Typical Labyrinth Seals; Staggered Labyrinth

1. Staggered Labyrinth
2. Knife-Edge Ring
3. Knife-Edges
4. Land
5. Land Ring
6. Major Knife-Edge Diameter
7. Major Land Diameter
8. Minor Knife-Edge Diameter
9. Minor Land Diameter
10. Radial Clearance
11. Shaft

Source: Glossary of Seal Terms (Special Publication)
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1. **Staggered Labyrinth**: A type of labyrinth seal with the knife-edges projecting into a sleeve which has corresponding recesses. Thus the axial travel of such a seal is restricted by the width of a stage minus the width of the knife-edge and the width of the lip on the sleeve.

2. **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.

3. **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.

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

5. **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.

6. **Major Knife-Edge Diameter**: The diameter which corresponds to the larger of the two knife-edge diameter in a staggered labyrinth seal.

7. **Major Land Diameter**: The diameter which corresponds to the larger of the two land diameters in a staggered labyrinth seal.

8. **Minor Knife-Edge Diameter**: The diameter which corresponds to the smallest of the two knife-edge diameters in a staggered labyrinth seal.

9. **Minor Land Diameter**: The diameter which corresponds to the smaller of the two land diameters in a staggered 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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