What is Slide Core Units for Two-color Injection Molding?

When there is an undercut on the two-color injection molded product processed by outer slide, specially-structured slide core that can keep the undercut part even after the primary molding is necessary. The slide core of such a structure must occupy a larger space than the normal slide core. Also, the design is complicated, and assembly adjustment become difficult.

The slide core unit for two-color injection mold (SCTM) is of a special structure which uses an angular cam and a lock pin. It achieves space saving and facilitates design and assembly adjustment.

Sequence of operating the slide core unit for two-color injection mold

1. Mold opening condition
   - Mold opening while the primary molded product (undercut part) is supported

2. Mold closing (Slide core is advanced by the primary side angular cam, causing the slide core to lock), and molding of the first color
   - When there is an undercut on the two-color injection molded product processed by outer slide, specially-structured slide core that can keep the undercut part even after the primary molding is necessary. The slide core of such a structure must occupy a larger space than the normal slide core. Also, the design is complicated, and assembly adjustment become difficult.

3. Mold opening condition
   - Mold opening while the secondary molded product (undercut part) is supported

4. Mold closing (the slide core is retracted to its initial position by the secondary side angular cam), and removal of the molded product
   - Mold closing process
     - Secondary side angular cam pushes down the lock pin, preventing the slide core from moving
     - The movable side mold plate rotates 180°, and then moves to the secondary molding side (replaced by the secondary side angular cam)

5. Mold opening condition
   - Mold opening while the secondary molded product is supported

6. Mold closing (Slide core moves)
   - Mold closing process
     - The movable side mold plate rotates while the molded product is supported.

7. Mold opening condition
   - Mold opening while the secondary molded product is supported

8. Mold closing (the slide core is retracted to its initial position by the secondary side angular cam), and removal of the molded product
   - Mold closing process
     - Secondary side angular cam pushes down the lock pin, preventing the slide core from moving
     - The movable side mold plate rotates 180°, and then moves to the secondary molding side (replaced by the secondary side angular cam)

9. Mold opening condition
   - Mold opening while the secondary molded product is supported

Characteristics

1. Compact
   - A special construction using a lock pin was employed for maximum compactness. It is possible to reduce the mold size by one rank or more.

2. With slide core lock function
   - Ball plunger leads to stable operation of the slide core.

3. Total cost reduction
   - The angular cam, slide core and guide rail come in a set, which does not require oblique hole boring, resulting in process cost savings. (Please procure the core part via in-house production.)
   - Eliminates the complex calculation such as the slide stroke, etc.

Notes

- This product is developed for injection molding die. Do not use for other purposes.
- Be sure to apply grease to the sliding surface to prevent it from burning.