CLAIMS

1. A seal (1), having a primary axis comprising a first flexible lip (2) cooperating with a heel (5) and having, when said first lip is in a resting configuration, a U section, wherein the heel (5) and the first lip (2a) consist of a chemically neutral and mechanically resistant thermoplastic polymer or of one of the derivatives thereof, and the said first lip (2a) is arranged relative to the primary axis in order to exert a springback force sufficient to recover the resting configuration.

2. The seal (1) according to claim 1, comprising a second flexible lip (2b) arranged so as to exert a springback force sufficient to recover a resting configuration and the U section of the said seal having a rotational symmetry in relation to the median plane (M) of the heel.

3. The seal (1) according to claim 1 or claim 2, wherein the thermoplastic polymer is polyetheretherketone (PEEK) and wherein the PEEK is carbon-filled.

4. The seal (1) according to claim 1 or claim 2, wherein the thermoplastic polymer is a polyamide-imide (PAI).

5. The seal (1) according to any one of the preceding claims, wherein the seal (1) has an annular shape.

6. The seal (1) according to any one of the preceding claims, wherein the heel (5) also comprises one or more grooves (6) arranged in the distal part of said heel (5) opposite the lips (2a; 2b).

7. The seal (1) according to any one of the preceding claims, wherein the lip or lips (2a; 2b) are in a radial position.

8. The seal (1) according to any one of claims 1 to 6, wherein the lip or lips (2a; 2b) are in an axial radial position.

9. The seal (1) according to any one of the preceding claims, wherein the heel (5) and the lip or lips (2a; 2b) form a single entity.

10. A manufacturing process of a seal (1) according to claim 9, wherein it comprises a machining step of the said seal (1).

11. A manufacturing process of a seal (1) according to claim ~~9~~10, wherein it comprises an injection-moulding step of the said seal (1).

12. A rotating joint (10), comprising a fixed part (7) and a rotating part (8) kept concentric by a mechanical bearing (9), a toroidal chamber formed between the said fixed (7) and rotating (8) parts, arranged to form a limited passage of fluid, wherein the toroidal chamber of the rotating joint (10), contains at least one seal (1) defined according to any one of claims 1 to 8.

13. A friction bearing (11), wherein the bearing comprises one or more seals (1) according to any one of claims 1 to 9.