Typical Labyrinth Seals; Stepped Labyrinth

1. Stepped Labyrinth
2. Inner Knife-Edge Diameter
3. Inner Land Diameter
4. Knife-Edge Ring
5. Knife-Edges
6. Land
7. Land Ring
8. Outer Knife-Edge Diameter
9. Outer Land Diameter
10. Radial Clearance
11. Shaft

Source: *Glossary of Seal Terms* (Special Publication) ©Society of Tribologists and Lubrication Engineers
1. **Staggered Labyrinth**: A type of Labyrinth seal incorporating knife-edge and land surface pairs which are axially assembled with adjacent pairs, of decreasing diameter.

2. **Inner Knife-Edge Diameter**: The diameter which corresponds to the tip of the smallest-diameter knife-edge in a stepped labyrinth seal.

3. **Inner Land Diameter**: The diameter which corresponds to the smallest diameter land-step surface in a stepped labyrinth seal.

4. **Knife-Edge Ring**: A ring shaped member in a labyrinth seal, in which the knife edges are machined or on which the knife-edges are mounted.

5. **Knife-Edges**: The narrow, circumferential knife-like edge or lip on a labyrinth seal which combined in series with other knife-edges, accomplished the throttling which achieves the seal.

6. **Land**: The cylindrical surface of the land ring in a labyrinth seal, which makes the closest approach to the knife-edges.

7. **Land Ring**: A ring shaped member in a labyrinth seal, which is either a straight-walled cylinder or a cylinder with axial steps. The land ring forms a clearance with the knife-edges effecting the seal.

8. **Outer Knife-Edge Diameter**: The diameter which corresponds to the largest-diameter land-step surface in a stepped labyrinth seal.

9. **Outer Land Diameter**: The diameter which corresponds to the largest-diameter land-step surface in a stepped labyrinth seal.

10. **Radial Clearance**: Half of the total difference between the nominal land diameter and the nominal knife-edge diameter.

11. **Shaft: Also Known as Bore Seal**: A device the outside-diameter surface of which mates with a bore surface. It provides sealing between these two surfaces.

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