R_i, wherein the following applies: $0.2 \leq R_i \leq 1.2$, in particular $0.3 \leq R_i \leq 1$.

14. Grinding disc according to at least one of claims 1 to 13,
characterized,
by a clamping ring (10) for clamping the grinding disc (2) on a grinding machine.

15. Use of the grinding disc (1) according to one of claims 1 to 14 for rough machining and/or for cutting off, wherein a cutting speed (v) is at least 80 m/s, in particular at least 90 m/s, and in particular at least 100 m/s.